Matthew R. Sanders · Alina Morawska *Editors*

Handbook of Parenting and Child Development Across the Lifespan

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Preface

The *Handbook of Parenting and Child Development Across the Lifespan* was written to bring together in one book the most important theory and empirical findings relating to the parent-child relationship. We wanted to build a comprehensive conceptual framework for understanding all aspects of the parenting role, and how parenting practices influence children's and young people's development across the lifespan. To do this, we invited leading parenting researchers from around the world who had made important contributions to the parenting literature. This goal of bringing together a diverse body of evidence spanning genetics, cognitive neuroscience, child development, and research on prevention and intervention science was challenging: individual contributions tend to be quite specialized and the links between basic scientific research on parenting and child development do not always inform research or policy on parenting intervention in the context of prevention and treatment.

We structured the volume into six parts. We begin with important foundational information relating to understanding the psychological processes and mechanisms that explain how differences in parenting influence children's development. In Part I we consider the role, functions, and tasks of parenthood. Next, we discuss the biological factors that influence parenting, the role of attachment in understanding the parent-child relationship, the effects of interparental relationships, and fathers on children's development. We then consider how family functioning can be affected by disruptive events such as exposure to natural disasters, war, and becoming a refugee.

Part II explores how parenting affects children's development, including brain architecture and function, language, communication and cognitive development, children's emotions and capacity for self-regulation, their relationships with peers, their health, physical activity and nutritional status, and finally how parenting influences children with specific developmental disorders. What becomes apparent in this section is the pervasiveness of parental impact on children's lives.

Part III asks the question of how being a parent influences a parent's life and capacity to parent. Many of the chapters in this section adopt a broad social ecological perspective. Parents are not simply born knowing how to care for and educate children, and learning how to parent is influenced by multiple contextual issues including the child's temperament and characteristics, a parent's capacity to self-regulate their own emotions and behavior and their cognitive functioning (including expectations and attributions).

Importantly the kind of social support parents can access from partners, extended family and friends, religious organizations, and the workplace influences how stressful parenting can become. Disruptive family relationships that come about through separation and divorce experiences can influence parents' relationships with their children and can be very stressful as parents seek to create a new life for themselves in a changing family arrangement. This section also explores basic social conditions of living in communities and neighborhoods and the impact of housing conditions on parenting and child development. We end this section with a chapter addressing policies and services as a context that supports the parenting role and how this in turn influences parental functioning and children's development.

Part IV turns to the issue of how the parenting role changes across different phases of development from infancy, toddlerhood, the preschool years, through school-age children, adolescents and emerging adults, adult children, and parenting during the later years of life. We discuss the unique challenges of parenting children of different ages. Each stage of development brings new challenges, but each stage is still fundamentally focused on promoting the well-being of children. The parent role involves a lifelong commitment to offspring and can both positively and adversely affect parents and children, even as children become adults, then parents and grandparents themselves.

Part V turns to the issue of how best to support parents in their role. It begins with a consideration of the broader social ecology of parenting and the adverse effects of poverty on families. We discuss the role of parenting programs in preventing social and emotional problems in children and parenting, and family intervention programs in the treatment of child behavioral and emotional problems. The final Part VI turns to the implications of the prior research on parenting for policy development and practice. We make the case for a multilevel system of evidence-based parenting support within a population health framework and discuss the economic benefits of investments in parenting programs. We end by considering possible future directions for parenting research, practice, and policy. Our fundamental conclusion is that substantial progress has been made in understanding the critical role of parenting in influencing children's development, and importantly a range of evidence-based parenting programs are now being disseminated widely throughout the world to benefit parents and children. However, there is so much more to do, and only a tiny fraction of the world's population of parents access these programs, with the vast majority learning their parenting role on the job through trial and error learning.

Brisbane, QLD, Australia

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A large number of people have contributed to this volume. We wish to thank our international contributors, many of whom are leaders in the field of parenting research, and our colleagues and former students in the Parenting and Family Support Centre, School of Psychology at the University of Queensland, who have contributed to this volume. We particularly thank all contributing authors who have made such distinctive contributions to extending our understanding of the role of parenting in influencing the lives of children. Thanks to Jessica Bartlett for her assistance with editing and proofreading the various chapters. We also wish to thank our successive Heads of the School of Psychology, Executive Dean of Health and Behavioural Sciences, and the Senior Executive at the University of Queensland who have strongly supported the work of the Parenting and Family Support Centre through strategic funding support. Special thanks to the thousands of families around the world who have participated in studies of parenting.

We also acknowledge the following organizations that have provided financial support to the Parenting and Family Support Centre to support our research work into parenting including the National Health and Medical Research Council, Australian Research Council, US Centers for Disease Control and Prevention, US National Institute of Drug Abuse, US National Institute of Mental Health, the Robert Wood Johnson Foundation, the Commonwealth Government of Australia, Victorian Government, Queensland Government, and Western Australian Government, New Zealand Government (Ministry of Health), Sylvia and Charles Viertel Charitable Foundation, Australian Rotary Health Research Fund, Beyond Blue, Telstra Foundation, and Triple P International. We also acknowledge funding support from the ARC Centre of Excellence for Children and Families over the Life Course.

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The editors and contributing authors of this volume acknowledge indigenous families of all nations including Aboriginal and Torres Strait Islander peoples of Australia, First Nations peoples of Canada, American Indian/Alaska Native families of the United States of America, and Māori families (whānau) of New Zealand. We pay our respects to ancestors and elders, past and present. We are committed to honoring indigenous peoples' unique

cultural and spiritual relationships to the land, waters, and seas and their rich contribution to society.

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Part I

How Parents Influence Children's Development

The Importance of Parenting in Influencing the Lives of Children

Matthew R. Sanders and Karen M. T. Turner

Introduction

Of all the modifiable factors that influence the course of a child's development, none is more important than the quality of parenting children receive (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000). Being a parent can be a wonderfully fulfilling role that brings immense joy, pride and happiness to the lives of parents. At times, the parenting role can also be challenging, and for some it can become quite overwhelming. In essence, parenting is easier and less stressful when families live in environments that are conducive to good parenting. Features of such an environment include living in a stable, supportive home with caring, capable and involved parents that have access to regular employment, secure housing, high quality early childhood education and care, good schools, affordable health and dental care, safe play and recreational facilities, and extended family and social supports. However, parenting takes place in a wide variety of socioeconomic circumstances and children begin life in diverse situations that do not provide equal opportunities to thrive developmentally (Marmot & Bell, 2012).

When parenting occurs in communities that support parenting, value the parenting role, and have safe, low crime neighborhoods, children, parents and the community benefit. Conversely, too many children live in homes with few of the advantages above, where daily living is a struggle, and family members are exposed to chronic stress. For example, an estimated 17% of Australian children under the age of 15 live in poverty (up from 15% a decade earlier), and 22% of children are developmentally vulnerable, with more developmentally vulnerable children in low-income areas and Indigenous families (Australian Institute of Health and Welfare, 2017). When parents are socially isolated from partners due to relationship breakdown, and have little or no access to extended family support, raising children solo can be a very demanding responsibility. Other stressful life circumstances include parents being exposed to violence (intimate partner, domestic, or community violence), experiencing or living with someone with serious mental health issues, substance abuse, chronic physical health problems, homelessness, or involvement with the criminal justice system. High levels of stress diminish parental self-efficacy (Crnic & Ross, 2017) and parenting capacity. Children raised in toxic family environments are vulnerable over their life course to developing serious social, emotional, health, and

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mental health problems (Center on the Developing Child at Harvard University, 2016).

When parenting occurs in a very low resource setting, children's health and development are adversely affected (American Academy of Pediatrics, 2016). Many very low resource settings are affected by high rates of violence, political instability leading to war and internal displacement of people, natural disasters such as floods and landslides, and few financial resources to tackle complex problems like poor sanitation, water, and food security (Mejia, Calam, & Sanders, 2012). Everyday life is characterized by high levels of toxic stress, and ensuring children's survival is the major challenge for parents.

Parents differ considerably in their knowledge of child development and effective parenting practices, their self-efficacy, and their emotional resilience in undertaking the parenting role. For example, Morawska, Winter, and Sanders (2009) found that parents with greater knowledge about effective parenting strategies tended to use less dysfunctional parenting, and reported significantly higher education and income levels. Parents with low levels of parenting knowledge and confidence in their parenting skills may be at greater risk of dysfunctional parenting and might benefit from interventions designed to enhance both knowledge and confidence. Individual differences in parents' family of origin experiences, financial and other personal resources, coping capacities and life opportunities mean that parents start their parenting journey from different starting points. Because of this variability, parents differ in the type of parenting support they need and seek out. Some parents need a great deal of support and professional assistance, while others need very little (Sanders, Burke, Prinz, & Morawska, 2017). The level and type of support parents need can change at difference stages of the life cycle (e.g., toddlerhood, adolescence) and with changed family circumstances (e.g., divorce, death of a spouse or child).

A greater understanding of the fundamental importance of the parenting role itself is required. This includes knowing how parenting shapes children's developmental competence, well-being and life course opportunities. It also includes understanding the determinants of parents' capabilities to raise their children at different developmental stages and promote healthy development. The determinants of parenting are complex (Belsky, 1984). A host of genetic and biological factors (that are mostly nonmodifiable by parents) interact with environmental and cultural factors (that, in theory, can be changed) to determine the kind of parenting children experience as they grow up. This chapter provides an overview of the importance of the parenting role in influencing the course of children's development and the determinants of parental behavior, parental knowledge, and parenting practices. We identify key modifiable aspects of the broader ecological context within which parenting takes place and identify implications for research, policy, and practice.

Parenting Styles and Practices

Spera (2005) provides a comprehensive summary of the evolution of our thinking about typologies of parenting styles and parenting practices. Amongst the most impactful were Baumrind's early (1971) work detailing three distinct parenting styles: "traditional" authoritarian parenting (i.e., restricting autonomy, exerting parental control, and punishment), permissive parenting (i.e., allowing a child to develop naturally without imposed authority, parent viewed as a resource rather than an active agent shaping a child's behavior), and authoritative parenting (i.e., encouraging individual autonomy and social competence, as well as conformity with expected limits or standards). Maccoby and Martin (1983) expanded upon Baumrind's three styles of parental control by exploring the underlying processes of demandingness (e.g., the number and type of demands parents make) and responsiveness (e.g., sensitivity to children's needs, contingency of parental reinforcement). Thus, four parenting typologies were formed: authoritarian (demanding, unresponsive), permissive/indulgent (undemanding, responsive), authoritative (demanding, responsive) and additionally, neglectful (undemanding, unresponsive). Darling and Steinberg (1993) further differentiated *parenting style* (broader patterns and the emotional climate in

which parents raise their children) and *parenting practices* (the specific behaviors used by parents to socialize their children, such as teaching and discipline strategies, involvement in schooling, monitoring). Research continues to focus on the influence of parenting styles and practices on child social, emotional, behavioral, and educational development.

The Influence of Parenting on Children's Development, Well-Being, and Life Opportunities

There have been many evolving theories in the nature vs. nurture debate and the exploration of the impact of parenting and context on children's development (for a review see Sameroff, 2010). The parenting role, according to Hoghughi and Long (2004), involves a set of purposeful activities that ensure the survival, care, development, and well-being of children. It involves a number of interrelated functions that gradually change over the course of a child's development. Parents engage in multiple caring activities, in varying contexts throughout a child's life to promote the well-being of their children. How successfully a parent undertakes their parenting responsibilities impacts on their children's adjustment, mental health and well-being into adulthood.

Functions of Parenthood

Parenting involves a number of interrelated functions related to the nurturance, care, education and socialization of children. Some of these core functions are outlined below.

Taking Care of Basic Needs

These activities include providing physical care and nurturance that meet children's survival needs (i.e., food, warmth, shelter, clothing, love, affection). It involves ensuring that children are safe, and that harm or risk (including accidents) is prevented or minimized.

Emotional Care

This aspect of the parenting role focuses on promoting the emotional well-being of children. It involves creating a warm, caring, nurturing environment that ensures children feel loved and accepted and that helps children learn to self-regulate their behavior and emotions. Emotional care includes the development of a secure parent–child attachment. Secure attachment, when combined with positive parenting practices, helps children become emotionally self-regulated and more resilient in the face of adversity (Waters et al., 2010).

Socialization

Parenting involves helping children develop the social and emotional competencies they need to relate well to others including parents, siblings, extended family, peers, teachers, and eventually partners and employers. Socialization (including the teaching of values, good habits and the self-regulation of emotions and impulses), has been described as the result of the behavioral, emotional, and representational contingencies that emerge in the parent–child relationship (Maccoby, 2015). The development of children's social and emotional competencies helps children become well integrated into a broader social network and community. The aim is for children to reach adulthood with the prosocial skills, interests, and health habits needed to live healthy, happy, and productive lives in caring relationships and with motivation and skills to play meaningful prosocial roles in society (Wilson, O'Brien, & Sesma, 2009).

Providing Guidance

Parenting involves establishing expectations for children's behavior and helping children to learn acceptable prosocial patterns of behavior. Parents' expectations of children are informed by culture, values and beliefs that are influenced by historical and family of origin socialization

experiences, as well as other parents and community opinion, including media and social media. Consequently, parents have a crucial role in children's socialization by establishing expectations (Maccoby, 2015). This socialization process also includes monitoring and supervising children, actively teaching children the cognitive, social, emotional, physical, and self-regulatory skills they need to become independent in daily living (e.g., toilet training, dressing, and table manners), and providing guidance and positive encouragement to help children learn acceptable, age-appropriate behaviors (e.g., sharing, turn-taking, and helping others).

Providing Boundaries and Limits

Parenting also requires setting limits and boundaries in a developmentally and culturally appropriate manner. It involves helping children learn to self-manage their emotions and behavior, and to control impulsive behavior and refrain from unacceptable behavior (e.g., hitting, bullying, temper tantrums, and disobedience), and how to behave appropriately in varied social situations (e.g., visiting relatives, going shopping, attending ceremonies). It also involves providing consequences when children behave inappropriately. This requires parents to have clear expectations, rules, and planned strategies that they are prepared to use as needed to back up an instruction or respond to challenging behavior (e.g., planned ignoring of minor problems, brief removal of an activity at the center of a dispute, or strategies like quiet time or time-out for more serious situations). The type of backup consequences parents use varies as a function of the child's age and level of development, culturally based values, and views on discipline methods.

Teaching Life Skills and Mentoring

Parents are powerful role models, skills coaches and mentors, and educate their children in the life skills they deem necessary for survival and success in life. Active life skills coaching is a form of parental guidance and education that helps children learn necessary social skills, self-care, independence and autonomy. Parenting involves modelling, providing advice, verbal and physical guidance, and necessary instruction to children about specific skills children can use to handle particular situations they encounter in their everyday social world. This kind of active skills coaching can include but is not restricted to the following:

1. Social skills (e.g., saying "please" and "thank you" when making requests, saying "hello" and "goodbye," taking turns, being able to win and lose graciously);
2. Effective communication and conflict management (e.g., communicating ideas, needs and opinions, making assertive requests, compromising and negotiating, being tactful);
3. Compassion towards others (e.g., showing concern and helping others, being empathic);
4. Problem-solving (e.g., finding out information to understand and solve a problem);
5. Self-care (e.g., washing hands, cleaning teeth, using the toilet, using sanitary aids);
6. Appropriate mealtime behaviors (e.g., using eating utensils, chewing with a closed mouth, table manners);
7. Safe and respectful use of technology (e.g., following family and school rules relating to use of devices, being aware of cyber safety, avoiding high-risk behaviors on social media);
8. Financial literacy and job search skills (e.g., working for an allowance, saving, purchasing within a budget, looking for work, applying for jobs);
9. Being an informed consumer (e.g., understanding advertising and costs of goods, creating shopping lists, checking change);
10. Relationship and sexuality education (e.g., forming healthy relationships, dating, sexual anatomy, sexual identity, conveying healthy attitudes towards sexual activity, contraception, consent, and pornography).

Being a Child Advocate

One aspect of being protective towards children involves advocating on their behalf to other carers, educators, medical and health care professionals and coaches (e.g., sports, performing arts) to ensure their needs are being met. This role can include speaking to professionals about children's needs (e.g., medication, diet, mobility, learning). These can be difficult conversations for parents and professionals alike, particularly when the discussion is about a problem or crisis that needs to be addressed (e.g., acute health problem, problems in the classroom). As many children cannot advocate for themselves (e.g., young children, children with a disability), parents must undertake this responsibility on their behalf.

Supporting Children's Education

Increasing evidence shows that parental involvement in children's education is related to how well children do in school both academically and socially (Powell, Son, File, & San Juan, 2010). Parents who have a good relationship with their child's educator are better able to advocate for their children (Sanders, Healy, Grice, & Del Vecchio, 2017). This includes communicating openly about any concerns they may have about their children (e.g., behavior in class, learning problems, peer relationship difficulties, grades). Parents are then more likely to be aware of how to promote or consolidate their child's learning outside of school hours and to support the school. Children tend to have fewer social or emotional problems at school when parents actively involve themselves in children's learning and education (Brotman, Basrjas-Gonzalez, Dawson-McClure, & Calzada, 2018; Kirby & Hodges, 2018). Parents who avoid contact with teachers or the school in general or make demands, escalate or intimidate teachers, tend to be more poorly informed about their children's education and can be socially isolated from other parents. Parents with personal histories of disliking or not doing well at school themselves often feel apprehensive, intimidated, anxious and/or avoidant about engaging with the school system. However, communicating effectively with teachers is an important relationship skill for parents to learn so they can meaningfully support children's education.

Moral and Spiritual Guidance

Religious and moral beliefs and affiliation with religious groups influences how parents raise their children (Brody, Stoneman, & Flor, 1996; Fung, Wong, & Park, 2018). In turn, parents influence children's religious beliefs, attitudes, and behavior in relation to social and moral issues. The family is where children are first exposed to spirituality, religious practices, cultural traditions and rituals, and role models for moral and ethical behavior (e.g., honesty, kindness). The attitudes parents express in adult conversations that children hear, or in conversations with children, can influence children's attitudes towards others (e.g., racial groups, minority and marginalized groups, religions), work ethic, sexuality, and intimate relationships (e.g., same- or opposite-sex relationships, gender roles, marriage, abortion), and social issues (e.g., care for the environment, climate change, politics, war). Parents have an important role in encouraging tolerance, compassion, and acceptance of others (e.g., racial, cultural, and religious differences), and the avoidance of inadvertently teaching children to be prejudiced (Kirby, 2016).

Parenting Tasks and Phases of Development

Apart from these more general functions, roles, and responsibilities, there are specific tasks that parents undertake in each stage of development. Table 1 summarizes these tasks during the prenatal period, infancy, toddlerhood, preschool age, middle childhood, adolescence, and young adulthood.

Table 1 Parental tasks and responsibilities across the lifespan

Phase of life	Major parental tasks and responsibilities
Antenatal (conception to birth)	• Create healthy environment for growth of fetus. • Ensure healthy nutrition of mother. • Restrict use of alcohol, tobacco, or other drugs. • Create a "nest" for the care of baby. • Ensure family has sufficient financial resources to support a family. • Ensure safe, affordable housing. • Reach agreement with partner about parental roles and responsibilities.
Infancy (0–1½ years)	• Promote safe, secure, attachment. • Be caring and nurturing. • Provide adequate stimulation to infant. • Be observant and responsive to infant's cues. • Ensure that engaging activities are available. • Establish predictable routines. • Establish sleep patterns. • Find suitable child care as needed. • Read often to children. • Restrict exposure to screens.
Toddlerhood (1½–2 years)	• Use praise and positive attention to encourage desirable behavior. • Use incidental teaching to promote child's language and communication. • Encourage child to do things for themselves. • Promote positive sibling interaction. • Foster cooperation with adult instructions and age appropriate rules. • Establish consistent predictable discipline routines for inappropriate behavior.
Preschool (3–6 years)	• Encourage a love of learning through books. • Facilitate successful sibling and peer interactions. • Prepare child for making a successful transition to school. • Communicate well with child's teachers.
Middle childhood (7–12 years)	• Show an interest in child's learning and communicate well with child's teacher. • Help child learn to self-management skills. • Encourage participation in physical activity and out-of-school activities. • Assist child to manage their emotions (anxiety, disappointment). • Assist child to become comfortable with gender identity and sexuality.
Teen (13–17 years)	• Encourage independence skills (e.g., transport, study, cooking, washing). • Support teenager to solve their own problems including practical and social problems. • Teach skills to help teenager manage peer pressure and temptations that may lead to undesirable consequences. • Support teenager to develop and pursue recreational interests. • Teach teenager how to discuss opinions calmly and how to listen to others' views with respect. • Encourage teenager to contribute to the family's chores.
Young adult (18–25 years)	• Provide guidance to promote financial independence. • Provide advice and support regarding life decisions (e.g., study, employment, housing). • Provide advice and practical support regarding child rearing.

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Parenting in Different Family Contexts

Parenting takes place in many diverse family contexts (e.g., nuclear family, single parent, adoptive, blended or stepfamily, foster or kinship care, multigenerational or multiple family households). There is no single right way to raise children and many different parenting arrangements can be made to work or fail. Living arrangements for the care of children can be complex and may change over the course of a child's development by choice or necessity following major changes or transitions in families, such as relationship

breakdown, repartnering of parents, incarceration of a parent, death of a parent, or because of displacement, war, or natural disaster.

Although there is no single family configuration that is essential to produce healthy, well-adjusted children, there is still some stigma associated with being raised in nontraditional household arrangements in any community. For example, an increasing number of children are being raised in households by gay or lesbian couples (Biblarz & Stacey, 2010; Oakley, Farr, & Scherer, 2017) and, contrary to conservative concerns, parents' sexual orientation has little if any direct impact on children's development (Patterson, 2017). Children can thrive in any environment that creates a loving, stable, secure family context that caters for children's social, emotional, and physical needs. Conversely, regardless of the type of parenting situation children are raised in, if children experience harsh, coercive, unpredictable, or chaotic parenting and living arrangements, with high levels of family conflict, they are at increased risk for adverse developmental outcomes (Bright & Thompson, 2018; Hughes et al., 2017). In addition, if parents feel unsupported, judged, criticized, and blamed, and cannot access basic assistance (such as quality parent education support or paid parental leave) they can find the task of raising children a challenging one.

Social Ecology of Parenthood

Bronfenbrenner's model of human development (Bronfenbrenner, 1986; Bronfenbrenner & Morris, 2006) provides a valuable conceptual framework for understanding the multiple interacting determinants of parental behavior. This influential model is referred to by multiple authors in this volume to describe the broader ecological contexts (from proximal to distal) that can influence parenting and ultimately children's development. The family is considered a microsystem nested within a range of other systems that affect parenting directly and indirectly. Within-family proximal influences include a parent's mental health, the quality of relationships between parents, and child behavior problems. More distal influences include interactions between parents and schools, workplaces, and health care systems (mesosystemic influences) and larger exosystems that include influences such as economic conditions, political systems, policies, and mass media. These are all embedded within the broader community context of cultural ideologies and values (macrosystem).

An important implication of conceptualizing the determinants of parenting as occurring within a multilevel ecological system is that efforts to improve parenting can concurrently target different levels. For example, advocacy for increasing parental access to quality evidence-based, culturally informed parenting programs can take place through the delivery of specific programs targeting the parent–child relationship. These programs can be delivered through different service delivery contexts in health, education, welfare, and work settings. Advocacy for funding support for parenting programs can occur through engaging with policy makers and contributing to policy development and legislation, and through media communications targeting end users, parents as consumers, and the wider public (Sanders, 2018). An enabling ecological environment that supports parenting is one where preparation for parenthood at each stage of a child's development becomes socially normative, usual, unremarkable, expected, free of stigma, readily accessible, and supported at multiple levels of the ecosystem.

Figure 1 summarizes how the broader ecological contexts (e.g., policies, laws, type of neighborhood) affecting parenting interact with more proximal psychosocial influences that constitute enablers and barriers to parental behavior change. A range of interacting factors influence specific parental outcomes (e.g., completing a parenting program). The types of potentially modifiable enablers and barriers include the features of the program itself and its delivery (appropriate content, relevant and culturally informed examples and activities, preferred delivery format), a favorable social context (parent attends with the support of a partner or friend), and activation of positive cognitions or emotions associated with

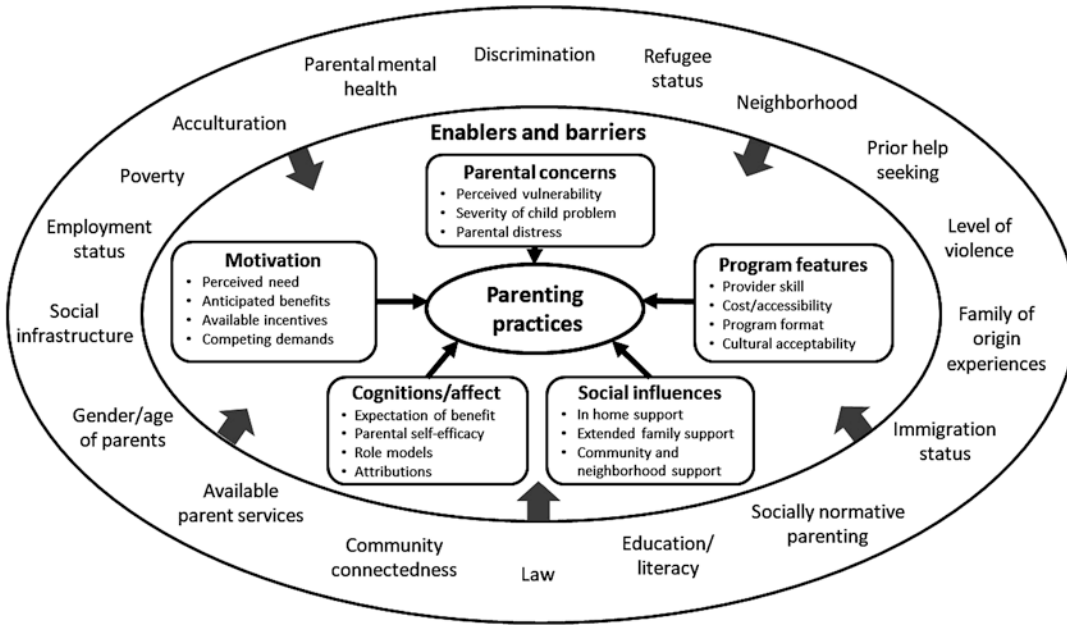


Fig. 1 Drivers of change in parenting

enacting a planned behavior change. Change is more likely when parental motivation is high (Miller & Rollnick, 2002). This occurs when the anticipated benefits are salient, the parent believes they have the capacity to change, the parent anticipates reinforcers that stem from making a planned change (e.g., less stress because of improved child behavior), and the program is viewed as a meaningful, desirable, and practical way of addressing a key concern (e.g., reducing learning difficulties).

Proximal Influences on Parenting

The multiple overlapping tasks and responsibilities involved in the parenting role involve both continuities and discontinuities depending on the child's age and developmental capabilities. Continuities include the need to provide for children's basic needs for food, shelter, clothing, love, emotional support, and a safe, secure environment. Discontinuities include the level of parenting support required as children develop greater independence (e.g., independent toileting, dressing themselves, safely crossing roads, and using public transport). The capacity to parent children confidently and competently also changes over time as parents gain experience and also face new developmental stages.

Personal Resources

Each individual parent brings a unique profile of personal attributes, assets, and liabilities to the parenting role based on their history and prior experience (Belsky, 1984). A parent's personal resources that express themselves in parenting include their knowledge, education, experience with children, attitudes towards child-rearing, and history of relationships including how they were parented themselves as children. Each parent has been exposed to gender-based socialization experiences concerning their expected role as a parent, including personal meanings pertaining to being a mother or father (Endendijk et al., 2017). The average age for becoming a parent in Australia has increased substantially in the last 40 years. In 1976, the average age was 25.9 years for mothers and 28.7 years for fathers. In 2016, it was 31.2 years for mothers and 33.3 for fathers.

The age span for transition to parenthood is very wide. The proportion of new mothers who were in their thirties increased from 12% in 1980 to 28% in 2007. The proportion of new mothers in their late thirties has increased from 2% in 1980 to 12% in 2007, and was higher in 2007 than for the proportion who were teenagers (Hayes, Weston, Qu, & Gray, 2010). While later parenthood brings greater life experience, it also means potentially less energy and a greater clash with career demands.

Parental Self-Regulation

Parenting requires the coordination of different cognitive and self-regulation skills (Karoly, 1993). To successfully undertake certain parenting tasks (e.g., manage temper outbursts or settle a crying baby) or formulate and successfully execute a parenting plan (e.g., toilet training a toddler) involves activating self-regulatory processes and executive functions (Deater-Deckard, Wang, Chen, & Belland, 2012), including impulse control, emotion regulation, communication and social skills, and problem-solving. Executive functions are a set of cognitive processes necessary for the cognitive control of behavior including selecting and successfully monitoring behaviors that facilitate the attainment of goals. Executive functions include basic cognitive processes such as attentional control, cognitive inhibition, inhibitory control, working memory, and cognitive flexibility. Higher order executive functions require the simultaneous use of multiple basic executive functions and include planning and fluid intelligence.

When a parent is dealing with a specific parenting challenge such as a child's whining or demanding, the parent must activate the following executive function processes:

1. *Attentional processes*. The parent needs to pay attention and to tune in to the child's behavior, notice when the whining first occurred, what triggered it and when it stops.
2. *Formulate an explanation*. Parents will respond differently depending on how they understand and explain their child's behavior. Parents will develop working hypotheses or attributions (causal inferences) about why the problem is occurring. The type of attribution can affect how the parent deals with the behavior. If a parent believes that the child is engaging in the behavior deliberately to annoy them, they are more likely to blame the child and potentially react with annoyance or voice escalation themselves.
3. *Regulate their emotions*. When children engage in behavior that parents interpret as problematic and requiring some kind of disciplinary response, the parent needs to manage their own emotions or risk escalation and potentially harming a child.
4. *Formulating and carrying out a parenting plan*. Developing a parenting plan that addresses the parent's understanding of the reasons a problem has occurred involves the parent gathering sufficient information about the problem and its causes, discussing it with other carers as necessary, working out a strategy to resolve the problem, and implementing the strategy.
5. *Communication with others*. Parents need to communicate with partners, grandparents, carers, and teachers about needs of children or actions they have taken (e.g., new rules or routines).

The Immediate Couple Relationship

Parents are better able to undertake their parenting responsibilities if they are living in a stable, loving relationship with a partner who can share parenting roles and responsibilities. The relationship between parents has a profound effect on children (Halford, Rhoades, & Morris, 2018). Having a supportive partner means that, apart from having access to greater emotional and practical support with parenting tasks and responsibilities, the family is less likely to be living in adverse financial circumstances. Having a partner who can be a companion, active contributor, problem-solver, and cocreator of a shared family history strengthens a parent's capacity to cope

with the demands of parenthood. Parents who have mutually satisfying relationships tend to be more collaborative in coparenting, use positive parenting, and children show better adjustment (Zemp, Milek, Cummings, & Bodenmann, 2017). Conversely, when parenting occurs in the context of relationship unhappiness and conflict, parents are at greater risk of intimate partner violence, depression, and relationship breakdown (Gravningen et al., 2017). Children's exposure to high levels of interparental conflict, particularly parental violence, is a form of chronic toxic stress that increases children's risk of long-term physical and mental health problems (Geffner, Igelman, & Zellner, 2014).

The Interactional Context

The reciprocal nature of parent–child interactional processes underscores how parenting can be influenced by children themselves, including how they behave in response to parental actions. Social learning theory emphasizes the importance of social interactional processes that maintain patterns of problematic interaction between parents and children (Biglan, 2015; Patterson, 1982). Many characteristics and behaviors of children can influence parental behavior, cognitions, and emotions in particular situations. For example, a child who physically resembles an estranged, abusive partner, can evoke distressing emotions and unpleasant memories in the parent, particularly when the child is being difficult to settle, challenging, or aggressive. Conversely, a child who physically resembles their parent in the context of a mutually satisfying couple relationship can evoke many positive parental emotions, thoughts and nurturing actions during the caregiving process in response to a child's smile, humor, playfulness, positive physical contact, or mannerisms.

Importantly, parents' behaviors such as picking up, holding, cuddling, rocking, smiling at, soothing, cooing, talking to, singing, or humming that involve positive parent interactions can be reinforced by the child's response. For example, when a child shows pleasure or a positive verbal or emotional response to a parent talking to the child, the parent's child-focused positive verbalization is likely to be reinforced and more likely to be repeated in the future. Conversely, positive parental responses towards children can be weakened or reduced when children do not respond positively, or when a child becomes distressed after parental attempts to settle them (Sameroff, 2009).

Children also have a role in shaping their own social environment. For example, young children with irritable temperaments, sleep or settling difficulties can evoke negative emotional responses in parents (McQuillan & Bates, 2017). This arises in part because parents' efforts to calm, settle or reassure children do not work and are therefore punished or extinguished, leading to persistent exposure of parents to negative child behavior. This in turn increases parental stress and risk of coercive escalation of negative emotion in an effort to terminate the child's upset. Unfortunately, a child's capacity to reinforce problem parenting behavior (shouting, threatening, hitting) can be part of a self-perpetuating pattern of interaction that concurrently is associated with parental escalation, and increased child behavior problems.

Attachment Security

Parent–child attachment can influence (and reflect) parenting style and children's social and emotional development (Moore, Arefadib, Deery, Keyes, & West, 2017). There are two overarching attachment styles. Secure attachment (e.g., a sense of closeness, interdependence, predictability, and confidence in support seeking) is fostered when parents respond to children in a consistent, caring, and timely way. This secure attachment is associated with enhanced developmental outcomes (e.g., self-regulation, empathy, and social competence), and in turn, is associated with building positive parent–child relationships and making parenting easier. On the other hand, insecure attachment can develop when parents, for whatever reason, are unpredictable, unavailable or unresponsive to a child's needs. Subgroups of

insecure attachment have been described (Ainsworth, Blehar, Waters, & Wall, 1978): avoidant of the parent (e.g., emotionally distant); anxious/ambivalent (e.g., distressed if separated from the parent and difficult to console even when the parent returns); or a disorganized pattern of attachment (with poor help seeking and emotion regulation, commonly linked to exposure to child abuse, parental psychopathology or social disadvantage). Insecure attachment is associated with increased likelihood of developing social and emotional problems (Groh, Roisman, van Ijzendoorn, Bakermans-Kranenburg, & Fearon, 2012). Due to the bidirectional nature of parent–child interactions, this may feed a cycle of increasingly dysfunctional parenting styles.

Parental Emotional Well-Being

Parents' emotional health and well-being can have a major impact on a parent's capacity to parent their children and in turn on children's mental health. Parents with serious mental health issues such as depression, anxiety, psychosis, or substance abuse problems can find the parenting role particularly difficult (Calam & Wittkowski, 2017). For example, a parent with major depression may have disrupted parenting practices, such as being less positive, avoiding interactions with the child, or being more inconsistent. When parents are preoccupied with their own negative thoughts or mood they pay less attention to their children, have fewer positive interactions, and are less likely to respond positively to prosocial behavior. Depressed mood can be associated with irrational beliefs (*I'm hopeless as a parent. I just can't do this. Why are other parents so much better at this than me?*), and blaming attributions (*He always does this, he's just like his father—selfish and demanding*). Irritability, another common symptom of depression, can lead parents to be impatient, raise their voice in anger, and use harsh, demeaning, or critical words in their interactions with children. This can also be related to being less attuned to their daily needs (e.g., child being hungry). Feeling tired and exhausted can be associated with withdrawing from interacting with children and can impair a parent's capacity to effectively monitor and supervise. Children of parents with a mental illness can be confused by the change in the parent's behavior when they are unwell, and can become distressed by the parent's altered emotional state. Chronic mental health concerns are associated with greater risk of children developing serious mental health and behavior problems themselves (Weissman et al., 2006).

Social Support

The African proverb "It takes a village to raise a child" speaks to the importance of parents having access to strong community support in parenting. This includes having a peer or friendship network that can be relied upon for emotional and practical support in raising children. Having access to the experience and wisdom of other parents, or people interested in the welfare of children, provides a valuable source of information and emotional support that can promote a parent's ability to deal with unfamiliar or difficult parenting situations particularly for parents of children with special needs (Wang, Huang, & Kong, 2017). Parents who raise their children in a context of relative social isolation (e.g., due to family breakdown or estrangement, moving to a new area, or in migrating or refugee families) can experience more parenting difficulties than other parents. Parents who have children with special needs (e.g., ASD, intellectual impairment, learning problems, ADHD, chronic or life threatening health problems, physical disabilities, gifted and talented students, and multiple births) are particularly likely to feel socially isolated if they are unable to connect with other parents who have children with similar issues. Support groups for parents of children with special needs enable parents to feel part of a community of other parents. However, it should also be noted that some parents' available social networks can also be coercive and a source of criticism, hostility and disapproval. In this context, parents often avoid contact because of anticipated criticisms and the associated distress they can experience.

Relationships with Grandparents and Extended Family

Grandparents play an important role in the lives of parents and grandchildren, and comprise an important form of social support (Kirby, 2015). Grandparents are often involved in providing considerable amounts of childcare assistance, enabling parents to return to work and undertake out of home activities. Poor communication, criticism and conflict between parents and grandparents, and grandparents-in-law, can be stressful for everyone, can contribute to relationship problems between parents, and can adversely affect children if it leads to inconsistency between parents and grandparents in their approach to parenting. In many cultures, the extended family plays a crucial part in child rearing and there are defined roles and responsibilities (Crumbley & Little, 1997). For example, in some cultures, mothers often live with their partner's parents (Shwalb & Hossain, 2018), creating an intergenerational household where they have to negotiate a sometimes delicate line between maternal and paternal grandparents and their expectations and approaches to parenting. In many First Nations cultures, extended family members are more responsible for discipline than biological parents (e.g., Secretariat of National Aboriginal and Torres Strait Islander Child Care, 2011).

Work Influences

Globally, an increasing number of mothers are returning to the paid workforce shortly after the birth of their children. Having two income earners helps keep families out of financial hardship and provides opportunities for both parents to develop or maintain their own careers, to expand their social network and to have a break from the care of children. However, a major task of modern parents is to successfully manage the competing demands of work and family life (Haslam & Penman, 2018). High levels of work-family conflict can lead to diminished performance in both family and work responsibilities. Workers experiencing high conflict at home with children or partners have poorer work productivity, lower rates of work satisfaction, and higher rates of absenteeism and occupational injuries than workers with low home conflict. High work stress can also adversely affect family life and parenting, particularly if parents return from work exhausted and are not psychologically available to their children. Work-related guilt can also lead to over indulgent parenting when parents overcompensate for spending less time with their children than they would like or believe is normative.

Parental Physical Health

A parent's health status can have a major effect on parenting and the family. Parents who maintain good health, eat well, exercise regularly, have sufficient sleep, and avoid abusing drugs or alcohol have more energy and resources to invest in parenting than parents with poor health or who neglect proper self-care. It is therefore a responsibility of every parent to take care of themselves and maintain a healthy lifestyle. Serious illness, injury and chronic pain can reduce a parent's psychological availability to interact with their children, and parents can experience considerable anxiety about their child's welfare if they are unable to undertake their usual parenting tasks and responsibilities. Illness or injury that leads to the death of a parent can be very traumatic for children, depriving them of their mother or father, and forcing adaptation to a new family environment. Adults who have family histories of abuse or neglect, or exposure to dysfunctional family situations, tend to have poorer health in adulthood and are at greater risk of serious mental and physical health problems (Felitti et al., 1998).

Access to Parent Education

A large body of research shows that parents can change their behavior, cognitions, emotions and knowledge through participating in evidence-based parenting interventions (National Academies of Science, Engineering and Medicine, 2016; Sanders & Mazzucchelli, 2018).

Although there are many different types of parenting programs, those based on social learning and cognitive behavioral principles have the strongest evidence base. Numerous meta-analyses involving hundreds of studies have shown that when parents learn positive parenting skills, their children are better adjusted (Lundahl, Risser, & Lovejoy, 2006). However, participation in parenting programs also benefits adults by increasing parental confidence, reducing coercion, decreasing stress and family conflict, and increasing satisfaction in the parenting role. While parents with the most severe problems benefit the most from parenting programs (Sanders, Kirby, Tellegen, & Day, 2014), there is growing evidence that high quality evidence-based parenting support programs offered universally to all parents can reduce community prevalence rates of issues such as child maltreatment (Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009, 2016).

Distal Influences on Parenting

Parenting and family life do not occur in a vacuum. There are many historical, social and cultural influences that can affect an individual parent's capacity and approach to parenting.

Parents' Family of Origin Childhood Experiences

Research into the long-term effects of adverse childhood experiences (ACEs) shows that when adults report childhood histories characterized by child abuse, parental divorce, living with a parent with substance abuse or mental health problems, an incarcerated parent, or witnessing violence towards their mother, they have poor lifetime health and mental health outcomes and shorter life expectancies (Felitti et al., 1998). These kinds of family of origin experiences can leave a parent vulnerable to experiencing more difficulties in raising their own children than parents with little family of origin exposure to ACEs. The challenge for any parent is not to perpetuate the adverse effects of ACEs through their own parenting. Parenting programs have a potentially very important role in enabling parents who have suffered historic abuse to adopt more positive parenting practices in raising their own children and thereby break the intergenerational transmission of vulnerability, trauma, and abuse. According to Hughes, Lowey, Quigg, and Bellis (2016) as childhood adversity has a strong cumulative relationship with adult mental well-being, comprehensive mental health strategies need to incorporate interventions to prevent ACEs and moderate their adverse impacts from early in life.

Financial Resources and Income Disparity

It is well documented that socioeconomically disadvantaged children who are raised in relative poverty are at greater risk of poor developmental outcomes (Bornstein & Bradley, 2014). In low-income households, children are more likely to have social, emotional, behavioral, and language problems, lower educational attainment, higher rates of truancy, poorer physical and dental health, poorer nutrition and physical activity, and are exposed to higher rates of child maltreatment and family violence (Duncan, Magnuson, & Votruba-Drzal, 2014). When the broader economy of a country is favorable, leading to low levels of unemployment, parents and children benefit. However, even in a robust economy with low levels of unemployment, there is often still significant income disparity between top and bottom income earners. The greater the disparity, the worse the developmental outcomes for children (Marmot et al., 2008).

Neighborhood Context

Parenting can also be influenced by the type of neighborhood a family lives in. Some neighborhoods are more favorable for raising children and have more resources and facilities for families. Neighborhoods can be categorized by their infrastructure (e.g., housing, schools, health services,

shops, public transportation, internet access, safe outdoor play spaces and equipment for children, sports and recreational facilities), and features of the physical environment (e.g., access to clean air, water and sanitation). Neighborhood infrastructure can have direct effects on children. For example, children growing up in high rise dwellings show higher rates of behavioral problems (Evans, 2003), and children living in crowded conditions are more likely to have social withdrawal and behavior problems (Drazen, 2015; Evans, Rhee, Forbes, Allen, & Lepore, 2000). Janssen, Weerman, and Eichelsheim (2017) found that whether time spent in criminogenic neighborhood settings increases delinquency in adolescents depended on the level of parental monitoring and the quality of the parent–adolescent relationship.

Neighborhoods can also be categorized by their social environment, such as high rates of crime and gang activity, with the obvious associated risks for children's safety and developmental paths. Some local authorities have made tremendous strides to transform cities into livable, family- and child-friendly spaces to facilitate good parenting and to encourage parents to connect socially with other parents and children. Children who have plenty of age-appropriate activities available in a safe supervised environment have greater opportunities for free play, exploration, experimentation, and discovery.

Cultural and Religious Contexts

The cultural context in which families live can greatly influence parenting values and practices. Fung et al. (2018) argue that in a multicultural, multireligious society, social group affiliation involves identification with and belongingness to an ethnic/racial group. These affiliations help shape values, norms, and attitudes that guide individuals' beliefs about the kind of parenting practices that will enable them to achieve their parenting goals, and their aspirations for their child. Different cultures and religious belief systems are associated with different parenting values and practices, as well as family routines and rituals. For example, there are differences between individualistic cultures, which value individuation, independence, and self-reliance, and collectivistic cultures, which downplay independence and instead promote interdependence, conformity, and respect (Greenfield, Keller, Fuligni, & Maynard, 2003). Similarly, some cultures value freedom of choice over accountability (Mosier & Rogoff, 2003). These values have implications for parents' goals for their child's development and the parenting strategies they use to socialize their children. However, culturally based parenting values and practices are not static. They may differ between parents in the same family, and between generations. When families such as migrant or refugee families have increasing contact with a new culture, acculturation may lead to changes in traditionally held parenting beliefs and approaches, both between and within generations (Bornstein & Bohr, 2011).

Information Technology

One of the most commonly reported concerns of contemporary parents is their children's exposure to technology, in particular, the Internet and social media, due to the exponential growth of new media platforms in a relatively short space of time. The implications for parents are twofold. Firstly, parents need to keep up with the technological advances being accessed by their "digital-native" children. Our conception of supervision has changed drastically with the tsunami of information and imagery now available to children online. Families are forced to develop new ways of monitoring and educating children about cyberbullying, cyber safety, and informed consumerism. On the other hand, parents are also looking to the Internet for parenting advice and support (Metzler, Sanders, Rusby, & Crowley, 2012), and the growth of online parenting resources provides an unprecedented opportunity for expanding the reach of evidence-based parenting programs, with the demonstrated effects

of online programs being equivalent to face-to-face interventions (Sanders, Baker, & Turner, 2012). The challenge is for parents to sift through the daunting amounts of available information to find empirically supported information and programs.

Parenting in a Changing Environment

Community standards and expectations of parenting change with the social climate. For example, in the Western world, there is a trend towards increasingly permissive and attachment focused rather than authoritative or authoritarian parenting. Even the term "parenting" has evolved from what was almost exclusively "mothering" in early advice books such as Dr Spock's, 1946 guide to baby and childcare (although even this was seen as revolutionary at the time due to advice about flexible child rearing and focusing on children's individuality). Parents' responses to increasing awareness of real or imagined threats to children's safety have also coined terminology such as *helicopter parenting* describing hovering parents who are overly anxious and protective, and interfere with children's opportunities to explore and manage risks. This is often a markedly different childhood experience than that of the parents themselves. There are also many social and environmental problems facing contemporary parents, such as terrorism and the radicalization of young people, damage to our natural environment, and global climate change. Parenting programs in the future may need to extend the most basic principle of positive parenting (namely, creating a safe and engaging environment for children) to creating an environment that is also healthy and sustainable. When children are raised in environmentally conscious homes that value the preservation of global natural resources, they are less likely to engage in actions contributing to environmental damage such as carbon production and polluting waterways and oceans. In fact, it is possible that the education campaigns that children are exposed to, may drive behavior change in the home.

How Parenting Influences Different Areas of Child Development

The pervasiveness of the impact of parenting on children's development is one of the most compelling reasons research in the area of parenting support and family intervention is so important.

Brain Development

While the obvious connection between parents and their children's brain development (e.g., executive function, language, attention, self-regulation) is genetic inheritance, there is also the impact of the social, emotional, and physical environment provided by parents to be considered. Children's development can be enhanced through good physical and emotional care, stimulating environments with opportunities for learning and reciprocal interaction, modeling and shaping skills and behavior. Thus, genes, experiences and environments interact to influence the development of a child's brain, with much of this impact in the first 1000 days from conception to 2 years of age, when there is maximum developmental neural plasticity (Moore et al., 2017).

The family environment can both stimulate and impair brain development, with potentially lifelong influences caused by chronic stress due to prolonged poverty, maltreatment, deprivation (e.g., lack of stimulation, poor nutrition), or witnessing domestic violence. ACEs (Felitti et al., 1998) can affect brain development, structure, and function in predictable ways (Anda et al., 2006), and the effects are cumulative. The impacts include decreased executive function (e.g., concentration, memory, planning, problem-solving, empathy) and emotion regulation (e.g., heightened vigilance, anxiety, irritability, aggression). This applies both to parents' functioning if they were exposed to ACEs themselves, and also to the current lived experience of children. These effects may also be mediated by genetic makeup, and the field of epigenetics research is burgeoning to develop greater understanding of the influence of genetic makeup on the effect of sustained, repetitive trauma on brain structure and function. The

convergence of evidence from neurobiology, epigenetics and epidemiology calls for an integrated perspective on the origins of social, emotional, and behavioral problems (Anda et al., 2006).

Language and Communication

The family environment, particularly frequent, responsive parent–child interaction, provides the stimulus for children's early language development, and subsequent school readiness and educational attainment. Hart and Risley's seminal work (1992, 1995) underscored the dramatic impact early language exposure can have on children's development of language and communication skills. They found the amount of language directed to children by their parents enhances their language development, and that this parent involvement in language varies across socioeconomic groups. Children in disadvantaged families hear 20 million fewer words than children in professional families by the time they are 3 years old, and this "word gap" predicts poorer vocabulary acquisition and use, and lower intelligence scores. Aside from *quantity* of parent input, the *quality* of language interactions is also important. This includes linguistic quality (e.g., rare words, complex sentence structures) as well as interactional quality (i.e., the socio-visual context, such as interactional timing, gesture, gaze), which has received less scientific attention (Cartmill, 2016). Interestingly, the word gap has been linked to parents' language interaction quantity (Hart & Risley, 1995) and linguistic quality (Rowe, 2012), but not interactional quality (Hirsh-Pasek et al., 2015). Apart from everyday speech interactions, frequent shared book reading, which builds joint attention and increases exposure to a diversity of words, has been associated with increased vocabulary, greater success in learning to read, and later literacy (Montag, Jones, & Smith, 2015).

Social-Emotional Development

As noted earlier, parenting style can directly influence children's social and emotional outcomes. Warm, responsive, consistent parenting is linked to positive life course outcomes, whilst harsh, coercive, abusive and neglectful parenting styles can lead to poorer social, emotional, and behavioral adjustment (Garai, McKee, Peisch, & Forehand, 2016). This influence may be through interactional processes, but parenting also affects children's neural development and functioning through epigenetic processes (e.g., Dadds, Moul, Hawes, Mendoza Diaz, & Brennan, 2015; Scott, 2012). For example, abusive parenting has lasting health and mental health outcomes for children, not only through socialization, but through the process of epigenetics, where early stressful experiences alter the way children's genes function, including the metabolism of neurotransmitters such as serotonin and dopamine. These neurotransmitters have been linked to impulsive aggression, mood and anxiety disorders, and vulnerability for addiction (Seo, Patrick, & Kennealy, 2008). While parenting is considered a key risk factor in the development of early psychopathology, it is also amenable to change, and intervening early, when the brain and biological systems that underlie mental health are rapidly forming, is likely to be especially effective from both a clinical and economic perspective (Ryan, O'Farrelly, & Ramchandani, 2017).

Peer Relationships

Social relationships with peers can have a profound effect on children's development. Warm-responsive relationships between parents and children are associated with children having relationships with their peers that are more positive. A particular style of parenting, *facilitative parenting*, refers to a set of parenting practices that are supportive of children developing peer skills and relationships (Healy, Sanders, & Iyer, 2015). The key features of facilitative parenting include warm relating, enabling of child independence, coaching children in play and friendship skills and in managing conflict, support of friendships, as well as effective communication with the child's school. Facilitative parenting, and children's social and emotional behavior, differentiate children bullied by peers as reported by teachers (Healy et al., 2015). McDowell and

Parke (2009) found that warm responsive parenting predicted improvements in peer competence and relationships over time. Other studies have shown that observed positive parent–child relating predicts positive relating between children and friends (Youngblade & Belsky, 1995).

Schooling and Academic Success

Parents play a major role in influencing children's experience at school. In the early years of life, parent–child interactions have an important impact on children's readiness to enter school. Parenting affects a range of social, emotional, and intellectual competencies that children need to succeed academically and socially at school. Warm responsive parenting in the early years of a child's life and consistent discipline promote children's school adjustment including language and communication, literacy, executive function and self-regulation, social and peer relationships, and behavior at school (e.g., instruction following, cooperation, and turn taking; Harvard Center for the Developing Child, 2016). Children's experiences at school (e.g., learning, enjoyment, classroom behavior) are influenced by parenting in several ways. These include maintaining a positive and respectful relationship with a child's teacher, supporting the child's learning at home, supervising children's homework, volunteering to assist the school, encouraging children to maintain an achievement orientation, and appropriate and respectful advocating for the needs of children. Some parents have adversarial and acrimonious relationships with teachers, which can be extremely stressful for teachers and of little benefit to children (Kraft & Rogers, 2015).

Physical Health

Parenting influences children's physical health and development via the provision of a safe, nurturing environment, with adequate nutrition, stimulation, and physical care. Parents must develop the knowledge, skills, and resources to care for their child's physical needs (e.g., food, clean water, warmth, and hygiene practices). The early lifestyle habits that children develop form the foundation of their life course health behaviors (Morawska & Mitchell, 2018), including healthy lifestyle choices, diet and nutrition, physical activity and sedentary behavior. These early habits are heavily influenced by parents' values, parenting style, and practices, and their own lifestyle choices. For example, the food that parents provide, their own modeling of food choices and eating patterns, and the guidance they give their children all provide the foundation for children's attitudes, behavior, and self-efficacy in relation to maintaining a healthy approach to eating (Yee, Lwin, & Ho, 2017). There are also more direct connections with children's physical health and development. For example, mothers' prenatal anxiety is a significant determinant of child physical development, although this effect can be ameliorated through good parent–child relationships and secure attachment (Scott, 2012). Parenting and parental behavior have obvious implications for children's current and long-term health outcomes, and the processes of influence are receiving increasing empirical attention.

Supporting Parents in Their Parenting Role

Given the pervasive impact that parenting makes on child development and the quality of family life, it has been argued that wider access to parenting programs is needed. Good parenting is a cost-efficient, common pathway to positively influence many different developmental outcomes, from healthy brain development to reduced risk of antisocial behavior and substance abuse. Calls for parenting programs to be made universal have not been met with uniform support. Some have argued, that parenting programs, rather than promoting the well-being of parents and children, have the potential to increase anxiety, an elusive search for perfectionism, increased feelings of inadequacy, and less resilience in raising children. The argument essentially is that families should be left alone to manage their children according to

their own devices. There is little evidence to show that parents experience negative consequences from completing parenting programs. On the contrary, substantial evidence from large scale roll-outs of evidence-based parenting programs shows that many parents are willing to seek out support for their parenting, prefer evidence-based programs that are proven to work (e.g., Lee et al., 2014) and typically experience very positive effects from their participation. Outcomes reported in various evaluations of parenting programs highlight that it is not only children who benefit when parents complete parenting programs. Many parents themselves report a wide range of benefits including improved confidence, mental health and reduced family conflict (e.g., Sanders et al., 2014).

Although there are many different interventions to support parents, ranging from informal playgroups through to more structured parent education programs, the strongest evidence base is for programs that provide active skills training to parents based on social learning principles (Haggerty, McGlynn-Wright, & Klima, 2013; Ryan et al., 2017). Within this theoretical framework there have been many different types of interventions that vary in intensity and level of time commitment required by parents. Different delivery formats have been successfully used and randomized clinical trial evidence has shown the efficacy of approaches as diverse as television and radio programs on positive parenting, large group seminars, topic-specific discussion groups, small group multisession programs, individual brief or intensive programs, online modules, and self-help programs with and without telephone support (e.g., Sanders et al., 2014). Economic modelling studies have shown that evidence-based parenting programs represent good value for money in terms of cost per disability-adjusted life year averted (Sampaio et al., 2017).

Research has been conducted evaluating program outcomes with a wide range of parent populations, including parents of typically developing children with common everyday parenting concerns, parents of children with clinically elevated presenting problems (e.g., conduct problems, ADHD, pain syndromes, chronic health problems, anxiety disorders, ASD, and intellectual impairment or giftedness), and parents from diverse socioeconomic circumstances (Sanders & Mazzucchelli, 2018). Finally, there is growing evidence that positive parenting programs based on social learning principles are acceptable (e.g., Mejia, Calam, & Sanders, 2015; Morawska et al., 2011) and effective in diverse cultural contexts (Van Mourik, Crone, De Wolff, & Reis, 2017), and that the core principles and strategies of positive parenting are cross-culturally robust.

Implications

A broad range of variables influence parenting, and parenting and the family environment in turn have a major impact on children's development and well-being. These understandings have important implications for future research, policy, and practice.

Research

As noted earlier, and throughout this volume, there is burgeoning research into the mechanisms of impact of parenting and family influences on children's neurological, social, behavioral, moral, and academic development. These learnings will inform the design of parenting support programs tailored to meet individual families' needs. For example, research that seeks to increase our understanding of parents' self-regulation capacity could include a focus on parents' observational skills, as well as executive functions such as planning and problem-solving, and the impact of specific skills training in these areas could be measured to explore enhanced outcomes over existing programs. There is still much needed work in the exploration of which programs work for whom, which factors mediate or moderate intervention outcomes, and ways of engaging effectively with vulnerable families to increase access and minimize attrition. Most evaluations of parenting programs have a narrow focus on particular kinds of outcomes (e.g., conduct problems, child maltreatment). Research that explores

the intergenerational effects of parenting programs on both children and adults, as well as indicators of overall well-being and quality of life, is much needed. It must also be noted that most research on parenting has been conducted in western nations and there is a great need for more studies focusing on the parenting in culturally diverse settings, and the promotion of healthy development in low resource settings.

Policy

Lip service is often paid to the importance of the family in policy rhetoric, yet parent support services are frequently underfunded and undervalued. Furthermore, funding has traditionally been directed to tertiary (treatment) service provision based on clinical diagnosis rather than on prevention and early intervention programs for parental and child adjustment. This approach is highly unlikely to reduce the prevalence rates of these problems at a population level. To ensure adequate reach of evidence-based programs, and access for all families, funding and delivery models need to include prevention and early intervention services, and different delivery formats (e.g., harnessing mass media and technology) and contact points (e.g., health, education, and community settings). Policy and funding models should also prioritize effective implementation practices to ensure that evidence-based programs can be funded and implemented effectively and in a sustained way.

Practice

Despite its importance to human development, the field of parenting and family psychology receives little systematic attention in the training of professionals at either an undergraduate or a graduate level. There is a great need for advanced level specialized training in this field of research, as well as broad, cross-discipline training in parenting support strategies. Both research driven evidence-based practice and practitioner driven practice-based evidence should be factored into program development and dissemination. Although tremendous strides have been made over the past four decades to improve the quality of parenting, and a number of evidence-based parenting programs have evolved internationally, there is still a long way to go. These programs are not widely accessible to the vast majority of the world's population, particularly in low-resource environments in disadvantaged communities. Communities exposed to poverty, war, famine, disease, and natural disasters have very different needs, and there is much yet to be done to assess and meet those needs. Reaching these families will likely need to involve innovative and collaborative coalitions of government, nongovernment, academic, and philanthropic organizations.

Conclusions

Parenting is a major determinant of children's development and life course outcomes, making it an extremely important target for early intervention, prevention, and treatment. Strengthening the parenting role has the capacity to influence many diverse outcomes for both children and parents. However, there are other important influences on children that interact with the effects of parenting to collectively determine outcomes. These include children's biological makeup, temperament, health and nutritional status, peers, the quality of schooling, neighborhood and socioeconomic influences, and the broader physical environment including exposure to toxins, pollution, and climate change. There is also compelling evidence that parenting practices are not predetermined by history or genes. Parenting is malleable and parents continue to learn to parent throughout their lifetime, from the anxious beginnings of being a first time parent to the challenge of being a great grandparent in the later years of life. The social role of being a parent and its associated activities is important to not only the next generation; it has a fundamental role in influencing the personal well-being of parents as adults and the quality of community and family life they experience.

Although many parents do their best to prepare for parenthood using a mix of family and peer support and Internet searches to get tips on parenting, it is concerning that so few parents worldwide participate in evidence-based parenting programs that are designed to equip parents to handle the tasks they will encounter in raising their children. To change this situation there needs to be policy-based investment to train and support a workforce that can deliver a variety of culturally informed, evidence-based parenting programs relevant to community and individual needs. Improved feedback loops between parenting and child development research, government policy, and professional service delivery can only serve to enhance child, parent, family, and community outcomes.

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Biological Factors in Parenting and Child Development

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Introduction

Humans are psychological beings who also are biological beings. Much of what we experience in our own development into adulthood and as parents, as well as the processes that influence the development of our children, operates through evolved biochemical processes involving molecules, cells and cell systems, and organs and organ systems. These biological complexes have evolved to provide sustainable structures in the body that would support a vast array of phenotypes (i.e., observable characteristics)—but this arrangement need not be equated with determinism. On the contrary, these biological complexes have evolved to be responsive to information coming in from the external environment. Parenting, and its influences on children's development, is no exception. Sexual reproduction, complex social structures of kinship (that often transcend genetic relatedness), and sustained periods of child-rearing ensure opportunities for stability and change that support adaptive plasticity in biological, psychological, behavioral, and ecological systems. This plasticity is necessary for increasing the odds of survival of individuals and of the species.

In this chapter on parenting, we examine the intersection of children's development and biological factors. *Biology* is a vast concept. We have included information in this chapter on a specific set of factors that have been examined in child and adolescent development research. These factors span levels of structures and their functions with respect to psychological and behavioral outcomes: *genetics*, groups of *neurons and neural systems*, and *hormones*. Much of the literature has focused on monoamine neurotransmitters (e.g., dopamine, serotonin, norepinephrine), and the hypothalamus–pituitary–adrenal or *HPA* axis in the body. These are major domains of biological research in parenting, in part because of their central roles in healthy and maladaptive development and functioning. These domains also lend themselves to empirical inquiry in human and animal model studies, making it feasible to examine biological structures and functions in laboratory and field settings.

Child development is another broad and encompassing concept. For our purposes, while considering the three biological domains just defined above (genetics, neural systems, hormones), we address a variety of aspects of development spanning *social-emotional* (including aspects of emerging psychopathology), and *cognitive* (including processing of information).

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At the intersection of these three biological and two broad developmental domains, we have organized the chapter around two major foundations in parenting research and children's development: *attachment security*, and *harsh adverse child-rearing experiences*. Because so much of the biologically informed research on parenting is on adults and parents themselves, we conclude the chapter on that topic, to set the stage for considering the role of bio-environmental processes in the intergenerational transmission of parenting behaviors. Rather than attempting to comprehensively review the vast literature in all these areas of biopsychological research, we instead provide an overview of the major methods and levels of analysis being used, and cite studies that exemplify the use of each of these approaches. At times, we also make reference to the most recent edited handbooks that are relevant for each domain, for any readers who are interested in delving more deeply into specific topics or methods.

Background on Biological Measures

The most comprehensive theory that has guided research on biological factors in parenting is the bioecological model (Bronfenbrenner & Ceci, 1994). This model was a revision of Bronfenbrenner's earlier theory, in which the authors elaborated many premises about how biological factors develop and interact with nonbiological factors at many levels of a constantly developing system within and outside of the child (e.g., family, school/peer, neighborhood, culture). Development of the bioecological interface operates via proximal *processes* in the interaction between neurobiology and environment within each *person*, operating in a multilevel *context* of ecological niches that change over *time*. Two other theories also have played a major role in the integration of biological measures: attachment theory, and a group of parenting stress theories. These will be elaborated on later.

There are a wide variety of measurement approaches for examining the role of biological factors in child development, and these approaches are no different in that subset of the literature that focuses more specifically on parenting and home environments. There are far too many potential biological markers to consider in just one chapter. In what follows, we highlight the main domains of biological factors used in parenting and child development research: genetics, neural structure and activity, and hormones.

Genetics

At their smallest and most molecular, biological influences in parenting and children's development involve structural and functional variations in genes in the DNA molecule, as well as RNA molecules that transmit information from DNA into proteins. But long before our sciences had the capacity to measure and study DNA and RNA variation directly, researchers applied quasi-experimental epidemiological approaches to make inferences about the relative contributions of genetic and nongenetic (i.e., environmental) influences on observed phenotypes. These behavioral genetics methods, still in use today, utilize comparisons of genetically identical and nonidentical or fraternal twin pairs, genetically related and unrelated (i.e., adoptive and step) siblings, and genetically related and unrelated parent–offspring pairs. Genetic similarity of each pair is then used to account for variance in the phenotype similarity of each pair. This yields variance estimates representing genetic influences (i.e., heritability), and nongenetic influences that contribute either to the pairs' similarity or not (i.e., shared and nonshared environment; for an overview see Knopik, Neiderhiser, DeFries, & Plomin, 2016).

Increasingly, scientists directly measure structural variations in DNA and RNA molecules, especially with automation, making the process fast, highly reliable, and relatively inexpensive compared to older technology (Demkow & Ploski, 2016). In family and developmental sciences, much of the work to date has focused on so-called *candidate gene* methods, whereby structural variations in genes thought to play a causal role in phenotypes of interest are measured and compared to estimate their statistical effects. Most common are studies of whole classes of

genes involved in the production and regulation of monoamine neurotransmitters, such as dopamine, serotonin, and norepinephrine. This genetic information can also be used to test for potential interaction effects with measured environmental factors—including family and parenting variables (Deater-Deckard, Chen, & El Mallah, 2016). In addition, scientists increasingly are studying epigenetic alterations to DNA—biochemical modifications (e.g., methylation, acetylation, histone modification) that alter gene expression in response to input from outside the nuclei in the cells (Zhang & Meaney, 2010). In this chapter, we present an illustrative handful of examples of behavioral and molecular genetic studies that illustrate some of the important principles of how scientists make inferences about gene–environment transactions in parenting and children's development. Those who wish to explore these genetics literatures more thoroughly can explore the work presented in handbooks by Hood and colleagues (2010), and Horwitz and Neiderhiser (2015).

Neural Structures and Functions

Individual nervous system cells, *neurons*, operate in groups as part of cell networks that connect specialized brain regions (e.g., prefrontal cortex, intraparietal sulcus) and structures (e.g., amygdala, hippocampus), as well as connections to neurons throughout the body via the spinal column. In parenting and family science, by far the most widely studied domain of the nervous system is the autonomic nervous system (ANS). The ANS is comprised of sympathetic and parasympathetic branches that interact to produce continuous responses to changes in the environment, and regulation of the body to maintain homeostasis (Sapolsky, Romero, & Munck, 2000). There are a wide variety of techniques used to measure, directly or indirectly, the neural activity of specific groups of neurons and their functional role in an observed phenotype.

By far the most common (and oldest) such approaches in parenting and family science are psychophysiological methods that record individual differences in changes in neural and cardiovascular functions. Electroencephalography (EEG) is a method of testing electrical activity in the brain, and electrocardiography (ECG) is a method of measuring the heart's electrical activity, using sensory electrodes placed on specific locations on the body. Both methods have been used in parenting and child development research to examine individual differences and ontogeny (for an overview of psychophysiological methods in developmental and family science, see Schmidt & Segalowitz, 2008).

Most recently, scientists have begun applying neuroimaging using structural and functional magnetic resonance imaging (sMRI and fMRI, respectively) methods, to explore and test hypotheses about biosocial processes in parenting and children's development. sMRI captures variations in the absolute and relative (to others) brain volumes in specific locations as well as the whole brain, and proportions of white matter (i.e., myelinated axons connecting brain cells) and gray matter (i.e., neuronal cell bodies, axons, glial cells, synapses between neurons, and blood vessels). fMRI assesses changes in blood flow in the brain that are thought to correspond with shifts in neural activation during and after the presentation of stimuli (Johnstone, Kim, & Whalen, 2009). Although the field is rapidly adopting MRI techniques to study aspects of parenting and children's development and the *parent's* brain (e.g., Abraham et al., 2014; Kim et al., 2010), MRI studies of parenting and the *child's* brain are rare because it is difficult, if not impossible, to gather functional brain activity information with young children in a wakeful state (Johnson, Page, Williams, Wassemer, & Whitehouse, 2002). However, there have been several highly cited studies of anatomical differences in the brains of children exposed to different child-rearing environments, and we review those in this chapter.

Hormones

A third major domain of biological factors and their role in parenting and children's development focuses on hormones—molecules produced by glands throughout the body, that convey information to nearby and distant organs and bodily

systems to maintain or alter current functions. Of particular interest to developmental and family scientists are molecules involved in the stress response—cortisol and alpha amylase, in particular. The stress response is intimately tied to the functioning of the HPA axis, which is the fundamental neuroendocrine vector that prepares for and executes responses to potential and actual threats, then enables regulation so that the individual can return to a calmer, non-stressed state (i.e., homeostasis; Sapolsky et al., 2000).

Cortisol plays a key role in short-term stress responses, but this cortisol reactivity can signal dysfunction in the stress and self-regulation endocrine and physiological system if it is chronically hyperactive or hypoactive. Furthermore, HPA development is influenced by caregiving from early in life, such that warm and sensitive parenting (including secure attachment) predicts subsequent healthy HPA functioning (Francis & Meaney, 1999). In contrast, prenatal distress and postnatal maltreatment may have long-lasting deleterious effects on HPA functioning as indicated by cortisol reactivity (Hostinar & Gunnar, 2013; Matthews, 2002). In this chapter, we present illustrative correlational and experimental studies that show the critical role that cortisol and other hormones (e.g., oxytocin) play in parenting and children's developmental outcomes.

We now turn to several key substantive areas of parenting research and biological factors, chief among them the literatures on attachment security, and harsh parenting and adverse environments. We also consider the smaller literature on fathering, to bring special attention to that growing literature—given that nearly all relevant research to date has focused on mothers. We complete the review by examining biological factors on parenting itself, and how this can inform us about the likely effects on child and adolescent development and the intergenerational transmission of parenting.

Attachment

One of the foundational concepts in parenting science and developmental psychology is that of attachment security and its importance in healthy development (van Bakel & Hall, 2018). The study of this key aspect of human development is rooted in attachment theory, which posits a critical causal role of the child's developing social cognitive model of human relationships that influence feelings of safety and being loved, that have extensive strong links with variability in a wide range of social-emotional, cognitive, and physical outcomes (for an overview, see Cassidy & Shaver, 2016). According to this theory and empirical evidence, attachment security is derived from the earliest experiences in infancy based on sensitive, responsive caregiving—or, insecure attachment can arise from insensitive, nonresponsive, or harsh caregiving. There has been a long-standing interest in the potential role of biological factors in the attachment relationship, and how deficiencies in those biological factors might interfere in healthy development by altering the trajectory of attachment security from early in childhood. Some of the foundational work in this area sought to tease apart the roles of genetic and environmental factors using twin and adoption quasi-experiments (e.g., Fearon, Shmueli-Goetz, Viding, Fonagy, & Plomin, 2014; O'Connor & Croft, 2001; Roisman & Fraley, 2008).

More recently, parenting and developmental scientists interested in biological factors have focused on more direct indicators of potential genetic influences on attachment using molecular genetic methods. From this literature, several studies have shown that maternal responsive parenting—along with a secure attachment relationship with the child—mitigates a genetic risk for insecure attachment and behavioral/emotional problems thought to be associated with dysfunctional serotonin regulation (i.e., serotonin transporter gene 5-HTT; Barry, Kochanska, & Philibert, 2008; Gilissen, Bakermans-Kranenburg, van IJzendoorn, & Linting, 2008). In a more recent study, researchers found evidence to suggest that a genetic risk factor for an overreactive stress response in the child (i.e., a single nucleotide polymorphism [SNP] in a glucocorticoid receptor gene FKBP5) is enhanced within dyads in which the child has an insecure attachment relationship with the mother (Luijk et al., 2010). What is apparent from this nascent

field of research in attachment security and genetic factors in children is that there are likely to be interactions between insecure versus secure attachment and specific genetic risks for disrupted stress reactivity and self-regulation, in the prediction of trajectories of healthy versus maladaptive social-emotional and behavioral outcomes.

Turning to attachment research examining psychophysiological and neural activity factors, a number of studies have examined these biological parameters during the *strange situation*, a separation and reunion manipulation in the laboratory that challenges the young child's attachment system to reveal likely attachment security or insecurity. These neurophysiological studies have shown that insecurely attached infants are more likely to have higher heart rates prior to and during the strange situation; they also may show reduced left frontal lobe brain activation, a pattern implicated in growth in behavioral withdrawal and avoidance strategies that predict subsequent internalizing problems (Dawson et al., 2001). More broadly, children with an avoidant attachment style tend to show physiological *hypo*-arousal prior to a stressor, such as entering an unfamiliar playroom with adult and peer strangers (i.e., lower resting heart rate, higher resting baseline respiratory sinus arrhythmia (RSA; Burgess, Marshall, Rubin, & Fox, 2003)). However, these same children may show *hyper*-arousal during and following such social stressors, such as those experienced in the separation phase of the strange situation (i.e., greater vagal withdrawal and higher salivary alpha-amylase levels [an indicator of HPA axis activity]; Hill-Soderlund et al., 2008). Similar types of disturbances in cardiophysiology have been observed among foster children who experienced early life adversity, such as physical neglect or sexual abuse. Foster children with disorganized attachment internal working models may have a hyperactive sympathetic nervous system, as seen during the strange situation (Oosterman, De Schipper, Fisher, Dozier, & Schuengel, 2010). Perhaps not surprisingly, these biological risks associated with avoidant attachment in early childhood may combine with broader aspects of temperament, to predict maladaptive outcomes later. Illustrative of this, Burgess et al. (2003) found that avoidant attachment in infancy, when coupled with uninhibited temperament, predicted externalizing behavior problems at 4 years of age.

Psychophysiological and hormonal indicators of HPA axis activity and neural functioning more broadly have also been applied to studies of attachment at older ages. In one such study, secure attachment at 4-years of age was linked with better social skills at 8-years of age among children with more mature cortical development—itself indicated by higher EEG alpha power (Almas et al., 2012). In a more recent study of adolescents, investigators found that those with a dismissing attachment style showed greater amplitudes of negative left frontal slow-waves after experiencing rejection from peers in a virtual ball toss game; characteristically, these same individuals also underreported feeling distressed following their peer rejection (White et al., 2012).

An event-related potential (ERP) is a specific indicator from the EEG capturing a measured brain response that is the result of a specific sensory, cognitive, or motor event. ERP studies in combination with EEG readings are often used to study underlying emotional or cognitive processes in children. It allows for precise temporal measurement of early cognitive processing; for example, a certain wave component of ERP may reflect attentional resource allocation. Insecure attachment in adolescence has been linked with ERP indicators. For example, in one study, adolescents who were characterized as having an insecure attachment with their parents had longer reaction times when processing negative emotion faces and words; these behavioral biases were accompanied by neural signals—larger *P1* and smaller *N170* amplitudes—that indicate greater vigilance and a negativity bias when viewing faces (Escobar et al., 2013).

More broadly, insecure attachment in childhood is associated with greater cortisol reactivity in response to a stressor (Ahnert, Gunnar, Lamb, & Barthel, 2004; Bernard & Dozier, 2010; Schieche & Spangler, 2005). This effect and its link with behavior are even more pronounced when insecure attachment is coupled with high

levels of behavioral inhibition (Schieche & Spangler, 2005). When taken together, the biologically informed studies in this growing literature on attachment and neurophysiological reactivity and regulation all point to the critical role that attachment security plays in the development of typical, healthy cerebral, cardiovascular and neuroendocrine responses to stressors—and the effective self-regulation of those stress responses.

Adverse Environments and Stress

In addition to the foundational work on attachment relationships and security in children's development, biological factors have been examined in an even broader sense with respect to a wide range of adverse parenting and home environments and experiences in childhood that are well established risk factors in child and adolescent development. Chief among the multitude of potential adverse experiences are exposure to chronic parenting stress; this emerges as child maltreatment (i.e., abuse and neglect) and, far more commonly, harsh reactive parenting. According to a group of distinct yet complementary parenting stress theories (e.g., Abidin's theory, Crnic's theory; for an overview, see Deater-Deckard & Panneton, 2017), these early child-rearing experiences—particularly if they occur at sensitive periods in development or are chronic and severe—usually have lasting effects not only on children and adolescents but on parents and parenting behavior. According to these theories, parenting stress emerges in contexts in which the parent's resources for managing the roles and demands of caregiving are exceeded by those demands—an imbalance that produces a sustained stress response within the parent that spills over into relationship dynamics and household environments that have a big impact on the developing child (See Box 1). As with the attachment literature reviewed above, researchers studying parenting stress and adverse child-rearing experiences have incorporated a variety of biological factors into their theories and methods, to examine the interface of these more

Box 1 The Importance of Parental Leave Policies

A wealth of research, some of which is highlighted in this chapter, demonstrates the essential nature of developing healthy and nurturing relationships with caregivers early in life. Secure attachment to a caregiver has been shown to contribute to social and academic competencies (Drake, Belsky, & Fearon, 2014) and decreased risk for behavioral problems (Kochanska & Kim, 2013). Of particular relevance, positive caregiver relationships can serve as a protective factor even in the context of early adversity (Fisher et al., 2006; Luby et al., 2013). Positive behavioral and academic associations like these are not only limited to parental caregiving bonds, but also are found in high-quality childcare environments (NICHD Early Child Care Research Network, 2002).

The USA is one of the only countries in the world where employers are not required to provide paid time off for parents following the birth or adoption of a child (OECD, 2017). Current parental and family leave policies are insufficient, and parents of infants and young children often struggle with access to high quality childcare options. Given the importance of early healthy relationships for later success, nations should continually review and improve equity in access to, and extent and quality of, their parental leave and childcare policies and programs (Nomaguchi & Milkie, 2017). Examples of new or long-standing policies can be found in many countries; these policies are particularly prominent in the Nordic and Baltic nations (e.g., Sweden, Denmark, Estonia). Policy analysis has shown that national differences in these policies help explain some of the nation-level variation in caregiving and family division of labor, work-family role conflict and stress, and children's developmental outcomes (e.g., Altintas & Sullivan,

(continued)

Box 1 (continued)

2017; Cooke & Baxter, 2010; Patton, Costich, & Lidströmer, 2017). The positive effects of such policies are seen in behavior and health (Hahn, 2015). It remains to be seen in future research whether such effects also are observed on underlying biological pathways and structures throughout the nervous and endocrine systems, through reductions in parental stress.

extreme environments and underlying biological risk and resilience indicators that enhance or dampen the effects of those experiences.

Considering first the genetics research literature, studies have examined early adversity, maltreatment, and harsh parenting exposure—and how these experiences may interact with genetic factors in predicting subsequent trajectories of adaptive versus maladaptive functioning. Numerous behavioral genetic studies of parenting and children's development have been conducted. These rely on designs assessing twins and adoptive siblings or parent–child dyads, to examine the interface of genetic and nongenetic influences on parenting and child outcomes alike (for an overview, see Horwitz & Neiderhiser, 2015). Perhaps the most important finding to emerge from this broader behavioral genetic literature is that children who are genetically *at risk* for more challenging behavioral and emotional problems, are more likely to experience harsher parenting—a so-called *evocative* gene–environment correlation or child effect on the parenting environment (for a meta-analysis, see Avinun & Knafo, 2014).

Turning to molecular genetic research that has examined actual variations in DNA structure, most of the relevant studies have focused on dopamine and serotonin neurotransmitter genes and their role in parent–child antagonistic relationship processes. The first such study of humans found that a functional polymorphism in the gene that expresses monoamine oxidase A or *MAOA* (a neurotransmitter-metabolizing enzyme) interacted with boys' childhood maltreatment history to predict different antisocial behavioral outcomes years later, depending on the version of the gene (Caspi et al., 2002). Since then, the field has witnessed an explosion of studies—an exciting direction in research, though notably, few if any of the gene–environment interaction effects have been replicated consistently. Still, potentially promising findings have emerged regarding harsh versus supportive child-rearing and its interactions with dopamine receptor 2 gene (e.g., Mills-Koonce et al., 2007; Propper et al., 2008), dopamine receptor 4 gene (e.g., Bakermans-Kranenburg, van Ijzendoorn, Pijlman, Mesman, & Juffer, 2008; Berry, Deater-Deckard, McCartney, Wang, & Petrill, 2013), catechol-*O*-methyltransferase gene (COMT; Voelker, Sheese, Rothbart, & Posner, 2009), and serotonin transporter gene (e.g., Fox et al., 2005; Koss, Cummings, Davies, Hetzel, & Cicchetti, 2016; Stein, Schork, & Gelernter, 2008). Although little is known currently about precisely how adverse experiences interact with gene variants in predicting developmental outcomes, the current prevailing view is that these effects are explained by proximal changes in gene expression of neurotransmitters, via epigenetic modifications to the DNA molecule (for recent reviews, see Deater-Deckard, Chen, & El Mallah, 2016). This nascent literature on epigenetic changes in children following exposure to stressors in utero and postnatally suggests that such modifications to gene expression can occur, and may ultimately help explain some of the gene–environment interaction effects already published and yet to be found. However, major challenges remain with respect to methodology and inferences, given the nature of the molecular biological mechanisms involved.

Considering next the relevant neural activity research, scalp electrophysiology and neuroimaging methods have been used to examine the potential impact of maltreatment and other early adversities on children's developmental outcomes. In one such study (Hanson et al., 2010), children who had experienced physical abuse had smaller brain volumes in the right orbitofrontal cortex (a region of the prefrontal cortex that has been implicated in many aspects of emotion and

decision making; see Stalnaker, Cooch, & Schoenbaum, 2015), compared to those who had not been abused. This variation in brain volume was, in turn, associated with poorer social relationships and social behaviors. In another study (De Bellis et al., 2002), researchers found that maltreated children had larger gray matter and smaller white matter volumes in the superior temporal gyrus. Anomalies in this structure have been implicated in language and social cognitive deficits in children and adolescents (e.g., Bigler et al., 2007).

In a longitudinal study of infants from institutions (McLaughlin, Fox, Zeanah, & Nelson, 2011), investigators found that these children were more likely to have longer periods of right-lateralized EEG alpha power and a blunted rebound in left-hemisphere alpha power. This right-lateralized pattern was associated with subsequent internalizing symptoms at 54 months of age—a finding that is consistent with other studies showing that right-lateralized alpha power is indicative of poorer emotion regulation and higher levels of fear and sadness (Bell, Schwartz, Hardin, Baldwin, & Kline, 1998; Gotlib, Ranganath, & Rosenfeld, 1998). Interestingly, McLaughlin et al. found that the children who were placed into foster care prior to 24-months of age generally fared better, suggesting that earlier removal from institutional care and placement in an enriched, loving home can ameliorate or mitigate these effects.

Psychophysiological studies of parenting and children's development also have incorporated ECG indicators of heart rate variability (HRV), respiratory sinus arrhythmia (RSA), or vagal tone (so named because it represents the activity of the vagus nerve, which inhibits heart beats). These are three closely related concepts that all reflect the degree to which heart rate varies from beat to beat. Lower levels indicate relatively poor parasympathetic regulation of heart rate, whereas higher levels indicate better parasympathetic regulation in children, adolescents and adults (Porges, 2003; Thayer & Lane, 2009). Better cardiac parasympathetic regulation has been linked to a host of cognitive, social-emotional and behavioral indicators of social competence, efficient cognitive processing, and self-regulation (Bridgett, Burt, Edwards, & Deater-Deckard, 2015; Calkins, Graziano, & Keane, 2007).

Higher HRV or vagal tone are indicative of resilience and well-regulated stress reactivity, and may be particularly important for children living in chronically stressful homes and parenting environments (Obradović, Bush, Stamperdahl, Adler, & Boyce, 2010). For example, children with higher vagal tone may be protected from the negative effects of parental marital conflict on internalizing and externalizing symptoms, as well as physical health problems (El-Sheikh, Harger, & Whitson, 2001; Katz & Gottman, 1997). Similarly, children with higher vagal suppression, which is associated with fewer behavior problems and better social skills, may be protected from the negative effects of mothers' poorer emotion socialization behaviors (Perry, Calkins, Nelson, Leerkes, & Marcovitch, 2012).

Turning to brain-imaged neural factors, children with a history of parental maltreatment may develop less gray matter volume in the right temporal lobe, especially if coupled with posttraumatic stress disorder (De Bellis et al., 2002). This population of children may also have smaller total volume in the superior posterior cellular lobes (Bauer, Hanson, Pierson, Davidson, & Pollak, 2009) and hippocampus (Bremner et al., 2003), yet greater amygdala volume (Tottenham et al., 2010). Maltreated children tend to show less white matter connectivity (Eluvathingal et al., 2006), and less efficient neural activity in the orbital frontal cortex, prefrontal infralimbic cortex, lateral temporal cortex, medial temporal structures, and brain stem (Chugani et al., 2001). In part because of these structural changes, maltreated children do not perform as well as non-maltreated peers on a wide range of cognitive tasks involving memory, attention, and executive functions—even though maltreated children show greater brain activation during these tasks because they must allocate more resources to do them (Carrion, Garrett, Menon, Weems, & Reiss, 2008; Mueller et al., 2010).

In addition to MRI variables, ERP signals have been used to study neural activity and maltreatment. Institutionalized children have

been shown to display larger N170 amplitude (a general signal indicated during face processing) when viewing fearful faces (Parker & Nelson, 2005). In several studies, physically abused children have been found to display a larger "P3b" amplitude—a component reflecting allocation of resources for attention—while viewing their mothers' angry faces (Pollak & Sinha, 2002; Shackman, Shackman, & Pollak, 2007). In a similar study of behavior, children who had been physically maltreated displayed more negative affect and allocated more attention to social threat (as measured by higher P3b amplitudes) when they had to control their frustration with a *virtual child* who was performing poorly on a task and losing points on the game for the target child (Shackman & Pollak, 2014). Another ERP signal, the error-related negativity or ERN, has been studied because it is an indicator of the neural response to errors. Previous research established that higher error related brain activity is associated with internalizing symptoms, but lower error related activity is linked to externalizing symptoms (Olvet & Hajcak, 2008). Two studies have shown that greater ERN amplitudes are found during inhibitory control or attention task performance, among children who experienced harsher, more punitive parenting when they were toddlers (Brooker & Buss, 2014; Meyer, Hajcak, Torpey-Newman, Kujawa, & Klein, 2015).

Biologically informed research of adverse child-rearing effects has also incorporated neuroendocrine assessment methods to examine stress hormones as indicators of HPA axis dysfunction among high-risk youth. This approach is well illustrated in a recent longitudinal study spanning the first 6 years of life, which showed that children of depressed mothers had higher cortisol levels and less cortisol variability compared to children of non-depressed mothers (Apter-Levi et al., 2016). The investigators also found that lower levels of cortisol variability were associated with higher levels of child behavioral and emotional problems, as well as social withdrawal. Even more robust effects on stress hormones are seen among previously institutionalized children placed in foster care or adoptive homes. Children from the most severe neglectful early environments, often show the highest cortisol levels prior to a laboratory task, as well as following interactions with their foster or adoptive mothers (Fries, Shirtcliff, & Pollak, 2008).

There have been several relevant hormone studies that have focused specifically on fathering—a very neglected domain of parenting research in the larger field of biopsychological studies of children's development. In one study, fathers who received external oxytocin displayed warmer parenting behavior and higher RSA during observed parent–child interaction. In turn, infants of these fathers displayed elevations in oxytocin and RSA, as well as greater social reciprocity during interaction with their fathers (Weisman, Zagoory-Sharon, & Feldman, 2012). In another study, higher levels of paternal negativity toward his infant were associated with greater increases in cortisol reactivity in response to emotionally arousing tasks at 2-years of age; this finding suggests that harsher fathering behavior may increase stress reactivity and impede emotion and stress regulation, as these systems develop rapidly in very early childhood (Mills-Koonce et al., 2011). Conversely, these investigators also found that positive fathering behavior, such as high levels of involvement in infancy, can serve as a buffer against mental health problems when the children are older—especially among those infants who had hyperreactive cortisol increases in response to social stressors.

Overall, the human research literature on hormones, parenting and children's development has relied on correlational studies. However, experiments have shown the key role that hormones play. Family and parenting interventions with foster children (a population that is at risk for insecure attachment relationships) have shown that effective interventions result in developmentally typical and healthy cortisol patterns, along with reductions in behavioral and emotional problems and improvements in the attachment relationship (Dozier, Peloso, Lewis, Laurenceau, & Levine, 2008; Fisher, Gunnar, Dozier, Bruce, & Pears, 2006). Together, the correlational and experimental studies reviewed above suggest that deprivation in the social caregiving environment

early in life can have a lasting impact on the stress reactivity and self-regulation of children, even after exposure has ended.

Parents' Biological Factors

Parents are biological beings too. Up to this point in the chapter, we have focused on studies examining parenting and children's development that have assessed biological indicators in the children. However, there is a large and growing literature on the same biopsychological methods, *applied to parents*—and a much larger literature when one includes studies of *adults* more generally, that have examined parenting-relevant aspects of adult functioning. In this final section, we consider some of the key findings and their implications for how developmental and family scientists think about intergenerational transmission of biologically based risk and resiliency in development.

Attachment theory is a good place to return to at this point in our review. It was one of the first theories in developmental and social psychology to stipulate cognitive constructs that develop in childhood but remain active throughout the lifespan—and more importantly for the present chapter, constructs that influence adults' romantic and platonic relationships as well as their relationships with their own children (Cassidy & Shaver, 2016). The literature on adult attachment in romantic partnerships is also relevant to understanding parenting, given that these adults are also responsible for coparenting when they have children together—and both partners' attachment security have been implicated in coparenting and parent–child relationship quality (Roisman, Madsen, Hennighausen, Sroufe, & Collins, 2001).

Genetically informed research has documented the evidence of heritable variance, as well as substantial nongenetic variance, in adult attachment style as well as its link to adult psychopathology (Brussoni, Jang, Livesley, & Macbeth, 2000; Crawford et al., 2007). One molecular genetic study found preliminary evidence for a potential risk allele in the serotonin neurotransmitter system for insecure attachment in early adulthood—the effect of which may be modulated by the patterns of maternal sensitivity experienced earlier in childhood (Fraley, Roisman, Booth-LaForce, Owen, & Holland, 2013). The adult attachment research literature also includes several studies that have incorporated electrophysiology methods, showing distinct patterns of arousal and alertness via EEG being associated with anxious and dismissive attachment styles (e.g., Roisman, 2007; Roisman, Tsai, & Chiang, 2004; Verbeke, Pozharliev, Van Strien, Belschak, & Bagozzi, 2014).

ERP studies have shown that insecure adults show distinct features of information processing of visual and auditory stimuli involving positive and negative emotions and social contexts (Chavis & Kisley, 2012; Cohen & Shaver, 2004; Dan & Raz, 2012; Rognoni, Galati, Costa, & Crini, 2008; Zilber, Goldstein, & Mikulincer, 2007). Numerous fMRI studies have also been conducted, showing that various types of insecure adult attachment are associated with distinct hyperactivation or hypoactivation of brain regions involved in emotion processing and regulation such as anterior temporal pole, orbitofrontal and prefrontal cortex, amygdala, somatosensory cortex, and structures in dopaminergic reward circuitry (Buchheim et al., 2006; DeWall et al., 2012; Donges et al., 2012; Gillath, Bunge, Shaver, Wendelken, & Mikulincer, 2005; Lemche et al., 2006; Suslow et al., 2009; Vrtička, Andersson, Grandjean, Sander, & Vuilleumier, 2008; Zhang, Li, & Zhou, 2008).

These neural features of adult attachment security overlap with known regions associated with social emotional responding (including amygdala, frontal cortex, insula, and medial temporal cortex) that are linked with variation in sensitive caregiving (for a review, see Swain, 2011).

Turning to studies of caregiving of children, EEG studies of mothers at various time points in their children's lives have yielded evidence for a neural basis for parenting behaviors that have an influence on subsequent child development outcomes. Mothers appear to be perceptually sensitive (as evidenced by N100, N170 and left positive potential amplitudes) to infant-specific auditory and visual stimuli (Peltola et al., 2014;

Proverbio, Brignone, Matarazzo, Del Zotto, & Zani, 2006; Purhonen et al., 2001). The amplitude of this response seems to be strongest when viewing or hearing distress cues from infants, suggesting this aspect of affective processing may be unique and important to enabling mothers to respond sensitively to their infants. These neural processes may not operate as well or efficiently, however, for mothers who are prone to neglecting or abusing their young children (Rodrigo et al., 2011).

Most recently, a special issue on neurobiological factors in parenting was published in which investigators presented physiological and neuroimaged indicators of attentional and emotional processing, stress reactivity, and self-regulation processes (Deater-Deckard & Sturge-Apple, 2017). Three papers utilized ECG or EEG to operationalize individual differences in parental physiological and neurological reactivity and regulation. In one, investigators studied the association between parents' physiological reactivity to experimentally induced positive and negative moods, and their observed positive and negative affect when engaging with their adolescents in a variety of discussion tasks. They found that RSA suppression in response to a sad movie clip was associated with less anger during a conflict discussion task, with the opposite effect found for parents who displayed RSA augmentation. In response to the amusing movie, there was an interaction effect with parental depression; parents with low levels of depression who also displayed greater RSA augmentation to the amusing film were observed to show greater positive affect when discussing a recent disagreement with their child (Connell, Dawson, Danzo, & McKillop, 2017).

In the second relevant study from the special issue, researchers examined parental heart rate dynamics and their links with observed parent–child (6- to 12-year-olds) interactions in a conflict resolution task. Parents who displayed a heart rate increase followed by a decrease in response to the conflict task, were more likely to be emotionally sensitive and responsive during the interaction (Han, Zhang, Cui, & Yan, 2017). In the third study, the harshest parenting was found among mothers who showed a combination of deficits in executive function and the least well-regulated physiological response (based on EEG and ECG reactivity measures) to cognitive challenge (Deater-Deckard & Bell, 2017)—a finding that builds on prior evidence that poorer parasympathetic regulation (as indicated by lower vagal tone) is part of a broader matrix of biological and cognitive deficits in emotion regulation that are particularly deleterious in their effects on parenting under chronic stress conditions (Deater-Deckard, Li, & Bell, 2016).

Attachment and parenting research has also examined the role of adults' hormones. Women with avoidant attachment styles show greater cortisol reactivity and slower recovery following a conflict with their partners. In contrast, for men, it is an anxious attachment style that is associated with greater cortisol activity (Laurent & Powers, 2007; Powers, Pietromonaco, Gunlicks, & Sayer, 2006). In addition to cortisol, oxytocin has been studied in the adult's attachment relationships with partners and children. Oxytocin is a hormone that is associated with greater affiliation and feelings of warmth and that operates as a key component of the parent–child and parent–parent couple bond and relationship (Neumann, 2008). Oxytocin levels are higher in both mothers and fathers after contact with infants (Feldman, Gordon, Schneiderman, Weisman, & Zagoory-Sharon, 2010; Ross & Young, 2009) and this response seems to modulate warm and supportive parenting in conjunction with increased activation in the amygdala and the frontal cortex (Kim et al., 2010).

Oxytocin has been manipulated experimentally to show changes in parent–child closeness and decreased stress reactivity. This is demonstrated in several studies examining adversity in early childhood (i.e., beyond attachment security), in which externally administered oxytocin has been shown to reduce cortisol (a stress hormone) in adults, but only among those who had not had childhood adverse experiences (e.g., parental divorce, abuse history; Meinlschmidt & Heim, 2007). The impact of earlier child-rearing experiences on oxytocin may extend to how adults process faces and emotions. For instance,

an experimental study of college undergraduates found that it was the combination of externally administered oxytocin and a history of maternal love withdrawal that predicted enhanced processing of certain faces and emotions (Huffmeijer et al., 2013). In another experimental study, women were randomly assigned to receive external oxytocin or not, and then were given a handgrip dynamometer (to measure grip strength) as they listened to infants crying. External administration of oxytocin led to weaker grip responses, if the participants reported positive experiences with parental discipline in their childhoods. Those who had experienced harsh discipline had a strong grip response to infant cries, regardless of oxytocin exposure (Bakermans-Kranenburg, van IJzendoorn, Riem, Tops, & Alink, 2012). In sum, as the growing experimental literature demonstrates, increasingly researchers will be using experimental designs to manipulate hormones and other biological factors (including neural activity and gene expression), which will permit much stronger causal inferences that will inform prevention and intervention efforts.

Caveats and Future Directions

Humans have evolved as part of an exquisitely complex set of biological systems that work to ensure survival and reproductive success. These systems span hormones, neurons and neural systems, and genes within our cells. Parenting behavior, and the effects of parenting on children's developmental trajectories, all involve biological influences across levels of these systems. These influences do not determine outcomes, but they do reflect meaningful information about individuals' acute/phasic and chronic/tonic responses to their environments.

In the long history of parenting and developmental science, scientists have incorporated direct measures of biological factors only relatively recently. The scope and depth of this recent growth in biopsychological methods has been astonishing, and its impact on our understanding of the causes and consequences of parenting behaviors is hard to refute. Instead of relying on assumptions about genetic factors in traditional behavioral genetic predictive models of parenting and children's outcomes, now scientists are directly measuring genetic and epigenetic variation in specific regions of the genome, to test competing theories of gene–environment transactions in development. In the past, researchers relied on precise measurement of specific behaviors that were thought to be tied to underlying neural factors (based largely on animal models), but today they are relying on assessments of physiological changes in neurological and neuroendocrine chemical and hematic information throughout the central and peripheral nervous system.

As important and rigorous as much of the advances in this area of research may be, it comes with new limitations—some of which can be addressed through further advances in technology, but some of which cannot. The most fundamental limitation in most of the human parenting research remains, regardless of measurement techniques and indicators—that the vast majority of the empirical base has used correlational designs. This is because for many (and perhaps most) of the questions parenting scientists and practitioners seek to answer, it would be unethical to conduct rigorous experiments with random assignment (e.g., randomly assigning children to parents), let alone executing such designs that involve direct manipulation of biological parameters (e.g., using drugs to alter gene expression).

There are two major exceptions to this fundamental limitation. The first is that rigorous experiments on caregiving are conducted with animal models—but even this exception raises another limitation regarding whether such experiments generalize to humans. The second is that it is feasible to incorporate biological measures of relevant biological processes into human experiments when done as part of clinical trials to measure efficacy of parenting interventions. It is already apparent that this second exception is the main route through which parenting science will be most successful in incorporating biological measures into true experiments.

Implications for Policy and Practice

With every technological advancement in genotyping, electrophysiology, and neuroimaging, parenting and developmental scientists will have even greater access to reliable methods for measuring species-typical change and individual differences in developmental trajectories across many levels of these biological systems. This is exciting; in our view, there is no better way to demonstrate the power of improving the environments and lives of children and their parents, than to show how biological markers of stress and health can be changed as a result of such environmental enrichment. Therein lies much of the future of biopsychological research in parenting science: examining the biosocial interface through quasi experiments and experiments that are part of the broader effort to create parenting intervention tools that are evidence-based.

What we do with the mounting information on biological factors will need to be informed by the next generation of biopsychological theories of human development that will evolve from attachment theory (Cassidy & Shaver, 2016), parenting stress theories (Deater-Deckard & Panneton, 2017), and the bioecological model of Bronfenbrenner and Ceci (1994). These future-generation theories will drive the hypothesis testing that will inform innovations in policy and practice regarding children and parenting. These innovations will more fully integrate biological factors into prevention and intervention tools and delivery methods.

There are two broad implications already known, and others will emerge as theory and empirical work evolve. First, there is great potential for assessment and understanding of specific biological parameters to create new prevention and intervention targets and tools—ways to directly or indirectly manipulate a biological process in ways that directly alter the cognitive or behavioral outcome of concern. This has always been the premise of pharmacological interventions. More recent examples of new intervention tools include transcranial direct current stimulation (tDCS) for treatment-resistant chronic depression and anxiety (Lefaucheur et al., 2017), and gene therapies for a host of diseases (as seen in any issue of *The Journal of Gene Medicine*, *Gene Therapy*, and many others).

Second, there also is potential that our understanding of biological pathways will help interventionists deliver tools that are individualized to each person, in a way that is more likely to be effective and have the fewest side effects—so-called *personalized intervention* (e.g., Ng & Weisz, 2016). The potential of this premise is that individualizing prevention and intervention that best fits each parent's or child's biological and cognitive-behavioral profile, will yield the most effective and longest lasting changes that benefit the family. Both implications are only beginning to be realized in actual practice.

Finally, at the level of broad family and child policies in communities, states/regions, and nations, some policy makers will always take evidence of biological contributions as proof that social and economic interventions will not be effective—a biological determinism that has been the root of policy that either neglects families and their needs, or attempts to decide who gets to become a parent (e.g., eugenics; Berryessa & Cho, 2013). Today, scientists and policy makers alike increasingly realize that the information about how biology contributes to child development, in part through sexual reproduction and parenting environments, informs and does not negate the need for relevant social and economic policy (for an overview see Hatemi & McDermott, 2011). The challenge for parenting scientists and policy makers is to build consensus about how to utilize the empirical evidence when changing legislation and regulations, in ways that acknowledge the complex, transactional interface of biology and environment.

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Parent–Child Relationships and Attachment

Hedwig J. A. van Bakel and Ruby A. S. Hall

Introduction

Much of children's worldly experience stems directly from their interactions within the family and with their parents in particular. For the majority of children, parents are the most prominent creatures in their early lives. Winnicott (1965), Bowlby (1969/1982), Stern (1995) and other relational theorists have emphasized the critical importance of the (early) caregiving relationships (Drury, 2012). In the previous century, Winnicott (1965, p. 39) even taught us that "whenever one finds an infant one finds maternal care, and without maternal care there would be no infant." This means that a child without a parenting person could not, does not, survive (Ablon & Bemporad, 2000). Moreover, the quality of the relationship between a parent and his or her child has been found to significantly contribute to the development of the child in several domains (Thompson, 2016). Therefore, it is not surprising that from birth onwards the quality and nature of the primary parent–child relationship is considered to be at the center of child development. In these first crucial years after birth, a solid basis is being formed from which the child will develop himself on a cognitive and social-emotional level. Some children grow up in more optimal conditions than other children. The parent–child relationship is a key factor in the developmental prospects for the child.

However, parents individually vary in their parenting behavior and children vary in constitution and temperamental characteristics. Therefore, the quality of parent–child relationships also considerably differs between parent–child dyads. In this chapter, we give an overview of the important role of parent–child relationships and attachment for children's development and the implications for research, practice, and policy.

Theoretical Background

A Model for Parent–Child Relationships

For many years, the parent–child relationship has been studied from the child's perspective, with the majority of studies focusing on child attachment. However, the parent–child relationship is a broad concept that has two different actors, and therefore two perspectives: the child's perspective and the parent's perspective. From the parents' perspective, the quality of the *emotional tie* from the parent to the child (also referred to as "bonding")

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and *parental representations* of the child (i.e., the ideas, expectancies, and fantasies about the child and the relationship with the child) are concepts that have recently received more attention from researchers and clinicians (Redshaw & Martin, 2013). Recent studies show that the quality of the attachment relationship the child develops with his or her primary caregiver correlates with the so-called representations a parent holds about the child (Hall et al., 2015). Further, the parent–child relationship has a third component: the observable interactions between the parent and the child.

Nowadays the parent–child relationship is considered as a broad multidimensional concept with several interconnected elements. Stern-Bruschweiler and Stern (1989) were among the first to describe the parent–child relationship in a model and in terms of four main elements in dynamic interaction. These are (1) the child's overt interactional behaviors; (2) the parent's overt interactional behaviors; (3) the parent's representations of that interaction; and (4) the child's representation of that same interaction. The interplay of these four elements can be schematized as shown in Fig. 1.

The Child's Perspective: Child Attachment

Children develop internal working models and representations of a caregiver or parent based on interactions in a variety of situations. In cases of distress, illness, or fear, children have a model in mind of how the specific parent will react and how available the parent is when the child is distressed. This is his or her "attachment based representation." An effective and supportive parent however, is more than a protector of the child from fear and distress and more than a secure base from which the child explores the world and gains experience. Parents are also playmates, friends, teachers and disciplinary adults (Trevarthen, 2005). Based on play interactions, social events and interactions during instruction tasks children will also develop internal working models about their parent in that particular parenting role. In this chapter, we focus on the child's perspective of the relationship in attachment related situations.

Definition of Attachment

The concept of attachment was originally defined by Bowlby (1969/1982) and Ainsworth (1967) as an emotional tie that a child constructs and develops with his or her principal caregivers in the context of everyday interactions. It refers to the emotional bond and the strong disposition to seek proximity to and contact with a specific individual (i.e., attachment figure). Attachment is one aspect of the relationship between a child and parent that is involved with making the child feel safe and protected. In an optimal attachment relationship, the child uses the parent as a secure base from which to explore and, when necessary, as a source of safety and comfort.

Development of an Attachment Relationship

Children are not born emotionally attached to their parents or caregivers and develop attachment relationships during the first 3 years of life (Marvin, Britner, & Russell, 2016). Bowlby (1969/1982) proposed a four-phased model of attachment development.

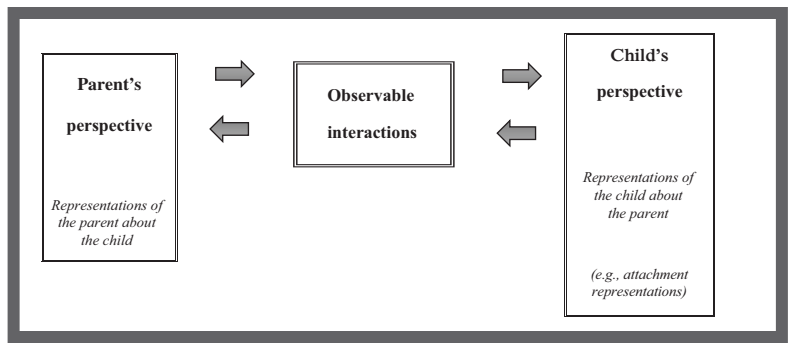


Fig. 1 A dynamic model for parent–child relationships with different interacting components

The development of the child's behavioral system requires environmental support provided by a caregiving figure. Through a process of learning, practicing, and feedback from the caregiver figures, and through daily parent–child interactions that become more and more familiar, the child develops a preference for a specific person. However, parent–child interactions continue to be fundamental in supporting and consolidating the quality of the relationship that has been constructed so far.

During the first phase, *orientation and signals with limited discrimination of figure*, which occurs in the first 2 or 3 months of life, the child reacts and orients in characteristic ways towards people around him. Behaviors like crying, sucking, looking, smiling, clinging and following bring caregiving figures closer or into physical contact with the child. These behavioral elements in the child's repertoire once were separate but become more organized into a system, the *attachment behavioral system* and are used in achieving the goal of proximity. The key characteristic is that the child exhibits limited ability to discriminate one person from another and does not seem to prefer anyone in this first phase. However, recent research suggests that infants have a preference for their mother's voice (Lee & Kisilevsky, 2014). Differential and preferential response to the mother's voice is thought to indicate recognition/learning of her voice through repeated exposure in utero. Fetal and newborn recognition/preference for the mother's voice is important for maternal–newborn attachment with recognition of her face facilitated by previous exposure to her voice (Sai, 2005). While the child's ability to discriminate one person from another is initially limited to auditory and olfactory stimuli, the capacity to discriminate one person from another increases as interactions with caregivers become a fixed and repeated part of the child's daily experiences.

The second phase (i.e., *orientation and signals directed toward one or more discriminated figures* or *attachment in the making*) takes place between 2 and 3 months and 7 months of age. This phase indicates the beginning of a child's preference for certain specific figures. The child continues to behave in the same way towards all adults around him, but now this response becomes more obvious when the child interacts with regular caregivers. It is suggested that daily parent–child interaction episodes during the first months of life breed familiarity and that from this familiarity preferences for specific persons arise (Waters, Kondo-Ikemura, Posada, & Richters, 1991). These patterns of parent–child interaction allow the child to discriminate and to prefer those persons that provide (adequate) care. The child moves from very limited discrimination of main caregivers to familiarity for those who care for him. Thompson and Trevathan (2009) indeed showed that decreasing infant cortisol reactivity (i.e., stress reactivity) and greater maternal sensitivity were associated with familiarity preferences for mother's face and voice in 6-month-old children.

The third and next phase (i.e., *maintenance of proximity to a discriminate figure by means of locomotion as well as signals*) indicates a clear preference for an attachment figure, most often the mother. This phase is proposed to begin at 6–7 months of age and last until about 2.5 years. The child's secure base behavior is more clearly observable. The secure-base behavior concept was proposed by Ainsworth (1967) and captures the notion that attachment ties the child to his attachment figure (in times of distress), but also enables the child to explore his surroundings, explore other objects, and interact with other people. The child returns to the attachment figure from time to time (Ainsworth, 1967, p. 345). The secure-base behavior refers to the balance between proximity seeking and exploration away from the attachment figure at different times and across contexts. The attachment figure is used as a haven of safety when needed, and as a base from which to explore the world.

During the last quarter of the first year and in the years that follow, a child becomes more skillful and knowledgeable to the conditions that support his needs and make him feel secure. The child will plan his behavior in order to have his needs and conditions met. Children create a cognitive map, a representation or internal working model of the relationships with their mother, father, or other caregiver. The working model refers to the internal

representations of the relationship and self that a child succinctly builds through his repeated experiences with the caregiver. These representations incorporate the child's adaptations to and expectations about his caregiving figure. Internal working models are very important because they assist the child in eliciting plans to attain a goal. The working models are not static, but dynamic organizations, open to change and dependent on experience and context. These representations or working models are based on daily interactions in the first years of life, and are expected to be elaborated through subsequent relationship experiences.

Towards the end of the second year, children enter the phase of *formation of a goal directed partnership*, and develop more integrated working models of the caregiver. Bowlby (1969/1982) proposed that the main feature of this phase is the child's incipient ability to gain perspective about the most prominent attachment figures in his or her life, as independent beings with their own goals. The child now becomes aware and more insightful about the feelings and motives of his attachment figures. The more the child is able to do so, the more flexible and complex the relationship develops.

This means that the process of attachment development succinctly goes from interaction, through familiarity/preference and attachment, to internal working model and goal directed partnership. As children enter childhood and adolescence, cumulative experiences in various attachment relationships are further assimilated into their internal working models which are continuously being updated and revised. These models reflect the degree to which the individual believes he or she is worthy of affection and love, and the degree to which he or she views significant other people as affectionate and loving (Mikulincer & Shaver, 2007).

A child can attach to multiple caregivers and most children are thought to form more than one attachment relationship. Responsiveness to crying and other signals and needs are among the factors that will determine who will serve as an attachment figure. This means that in most cultures biological parents, older siblings, grandparents, and other adult figures in the home or daycare are most likely to serve as attachment figures (Ahnert, Pinquart, & Lamb, 2006). Observational studies have also shown that fathers are competent caregivers, who can behave sensitively towards the child and therefore serve as one of the main attachment figures (Cassidy, 2016). Although there are more attachment figures in a child's life, the potential number of attachment relationships is limited and not all attachment figures are treated as equivalent. Children develop within a changing network of attachment relationships, which includes some enduring attachment figures (i.e., parents) and some that change with time and circumstances (e.g., daycare providers). However, more research is needed to determine how internal working models exactly develop over time within a specific attachment network (Howes & Spieker, 2016).

Individual Differences in the Quality of Child Attachment

It is assumed that all children have the capacity to construct attachment relationships in the context of interactions with caregivers. Across all cultures, children that are exposed to ordinary parental care organize their behavior in interactions with caregivers in ways that most meet their needs. Nearly all children become attached; however, not all children are optimally or securely attached (Cassidy, 2016). Based on Bowlby's (1969/1982) and Ainsworth, Blehar, Waters, and Wall's (1978) seminal work, four types of parent–child attachment can be described: *secure*, *avoidant*, *ambivalent-resistant*, and *disorganized* type (see Table 1). Each attachment pattern reflects a different "strategy" that would have solved adaptive problems posed by different kinds of rearing environments. Children develop a *secure* and positive attachment relationship with a caregiver when a child has expectations of the attachment figure (i.e., the parent) as available and responsive when needed. In contrast, children are considered to be *insecurely* attached when they lack this confidence in the availability of the caregiver.

Securely attached children use their caregivers to regulate and attenuate their distress, resuming other activities (e.g., exploration, play) rather

Table 1 Different aspects of the parent–child relationship

The parent–child relationship		
Parent's perspective	**Parent–child interaction**	**Child's perspective**
Parental representations of the child	**Parental interactive behavior**	**Child attachment**
Balanced Positive ideas about the child, parent seems to be engrossed in the relationship with the child and recognizes and values the child's individuality	Higher levels of sensitive behavior, "tuning in" to the child and manifesting awareness of child's needs, moods, interests, and capabilities. Accepting the child as an individual.	**Secure** Use their caregiver to regulate and attenuate distress, resuming other activities (e.g., exploration, play) rather quickly after calming down
Disengaged Representations are characterized by a sense of indifference and emotional distance from the child	Higher levels of disengagement and more withdrawal from their child, less involvement and more consequent insensitivity	**Anxious avoidant** retract from their caregiver, opting to control and dissipate their negative affect in a self-reliant manner
Distorted characterized by confusion and preoccupation	Higher levels of intrusiveness. Interactions are adult-centered rather than child-centered. Parent controls the child rather than recognizing and respecting the validity of the child's perspective. Inconsequent in sensitivity	**Anxious ambivalent** inconsistent and conflicted attempts to derive comfort and support from the parent, intermingling clinginess with anger
Disrupted characterized by affective communication errors, role confusion, disorientation, extreme intrusiveness, and/or extreme withdrawal	**Atypical** parental behaviours, such as expressing intrusive behaviour, fearful behaviour, contradictory signalling towards the child or withdrawal from the child	**Disorganized** characterized by the absence of a coherent strategy for obtaining security from the attachment figure and by an inability to regulate emotions in stressful circumstances

quickly after calming down. Approximately 62% of children in the general population develop a secure attachment relationship with a primary caregiver (van Ijzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). Caregivers of securely attached children tend to be available and responsive to the needs and signals of their infants (DeWolff & van Ijzendoorn, 1997). Those securely attached children do not have to worry about the availability and responsiveness of the caregiver. This leaves them the opportunity to concentrate on exploration and other tasks.

Avoidant attached children (~15% of the general population) usually have caregivers who are more rejecting and withdrawn. These children retract from their caregivers upon reunion, opting to control and dissipate their negative affect in a self-reliant manner. According to Main (1981), this distant reliant behavior enables the avoidant child to maintain reasonable close proximity with the overwhelmed parent without driving them away. This avoidant behavior of children may have evolved to overcome deficiencies in parenting by unmotivated, overly stressed parents.

Children with an *anxious-ambivalent* attachment relationship (~9% in the general population) have caregivers who tend to behave inconsistently towards them. These children make inconsistent and conflicted attempts to derive comfort and support from the parent,

intermingling clinginess with anger (Fearon & Belsky, 2016). The demanding nature of those children may reflect a contingent strategy designed to improve, obtain, or retain more parental attention and care (Cassidy & Berlin, 1994). For children with this pattern, this behavioral strategy increases proximity to caregivers, solicits better care, and improves the chances of survival (Simpson & Belsky, 2016).

Finally, ~15% of children in a general population and 82% of those in high-risk situations do not use an organized strategy for dealing with stress and negative emotions (van Ijzendoorn et al., 1999). This *disorganized/disoriented* pattern of attachment (Main & Solomon, 1990) is characterized by the absence of a coherent strategy for obtaining security from the attachment figure and by an inability to regulate emotions in stressful circumstances. High rates of child disorganized attachment have been found in samples with child abuse, parent psychopathology, or very high social risk, like very low socioeconomic status (Solomon & George, 2011). The disorganized pattern of attachment also implies the highest risk for developmental problems and psychopathology. Disorganized attachment in infancy has been found to be linked to both internalizing and externalizing behavior problems in kindergarten, elementary, and high school and to diagnostic ratings of psychopathology up to age 19 (for reviews see Lyons-Ruth & Jacobvitz, 2016). One identified pathway to children's disorganized attachment includes children's exposure to specific forms of distorted parenting and unusual caregiver behaviors that are "atypical" (Lyons-Ruth, Bronfman, & Atwood, 1999). Particularly parental dissociative, hostile, and very intrusive behavior interfere with children forming adequate attachment relationships with the parent.

Child Attachment and Developmental Consequences

Numerous empirical findings indicate that the development of a positive attachment relationship with the caregiver in the first year of life is related to many favorable developmental outcomes, such as higher sociability and better peer relationships, more compliance towards parents, and more effective emotion regulation (Carlson & Sroufe, 1995; Greenberg, 1999). In a meta-analysis, Groh et al. (2014) found a moderate association between parent–child attachment in the early years and peer social competence in childhood. Insecurely attached children (avoidant, resistant and disorganized) showed significantly lower levels of peer competence relative to securely attached children. This association was not explained by age or other confounding factors. Securely attached children showed less peer conflicts in the preschool and first grade period (Raikes, Virmani, Thompson, & Hatton, 2013). This may be explained by enhanced social problem-solving skills and diminished hostile attribution bias. Better social skills may be shaped by experiences the children had in parent–child interactions. For example, Glick, Hanish, Yabiku, and Bradley (2012) showed in a longitudinal study that parental practices were associated with children's sociability levels. Particularly parental responsiveness and emotional support were positively associated with social skills. Similarly, a study conducted by Landry, Smith, and Swank (2006) showed that parental responsiveness was positively related to cooperation among children. The parent–child interactions, the self-confidence of the children and the better social skills are among the several processes by which early parent–child attachments and attachment security can influence later peer relationships.

Longitudinal research has also identified insecure parent–child attachment relationships as a potent risk factor for negative developmental outcomes, including emotional disorders such as anxiety and aggression (Burgess, Marshall, Rubin, & Fox, 2003; Colonnesi et al., 2011; Groh et al., 2014; Shamir-Essakow, Ungerer, & Rapee, 2005; Smeekens, Riksen-Walraven, & van Bakel, 2007; Warren, Huston, Egeland, & Sroufe, 1997). Children who are in secure attachment relationships have been found to have better emotion regulation capacities than infants who are in insecure attachment relationships (Thompson, 2016). This may be explained by the fact that attachment relationships assist children in regulating their emotions, particularly emotions that are disturbing, overwhelming or frightening (Cassidy, 1994). By offering support and accep-

tance of children's emotions, and by the way they communicate about emotions, parents of securely attached children foster children's developing emotional skills. They scaffold the growth of competent, flexible skills in emotion regulation (Thompson, 2016). This association is not only apparent in infancy and toddlerhood but also in adolescence. The early life stress model (Loman & Gunnar, 2010) predicts that insecure parent–child attachment can potentially lead to increased defensive responses such as freezing. Particularly in the first years of life, when the developing threat and stress systems are most plastic and open to modifications by experience, elevated levels of chronic stress, which are likely experienced by insecurely attached infants, may lead to an overly reactive stress-response system and a hypersensitive threat-appraisal system. In turn, this may bias the threat system to rapidly orchestrate exaggerated defensive behaviors, such as exaggerated freezing. In contrast, a secure parent–child attachment relationship, reflecting a history of sensitive and responsive caregiving, is thought to buffer against those amplified stress-reactions (Loman & Gunnar, 2010). The results of a recent prospective longitudinal study indeed showed that insecure parent–child attachment in infancy is associated with adolescents' increased freezing-like behavior to emotionally overwhelming faces (i.e., angry) relative to neutral faces at 14 years (Niermann et al., 2016).

Many studies have confirmed the significance of the parent–child attachment relationship by showing that optimal and securely attached children are more capable of developing and maintaining successful close relationships, exhibit greater emotional understanding, and demonstrate more social problem-solving skills (for a review see Thompson, 2016). In contrast, nonoptimal or insecure attachment relationships in children have been related to poor peer relations, higher levels of anger, and more behavioral problems in the child's later life (DeKleyn & Greenberg, 2008; Sroufe, 2005; Sroufe, Egeland, Carlson, & Collins, 2005). More recently, three meta-analyses concerning the role of insecure attachment on children's internalizing (e.g., depression, anxiety, social withdrawal, and somatic complaints) and externalizing behavior (e.g., aggression, oppositional problems, conduct problem, or hostility) were conducted (Fearon, Bakermans-Kranenburg, van Ijzendoorn, Lapsley, & Roisman, 2010; Groh, Roisman, Ijzendoorn, Bakermans-Kranenburg, & Fearon, 2012; Madigan, Atkinson, Laurin, & Benoit, 2013). These meta-analyses demonstrated that early attachment insecurity modestly increases risks for internalizing symptoms, whereas larger effects of early attachment insecurity were found on children's externalizing behavior.

Assessment of Child Attachment

Two measures are generally recognized as gold standard to assess the quality of the parent–child attachment relationship in infancy. For many years, Ainsworth et al.'s (1978) Strange Situation Procedure—a laboratory procedure—was the only procedure accepted to assess individual differences in early attachment security. The attachment system namely activates when the child's feelings of safety and security are threatened, such as when the child is emotionally upset, frightened, ill or hurt. The laboratory situation is well suited to detect different patterns of attachment because it presents children with two common stressors: being left alone and being left with a stranger. In the Strange Situation, the child's reunion behavior with the attachment figure is observed after separation from the caregiver under conditions of increasing stress in a laboratory situation. Whether the child uses the parent as a source of security to recover from stress after separation is observed. By examining the reunion behaviors between children and their attachment figure, the four attachment patterns described earlier can be identified (Ainsworth et al., 1978). Nowadays, Waters and Deane's Attachment Q-Set (AQS; Waters, 1995; Waters & Deane, 1985) which is based on home observations of the child's secure base behavior has also been accepted as a valid instrument to assess the quality of the infant–parent attachment relationship. The AQS was devised to observe young children's *secure-base behavior*, i.e., the balance between exploration and proximity seeking, in the natural home setting. The AQS consists of 90

cards describing specific behavioral characteristics of children. After having observed a child for at least a few hours, the observer sorts the cards into nine piles ranging from *most descriptive of the child* to *least descriptive of the child*. A security score is then obtained by correlating the child's individual sort with the optimal criterion sort provided by the world's foremost experts when describing the behavior of a prototypically secure child (Waters & Deane, 1985). In studies using the AQS, security scores are usually based on the sorts provided by trained observers or the mothers themselves. Because the AQS is based on lengthy observations of parent–child interactions in the natural home setting, it probably reflects a broader range of parental, child, and contextual characteristics than the Strange Situation classifications, which are based upon a relatively short and structured episode of parent–child interaction. The correspondence between the Strange Situation and AQS is moderate (van Ijzendoorn, Vereijken, Bakermans-Kranenburg, & Riksen-Walraven, 2004), suggesting that the Strange Situation and AQS are tapping into an attachment construct in ways that both overlap and are unique.

Since children develop internal models about caregivers' availability in toddlerhood and beyond, behavioral assessment of attachment is less common beyond the infancy period. Although some studies have used observational assessment with children in early childhood (e.g., Solomon & George, 2016), the vast majority of studies of early and middle childhood use more representational measures of attachment. Children develop cognitive (working) models of themselves in relation to their attachment figures based on their early experiences with their primary attachment figures (Bowlby, 1969/1982). *Working models* are scripts or schemas that capture relationships (Bretherton & Munholland, 2016). Solomon and George (2016) provide a comprehensive overview of measures that can be used to assess the quality of the parent–child relationship in infancy, toddlerhood, and early childhood, and Crowell, Fraley, and Roisman (2016) provide a state-of-the-art review of attachment measures in adulthood.

The Parent's Perspective: Representations of the Child and Relationship

Parental Representations of the Child and the Relationship with the Child

When describing the parent–child relationship the parent's perspective also needs to be considered by focusing on the representations a parent holds of the child and their relationship with the child. Representations are a set of tendencies to behave in particular ways in intimate relationships based on ideas, fantasies, and schemas of past experiences in daily interactions (Zeanah & Smyke, 2009). According to Stern (1995) it may be illustrative to think of two parallel worlds: "the real, objectifiable external world, and the imaginary, subjective, mental world of representations" (p. 19). He described the presence of the real child in the parent's arms as well as the imagined child in the parent's mind. So, the representational world consists of more than the parent's experiences with the child, but also includes fantasies, hopes, fears, dreams, and predictions for the infant's future. These representations guide parents' behaviors and expectations towards their children. Compared to the body of attachment literature, relatively few studies have investigated the representations that parents have of (the relationship with) their child, even though they are closely related to the quality of parenting behavior, parent–child interactions, and child attachment (Korja et al., 2010; Schechter et al., 2008; Sokolowski, Hans, Bernstein, & Cox, 2007; Zeanah, Benoit, Hirshberg, Barton, & Regan, 1994).

Development of Parental Representations

Parents' representations of the child and the relationship with the child have roots in working models in the context of attachment relationships during one's own childhood. The representations a parent has of being attached to his/her own caregiver (i.e., his or her own "childhood perspective") have received much attention in the past decades (see Hesse, 2016 for an overview).

In this work, the Adult Attachment Interview (AAI) is typically used to infer an individual's perceptions of his or her past attachment figures and of his or her current state of mind with respect to attachment. During the transition to parenthood, the representational system, however, is subject to change (Solomon & George, 1996). Parents' representations about relationships shift from representations about being attached to their own caregivers to the caregiver's perspective (i.e., representations as being the caregiver of a child). During the transition to parenthood, the parent assimilates the child into his/her existing representational system and accommodates the reality and characteristics of this specific child within the larger context of caregiving (George & Solomon, 2008; Solomon & George, 1996).

Parents' representations of their children are ongoing, based on past and future experiences with their children. Although most studies of parents' representations are conducted postnatally, parents generally start to create these mental representations during pregnancy, as they prepare themselves for a life with their infant (Ammaniti, Tambelli, & Odorisio, 2013; Benoit, Parker, & Zeanah, 1997; Theran, Levendosky, Bogat, & Huth-Bocks, 2005; Zeanah, Benoit, Hirshberg, Barton, & Regan 1994). During the course of pregnancy, parents' representations of their unborn children grow in terms of richness and specificity. This coincides with the time when mothers can start to feel the baby move, and have often seen images of the infant through ultrasounds (Stern, 1995; Viaux-Savelon et al., 2012). Mothers' representations of their infants during pregnancy were found to be significantly related to their postnatal representations and to postnatal mother–child interactive behavior and child attachment (Benoit, Zeanah, Parker, Nicholson, & Coolbear, 1997; Dayton, Levendosky, Davidson, & Bogat, 2010). Benoit and colleagues (Benoit, Zeanah, et al., 1997) interviewed pregnant women and assessed their representations of the unborn child. The study showed that the representations of mothers significantly predicted the quality of their child's attachment relationship at 1 year. Recent studies by Benoit and colleagues (e.g., Madigan, Hawkins, Plamondon, Moran, & Benoit, 2015) show how informative these representations of the parent–child relationship are to a comprehensive picture of the relationship. The mother's level of disrupted communication at the representational level, for example, forecasted the infant's attachment disorganization. Similarly, Hall et al. (2015) also found a significant correspondence between maternal disrupted representations of the child postpartum and child attachment insecurity in toddlerhood.

Classifications of Parental Representations

Parents individually vary in the quality of their representations. Parents whose representations are described as *balanced*, for example, can provide rich and detailed information about their experiences with their child, and these narratives are generally highly coherent. Those parents convey a sense of being engrossed in the relationship with their child. They show a pervasive acceptance and respect for the child's individuality, have an empathic appreciation for the child's subjective experience, and value the relationship with their child as meaningful and satisfying.

Parents who are *disengaged* appear to be uninterested in the child or their relationship with him or her. They show little interest in what their child's traits and behaviors look like or in themselves as parents. Their representations are characterized by coolness, emotional distance and indifference about the child. Those parents do not seem to be aware of the child's subjective experience and they do not seem to "know" the child as a unique individual. If the child's experience *is* recognized it is neither fully accepted nor valued. A strong indicator of a disengaged or dismissed representation is ridiculing or dismissing the child's feelings. In extreme cases, actual aversion to the child is present (Benoit, Zeanah, et al., 1997).

Parents described as having *distorted* representations tend to express intrusive or tangential thoughts about their own experiences as a child, and these parents often view their child primarily as an extension of themselves (Levendosky,

Bogat, & Huth-Bocks, 2011). Distorted representations are characterized by several types of distortion imposed on the representation of the child and/or relationship with the child. Distortion refers to an internal inconsistency within the representation rather than to a distortion of "objective" reality. Parents' narratives convey preoccupation or distraction by other concerns, confused and anxiously overwhelmed by the child, self-involved and insensitive to the child as an individual, and expecting the child to please or be reasonable or excessively compliant. Parents with distorted representations often have unrealistic expectations of their child and descriptions of the child are highly incoherent in the sense of being confused, contradictory, or, even, bizarre. There are many expressions of negative as well as positive feelings about the child, but these expressions lack modulation or seem out of context.

More recently, a fourth category—*disrupted/disoriented*—has been added to the original three-way classification (Crawford & Benoit, 2009). Some parents display severe disruptions in their representations of the child and the relationship with the child. When describing the relationship with their child, these parents may report or describe inappropriately responding to the child's cues, asking the child for affection or attention, speaking with a frightened voice or indicating fear of the child, pulling or grabbing the child, or failing to interact with the child. These representations capture aspects that are associated with atypical parent behaviors (i.e., behaviors that "reflect fear in the caregiver and/or are disorganizing to the child"; Lyons-Ruth, Bronfman, & Parsons, 1999).

In low-risk populations, ~53% of the mothers have balanced (i.e., secure or autonomous) representations while in clinical groups (with parents and/or children having clinical problems), most representations are classified as disengaged/dismissed (23–34%) or distorted/preoccupied (43–44%; Vreeswijk, Maas, & van Bakel, 2012). Only a few studies have included the disrupted/disoriented category. A study among mothers that had been victims of sexual abuse in childhood, however, found that 97% of these mothers had disrupted representations (Oppenheim & Koren-Karie, 2009).

Assessment of Parental Representations

Different measures can be used to capture parental representations (i.e., the parent's perspective of the parent–child relationship). These measures share an emphasis on describing a parent's current relationship-specific state of mind regarding their child, and use structured clinical interviews to elicit narrative descriptions of affect, experience, and appraisals of the child or the parent–child relationship (see Solomon & George, 2016 for an overview). One of the measures that has been validated to assess parental representations of the child is the Working Model of the Child Interview (WMCI). This is a semi-structured interview that classifies parents' perceptions and subjective experience of their infant's individual characteristics and the relationship with the child (Zeanah et al., 1994). In the WMCI, a parent is asked to describe his or her emotional reactions during the pregnancy, the child's personality and development, characteristics of the relationship with the child, perceived and anticipated difficulties with child characteristics, reactions to child behavior and distress in a variety of contexts, and anticipated difficulties in later development (Benoit, Zeanah, et al., 1997). Based on the WMCI, the four categories of representations that are described in more detail in the previous section can be identified (i.e., balanced, disengaged, distorted, or disoriented/disorganized).

Another measure to assess the parent's perspective of the parent–child relationship is the Parent Development Interview (PDI; Slade 2005). The PDI assesses a variety of aspects of the parents' views about the relationship with the child. Parents are asked to describe the current relationship with the child. In addition, the PDI aims to capture the parents' representations of himself or herself as a caregiver, focusing in particular on the capacity to identify with, respond to, and anticipate the needs of the child. In contrast to the WMCI (with classifications as balanced, disengaged, distorted, or disrupted), the PDI produces parents' representation of

affective experiences in terms of coherence, joy, pleasure, anger or separation distress and an overall reflective functioning score (ranging from 1 to 9), with scores under 5 indicating either negative, absent, or low reflective functioning, and scores of 5 or above indicating clear evidence of mentalizing and positive representation (Slade 2005).

Link Between Parental Representations and Child Attachment

Studies have demonstrated a substantial concordance between representations that mothers have of their child and the child's own attachment security. Mothers with rich, positively balanced representations are more likely to have children that are securely attached, compared to mothers who have emotionally distant or preoccupied (distorted) representations (Benoit, Zeanah, et al., 1997; Oppenheim, Koren-Karie, & Sagi, 2001). In line with this, Benoit, Zeanah, et al. (1997) showed that parental representations about the child were stable over 12 months in 80% of the mothers in their study, compared to 51% expected by chance alone. Moreover, parental prenatal representations of the child and the relationship with the child predicted child attachment security in 74% of cases, compared to 54% expected by chance.

Studies also indicate that a parent's representation of the child is strongly predictive for the development of child disorganized attachment. For instance, Crawford and Benoit (2009) concluded that when both unresolved states of mind regarding the parent's own attachment history (as measured with the AAI) and the parent's current disrupted representations of the child (as measured with the WMCI) were included in the prediction of the child's disorganized attachment, parent's representations of the child remained a significant predictor of disorganized child attachment, while unresolved state of mind and the history of their own attachment did not.

A link between disrupted representations and insecure attachment has also been described by Hall et al. (2015). They concluded that of all mothers classified as having disrupted representations about their child 6 months postpartum, 47% of the children showed lower attachment security with their attachment figure at age 2. Of the mothers with non-disrupted representations only 15% showed low attachment security. The mechanism expected to be responsible for this transmission is parental interactive behavior.

Parent–Child Observed Interactions

Link Between Quality of Observable Parent–Child Interactions and Attachment Relationships

A fundamental feature of attachment theory, as proposed by Bowlby (1969/1982) and Ainsworth et al. (1978), is the role attributed to daily interactional experiences in relationships. Children develop an attachment relationship and representations about the caregiver as emotionally available with those individuals who provide care on a regular basis. Without doubt, and in accord with Ainsworth et al.'s (1978) theorizing and intensive research on 26 mother–infant dyads, variation in observed parental sensitivity, mutually responsive parent–child interactions, supportive interactions and behavior in the first year are linked to security in the attachment relationship that children develop with the caregiver. This link is confirmed in many studies (e.g., Bernier, Matte-Gagné, Bélanger, & Whipple, 2014; Braungart-Rieker, Garwood, Powers, & Wang, 2001); however, there are striking individual differences in interactional behavior and parents of children with different attachment classifications differ in the quality of their interactive behavior.

An Example: Parental Quality Interactions and Child Attachment Security

As part of a longitudinal cohort study, we examined whether parent's interactional behavior with their 1-year-old child during a short series of caregiver–child instructional tasks in the home setting offers clues to the quality of the parent–

child attachment relationship (measured in a laboratory setting). The quality of the attachment relationship was assessed using an abbreviated version of Ainsworth's Strange Situation (see van Bakel & Riksen-Walraven, 2002). During the instructional tasks, we focused on six aspects of parental interactive behavior that might reflect the quality of the child's relationship with the caregiver: (1) emotional support; (2) respect for the child's autonomy; (3) structuring and limit setting; (4) quality of instruction, and (5) hostility towards the child (Erickson, Sroufe, & Egeland, 1985). These five aspects of parents' behavior were observed during a 12-min parent–child instructional episode. The parent was asked to have the child unlock a puzzle box, put a puppet together, do a jigsaw puzzle, and "read" a set of picture books. The parents were told that they could help the child perform the task whenever they felt the need to. Given the results of earlier research, we expected parents of securely attached children to score higher on support, respect, structuring, and limit setting, and lower on hostile behavior than parents of anxious-avoidant, anxious-resistant, and particularly disorganized children.

The sample consisted of 127 physically healthy 15-month-old children (66 boys, 61 girls) and their primary caregivers (124 mothers and three fathers), with parents' age ranging from 22 to 47 years ($M = 33$ years, SD = 4.43) and their level of education ranging from low (elementary school) to high (university degree). Among the children, 73 were first-borns (including three sets of twins) and 54 had one or more older siblings. The results revealed clear differences in the behavior of parents of children in different attachment groups when observed during a 12-min parent–child interaction episode (see Table 2). In accordance with other studies, parents of securely attached children generally interacted in a more positive manner with their child than parents of insecurely attached children. Particularly, parents of avoidant and disorganized children were found to distinguish themselves from parents of secure children by lower levels of emotional support, lowers levels of respect, and higher levels of hostility. The results are relevant for attachment theory and clinical practice. It is not argued that simple observations of parental behavior can be used to assess the quality and the type of parent–child attachment. However, a short period of parent–child interaction can yield valuable clues to the quality of the parent–child relationship. The finding that parents of insecure children, and particularly those with disorganized and avoidant attachment (who are most at risk for developmental problems later in life), displayed particularly low levels of support for instructional tasks is most telling.

Parental Interactive Behavior and Disorganized Child Attachment

As described above, linkages between sensitive parental interactive behavior and child attachment strategies have been supported in a large number of studies. These studies explored the relation between parental behavior and the three organized child attachment strategies that were initially described: *secure*, *ambivalent* and *avoidant* child attachment. The fourth type of child

Table 2 Means and standard deviations for five aspects of parental interactive behavior (7-point Likert scale) according to ABCD attachment classifications

Parental interactive behavior	B ($n = 82$) Secure	A ($n = 17$) Avoidant	C ($n = 10$) Ambivalent	D ($n = 18$) Disorganized	*F*	Contrast
Emotional support[a]	4.91 (1.41)	3.12 (1.32)	3.50 (1.88)	3.22 (1.35)	13.93*	B > A,C,D
Respect autonomy	4.98 (1.30)	3.94 (1.35)	4.60 (1.17)	3.83 (1.47)	5.61*	B > A,D
Structuring/Limit setting	4.38 (1.20)	3.65 (0.93)	3.90 (2.08)	3.33 (0.97)	4.58*	B > D
Quality of instructions	4.05 (1.40)	2.88 (1.22)	3.40 (1.51)	2.67 (1.03)	7.66*	B > A,D
Hostility	1.04 (0.20)	1.24 (0.44)	1.20 (0.42)	1.67 (1.24)	7.31*	B < D

[a]Scales based on Erickson et al. (1985) * $p < .05$

attachment, *disorganized* attachment, however, seems to be related to sensitive parenting to a much lower extent. Main and Hesse (1990) suggested that the origins of disorganized attachment do not lie in insensitivity of the parent per se, but in atypical frightening or frightened behaviors of the parent towards the child. The parents' repeated failure to adjust his or her caregiving behavior to clear and repeated child cues, can lead to disorganized child attachment (Lyons-Ruth, Bronfman, & Parsons, 1999). In this case, the caregiver fails to terminate attachment needs when they have been aroused (Lyons-Ruth, Bronfman, & Atwood, 1999; Solomon & George, 1999) and responds to the child by showing atypical behavior. Atypical behaviors involve affective communication errors (e.g., contradictory signaling to the infant), role/boundary confusion (e.g., treats child as sexual/spousal partner), fearful/disorientation behavior (e.g., appears frightened in relation to the infant), intrusive/negative behavior (e.g., behaves aggressively towards the infant), and withdrawal behavior (e.g., maintains interaction at a distance). These atypical behaviors, in turn, stem from an unresolved (disrupted) mental representation of attachment characterized by loss or trauma in the attachment relationships with their own caregivers (Lyons-Ruth & Jacobvitz, 1999; Main & Hesse, 1990; Moran, Forbes, Evans, Tarabulsy, & Madigan, 2008). Mothers with unresolved trauma regarding their own past attachment display mental disorganization and disorientation by way of odd, unpredictable, and inexplicable lapses when discussing experiences of attachment (assessed by the AAI, measuring attachment representations regarding their own attachment figures). If such unpredictable lapses occur during daily interactions with the infant, and the parent displays atypical interactive behavior, this may lead to the development of a child's disorganized attachment relationship with the caregiver (Main & Hesse, 1990).

Recent studies show that parental interactive behavior is an important mechanism through which parental representations influence the development of child attachment (Hall et al., 2015). Maternal disrupted representations were related to lower sensitivity, more intrusiveness, and more withdrawal during observable mother–child interactions, which in turn led to lower child attachment security. Based on the studies described above, a summary of representations, parental interactions, and child attachment categories is presented in Table 1.

Conclusion, and Future Research and Implications

In general, there is a need for good quality parent–child interactions in order to promote secure child attachment. Although effect sizes between parental behavior and child attachment are modest, skillful and consistent support of the parent can broaden the child's sense that the parent will be able to serve as a secure base in any and all situations (Waters & Cummings, 2000). Especially in the face of perceived threat, infants need to rely on a parent who serves as a source of reassurance and enhanced confidence (Waters et al., 1991). This has clearly emerged from past and current research.

Until now, it has been assumed that the quality of parents' observable interactive behavior (i.e., sensitive and attuned behavior) is one of the main and most compelling determinants of child attachment security. However, the strength of this association between the quality of parental interactive behavior (e.g., sensitive, responsive behavior) and child attachment security is not large (Fearon & Belsky, 2016). A meta-analysis conducted 20 years ago by DeWolff and van Ijzendoorn (1997) revealed a modest overall effect size between child attachment and parental sensitivity measures, and found that even in "normal", nonclinical groups sensitivity plays an important, but not exclusive, role in the emergence of child attachment security.

The parent–child relationship can be affected by several other psychosocial and sociodemographic risk factors that undermine its quality and in turn play a negative role in short- and long-term child attachment and psychological health. De Falco et al. (2014), for example, showed that parent–child dyads with co-occurring sociodemographic (e.g., low socioeconomic status; SES) and psychosocial risk factors (such as parental psychiatric problems) show the lowest level of child

attachment security. This may also suggest that they might be the most urgent targets for prevention intervention programs, whereas dyads with sociodemographic risk factors alone appear to be less in need of interventions specifically directed at enhancing parent–child relationships. Moreover, looking at risk factor intensity, they also found that family SES and maternal age were positively associated with maternal interactive behavior. This suggests that mother–child dyads displaying low family SES or very young maternal age might deserve special attention for the risk of emotionally unavailable and undesirable interactive styles.

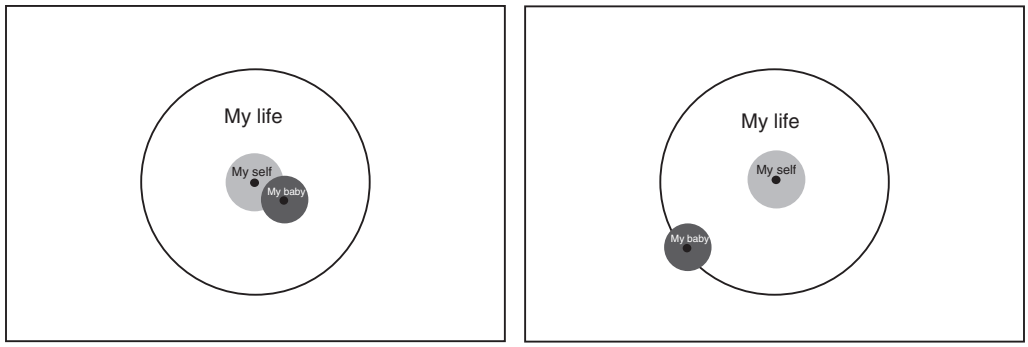
There is also evidence that genes and temperament play a (limited) role in the development of child attachment relationships. Belsky (1997), for example, suggested that parental interactive behavior could lead to different attachment outcomes for children characterized as very emotionally reactive. However, most studies showed that for low emotionally reactive children (i.e., the more outgoing and easily tempered) the relation between parental interactive behavior and child attachment outcomes does not appear to be significant (Vaughn & Bost, 2016). Despite the fact that forming attachments is a genetic characteristic of human beings and genetic differential susceptibility may offer a viable window to study the interplay between genes and environment in attachment (see Bakermans-Kranenburg & van Ijzendoorn, 2016), Leerkes et al. (2017) recently provided further evidence of the limited role of candidate genes in relation to infant–mother attachment outcomes.

Verhage et al. (2016) in their meta-analytic study and recently Behrens, Haltigan, and Gribneau Bahm (2016) found that parents' own attachment history led to individual differences in the quality of their child's attachment relationship through the quality of dyadic interactions, consistent with theory (Bowlby, 1969/1982; Main, Kaplan, & Cassidy, 1985). However, path analyses in the Verhage et al. meta-analysis also showed that caregiver sensitivity (interactive behavior) only partially accounted for this transmission, leaving room for other possible mediating mechanisms in the parent–child relationship. A focus on the parent's perspective of the parent–child relationship as reflected in representations or internal working models of the (relationship with the) child is certainly needed. Although recent research is focusing more and more on mechanisms at the representational level, the focus of attention is still placed largely on the nature of and change in the overt behavioral interactions between parent and child, rather than on parents' representations of those interactions. An explicit tenet is that changes in the relationship are based on changes in the interactive behaviors.

This chapter started with the statement that there would be no child without a parent (Winnicott, 1965). At the end of this chapter it can be concluded that this statement is confirmed by results of many empirical studies conducted in the past decades. Parents are found to significantly contribute to child attachment by their interactive behavior but also by having specific representations that guide these daily interactions. It should be kept in mind, however, that more studies are needed to expand our knowledge of the mechanisms of the broad concept of parent–child relationships. The model suggested by Stern-Bruschweiler and Stern (1989) and Stern (1995) as a conceptualization of a multifaceted parent–child relationship deserves more empirical support and forms a theoretical basis from which individual differences in child attachment can be understood. Moreover, based on recent meta-analytic studies a shift of focus on the interactional aspect of the parent–child relationship towards a focus on parental representational level needs to be considered both in scientific studies and in the clinical field. More research is needed to confirm the links and better understand the mechanisms through which they function (Box 1).

Box 1 The Pictorial Representation of Attachment Measure (PRAM)

van Bakel, Maas, Vreeswijk, and Vingerhoets (2013) developed a measure to quickly assess parents' (nonverbal) representation of the relationship with their child. The Pictorial Representation of Attachment Measure (PRAM) is based on "The Pictorial Representation of Illness and Self Measure" originally developed and validated by Büchi and colleagues (1998). The PRAM attempts to provide a visual representation of the relationship between the parent and the child from the parent's perspective. The measure consists of a white A4-format paper with a large circle in the center. The large circle symbolizes the parent's life. A smaller circle in the middle of the large circle, represents the parent's "self." Parents are asked to place a (green) round sticker that represents their child somewhere in the large circle representing their life. Parents are implicitly asked to reflect on the importance of the child for him or her. Parents were asked specifically "Where would you put your child in your life at this moment?" The distance (in mm) between the midpoints of the self-circle and the child-circle, is the outcome measure. Based on the results of van Bakel et al. (2013) and Hoffenkamp et al. (2012) lower scores (small distance between the midpoints) are presumed to indicate stronger feelings of connectedness while higher scores (more distance) reflect more emotional distancing towards the child. This innovative measure might be useful for screening purposes and might be promising to capture the quality of parental representations.



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Social Learning Influences: Modelling, Instructions, Consequences

Trevor G. Mazzucchelli

Introduction

There is a wealth of evidence that parents have a pervasive impact on children's development. Parents influence children's language, cognition, emotional regulation, social skills and peer relationships, academic attainment, personal values, physical and mental health, and overall well-being (Sanders & Mazzucchelli, 2017b). In this chapter I describe the learning processes that can explain how the interactions between parents and their children shape the course and direction of a child's development. Of course, interactions with others in the home are also influential including those with siblings, grandparents, other carers, and extended family members. Also, as children commence school, and subsequently become adolescents, the ecological context for social learning expands such that interactions with peers, teachers and other adults become increasingly influential and can conflict with the influence of parents. Nevertheless, the social learning influence of parents, regardless of parents' gender, culture, socio-economic grouping, race, or religion, is pervasive, continues throughout successive stages of a child's development, and is modifiable (Sanders & Mazzucchelli, 2017b). It is for these reasons that in this chapter I focus particularly on research relating to the processes by which parents influence children's behavior and development. Evidence linking these processes to three major aspects of children's development is described, including disruptive and antisocial behavior, anxiety, and prosocial behavior. The strengths and limitations of this research are discussed along with directions for future research. Finally, implications for policy and practice are provided.

Theoretical Background

Behavioral and cognitive explanations for children's social-emotional maturation propose that a child's environment, experiences, and learning opportunities influence the course and direction of the child's development (Feldman, 2016). They emphasize principles of learning and cognition, which shape children's behavior and their interpretation of things around them. In particular, children's development is strongly influenced by the learning that occurs in the home environment and through the interpersonal dynamics between children and their parents. This section describes three major types of learning that are considered important in developing and altering

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behavior: respondent, operant, and observational learning. Each contribute important insights into child development and together, as social learning theory, account for the complexity of human learning.

Respondent Learning

Respondent learning is concerned with stimuli, such as food or loud noises, which automatically evoke responses. These stimuli are referred to as unconditioned stimuli, and the responses elicited by these stimuli (such as salivating or startling) are referred to as unconditioned responses or respondents. The connection between the unconditioned stimuli and the responses is automatic (i.e., not learned). However, a stimulus that can be considered neutral because it does not automatically elicit a response can come to elicit a response on its own (making it a conditioned stimulus) if it is paired enough times with an unconditioned stimulus. This process whereby new stimuli gain the power to elicit respondent behavior is known as respondent (or classical) learning.

Respondent learning has often been implicated in the development of fears in children. For example, Watson and Rayner (1920) demonstrated that repeatedly exposing an 11-month-old child to a white rat, together with a loud noise led to the child having a fear reaction when a white rat was presented alone (as well as other objects resembling a white rat). Respondent learning has also been hypothesized to explain the emotional bond that forms between children and their parents. Babies learn to associate the person who repeatedly feeds them, cleans them and looks after them (the primary carer) with a feeling of comfort (Dollard & Miller, 1950; Sullivan, Perry, Sloan, Kleinhaus, & Burtchen, 2011).

Operant Learning

Most human behaviors are not reflexive responses to stimuli; rather, most behavior is emitted spontaneously and is controlled primarily by its consequences. Operant (or instrumental) learning takes place through the experience of environmental consequences or contingencies that either strengthen (increase) or weaken (decrease) behavior. Behaviors that result in environmental consequences are labelled *operants*, as they operate upon the environment to create a particular situation that, in turn, is likely to affect the rate of the original behavior (Skinner, 1953). Some environmental consequences are perceived as pleasant and can be used to maintain, increase, or shape behaviors. Others are perceived as aversive, and thus result in a decrease or the elimination of a given behavior or *operant*. Positive and negative reinforcement fall within the former category, positive and negative punishment reside in the other (see Table 1). Extinction also results in a decrease in a response, and this occurs when a behavior no longer produces reinforcement. It is hypothesized that as infants, children learn that certain behaviors, such as crying and smiling, bring desirable behaviors (e.g., feeding and social interaction), and through operant learning babies learn to repeat these behaviors to get what they want or need. Indeed, most human behaviors including speech and social skills, self-care skills, and academic behaviors are operants—they can be controlled by altering consequences. The primary principles of operant learning remain influential across a vast array of applied areas, including parenting interventions, pedagogy, and clinical interventions (DeGrandpre, 2000).

It should be noted that the distinction between respondent and operant learning is not always clear. For example, both processes may be implicated in the development of a behavior—a response may be elicited (respondent learning), but controlled by consequences that follow it

Table 1 Positive and Negative Reinforcement and Punishment

Effect on future frequency of behavior	Type of stimulus change	
	Present stimulus	Withdraw stimulus
Increase	Positive reinforcement	Negative reinforcement
Decrease	Positive punishment	Negative punishment

(operant learning). For example, a child may begin crying in response to a parent saying "*No*," a word that was previously associated with physical punishment (respondent learning). Once the crying begins, it may continue because it has resulted in cuddling and soothing (operant learning). Operant behaviors can also be controlled by antecedent stimuli. When the consequences which follow behavior consistently occur in the presence of a particular set of cues (e.g., with a certain person or in a particular place), the cues alone increase the probability that the behavior will be emitted; the stimuli which have preceded the response set the occasion for the response to be performed. For example, the sound of music from an ice cream van may serve as a stimulus for a child to ask her parent for an ice cream. This is not an example of respondent learning because the antecedent stimulus (music) does not force the response (requesting an ice cream). In operant learning, the stimulus does not produce a response; it only increases the probability the response will be performed.

Even though it can be difficult to distinguish respondent and operant learning, it is important to keep the major difference in mind. In respondent learning, the primary result is a change in the power of a stimulus to elicit a reflex response. In operant learning, the primary result is a change in the frequency of the response emitted or a change in some other aspect of the response (such as intensity, speed or strength).

Vicarious Learning

Vicarious or observational learning occurs when an individual observes a model's behavior but performs no overt response nor receives any consequence. The behavior is learned merely by watching a model, presumably through a cognitive or covert coding of the events observed (Bandura, 1977). In place of a live model, verbal instruction (where an individual describes a behavior in detail) or a symbolic model (e.g., real or fictional characters presented via television, Internet, literature, and radio) can also be modelling stimuli. Children learn many new behaviors through modelling, including social skills (e.g., waving), play skills (e.g., how to take turns or use a toy), and adaptive living skills (e.g., dressing and washing hands). For a modelling process to be successful, children have to be capable of engaging in four distinct processes (Bandura, 1972). First, they must have a sufficient attention span and be motivated to observe the model's behavior in detail. Second, they must be able to remember features of the behavior. Third, they must have the motor skills necessary to reproduce the behavior. Fourth, and finally, they must have sufficient external or internal motivation to reproduce the modelled behavior. Whether a learned response is performed may depend upon response consequences or incentives associated with that response. Bandura (1965) demonstrated the importance of response consequences in dictating performance. In this study, children observed a film where an adult modelled aggressive responses (hitting and kicking a large doll). For some children the model's aggression was rewarded, for others aggression was punished, and for others no consequence followed the model's behavior. When children had the opportunity to perform the aggressive responses, those who had observed the model punished, displayed less aggression than those who observed aggression rewarded or ignored. To determine whether all children had learned the response, an incentive (a choice of juice and stickers) was given to children for performing aggressive responses. Under this condition, there were no differences in aggressive responses between the three groups. Apparently, all groups learned the aggressive responses, but consequences to the model and observer determined whether they would be performed (a process known as vicarious reinforcement). Thus, modelling can train new responses as well as alter the frequency of previously learned responses.

Social Learning: An Integration of Learning Concepts

Respondent, operant, and vicarious models of learning have each been developed largely in isolation with laboratory research and with relatively simple behaviors. However, several authors

have provided theories of behavior that attempt to integrate these different learning paradigms in order to provide a comprehensive model that can account for the broad range of learning experiences (and behaviors) that occur in the real world. The most influential of these theories is Bandura's social learning theory (Bandura, 1977, 1986; Bandura & Walters, 1963) that incorporates elements of respondent, operant, and vicarious learning to explain behavior. Social learning theory is *social* in the sense that it places great emphasis on the social contexts in which behavior is acquired and maintained. Bandura also emphasizes cognitive processes as an important influence on behavior. Cognitive processes refer to things such as encoding strategies, outcome expectancies, and attributional style. An important cognitive process, for example, is what Bandura calls self-efficacy (Bandura, 1982). This refers to a belief that a person can perform adequately in a particular situation. Bandura (1977) argued that assuming adequate skill and motivation, efficacy expectations will be a major factor in determining peoples' choice of activities, how much effort they will exert, and how long they will persist when managing stressful situations.

Another important concept in social learning theory is that of reciprocal determinism. This is the idea that a person's behavior both influences, and is influenced by, personal qualities and the social environment. For example, an infant with a difficult temperament who cries frequently but cannot be settled may extinguish or punish parents' attending and comforting behaviors. This may lead parents to become less sensitive and responsive and the child to become more irritable and to escalate demanding to receive attention (Donovan, Leavitt, & Balling, 1978; Patterson, 2016).

Evidence that Social Learning Processes Link Parenting to Child Development

This section provides a brief overview of the theory and evidence that social learning processes account for parents' influence in different areas of child development. Of all the literature relating to child development, the literature relating to the development of disruptive and antisocial behavior disorders in children and adolescents is the richest, and thus provides an excellent opportunity to explore the evidence that parenting influences child development through social learning processes. This section also includes a review of relevant evidence relating to anxious and prosocial behavior.

Disruptive and Antisocial Behavior

Disruptive and antisocial behavior refers to problems such as noncompliance, temper tantrums, aggression, destroying property, and stealing. These behaviors characterize the diagnostic categories of oppositional defiant disorder (ODD) and conduct disorder (CD; American Psychiatric Association, 2013), which are among the most common of all childhood adjustment problems and are the main reason for referral to child and adolescent mental health services (Kazdin, 2008). Disruptive behavior disorders in childhood are associated with a range of serious short- and long-term problems, and are the most reliable predictor of adult mental health problems (Copeland, Shanahan, Costello, & Angold, 2009). Because of the frequency of these problems and their serious consequences for the child, their family, and society, these problems have attracted considerable research attention.

Cross-sectional and longitudinal research has found that many family factors are associated with disruptive and antisocial behavior, including inconsistent or harsh discipline, a lack of parental supervision, a lack of affection, marital conflict, and violence in the home (Hoeve et al., 2009; Lansford et al., 2011). In a longitudinal study, mothers' use of physical punishment when children were 3 years old predicted children's aggressive behavior 2 years later, even after controlling for initial levels of aggression and other confounding variables (Taylor, Manganello, Lee, & Rice, 2010). Although it is not possible to infer causation from such correla-

tional research, these findings are consistent with the suggestion that parenting influences the development of these problems. It also begs the question, through what mechanisms might these risk factors be operating?

Operant Learning of Disruptive Behavior

Early conceptualizations of how parents might influence children's behavior emphasized positively reinforcing consequences, such as attention, praise, and the delivery of rewards, such as treats, privileges, and preferred activities (Patterson, 1982; Skinner, 1953). It was hypothesized that parents might inadvertently reinforce children's uncooperative or aggressive behavior by paying attention to it, or by giving the child a desirable tangible reward in an attempt to appease the child.

In an effort to collect objective behavioral data concerning family processes, Reid and colleagues developed coding systems for recording the moment-to-moment social behavior that occurred between parents and children at a very fine-grained level (Reid, 1978, 1982). Initial data derived from applying these coding systems in observational studies of parent-child interaction in the natural family environment did not support a reinforcement hypothesis (Dishion, Gardner, Patterson, Reid, & Thibodeaux, 1983). The rates of aggression in children were not substantially correlated with rates of parental positive reinforcement for that aggression, and rates of positive reinforcement for aggression did not reliably differ between families of children with disruptive behavior problems from families of children without behavioral problems. However, subsequent research found that *coercion* was a key distinguishing feature of interactions in these families (Patterson, 1982, 2016).

In a series of cross-sectional, naturalistic, observational studies, Patterson and his colleagues found that compared to families of children who do not have antisocial behavior problems, families of children who do show antisocial behavior were more likely to initiate and reciprocate aggressive behavior, and to continue with aversive behavior once they had initiated it (see Reid, Patterson, & Snyder, 2002). These families were described as being highly coercive social systems, in which all family members contributed to aversive interactions. In families of children with antisocial behavior problems, one person is likely to initiate aversive behavior, a second to respond in kind, and the initiator to continue being aversive especially if the second person reciprocated the initial aversive behavior. Children with behavior problems were observed to display aversive behavior about every 3 min. Throughout a single day, this meant that there could be hundreds of opportunities to strengthen or weaken a range of aversive behaviors (Snyder & Stoolmiller, 2002).

Drawing on operant learning principles, Patterson (1982) suggested that negative reinforcement is the key to understanding the interaction patterns between parents and antisocial children. For example, a common interaction in families of disruptive or antisocial children is for a parent to order a child to do something and the child to protest by yelling and kicking. If the parent stops insisting that the child do what was asked, the child's yelling and kicking is negatively reinforced by the removal of the parent's demand. The parent's behavior of withdrawing their demand is also negatively reinforced when the child stops yelling and kicking. Thus, both the protesting and the removal of parents' demands are more likely to occur in future interactions (see Box 1; Patterson, 2016). Patterson and colleagues called this type of coercive interaction a *reinforcement trap* because, over time, all family members can come to be trapped by the consequences of their own behaviors (Patterson, Reid, & Dishion, 1992). For example, mothers of children with antisocial behavior problems are eight times less likely to enforce demands than are mothers of children without problems (Dishion & Patterson, 2006).

Dishion and Patterson (2006) also noted that a corollary of this reinforcement trap is that there is a reduction in parent's attention to children's prosocial behavior including their development of self-regulation (e.g., to manage emotions and behavior) which is essential to engage in a variety of other desirable skills and behaviors (Eisenberg, Spinrad, & Knafo-Noam, 2015). Children may

Box 1 Coercive Parent–Child Interaction: An Example of a Four-Step Escape-Learning Sequence

Discovering her son, Isaac, sitting on the floor flicking through a book surrounded by construction blocks and other toys, she scolds him, "What a mess! Why are you sitting there reading when you should be tidying up your toys? It's going to be dinner soon." Isaac screams in response, "No!" and kicks over a crate spilling more toys onto the floor. Isaac's reaction has the immediate effect of punishing his mother for her rebuke and, over time, may reduce the likelihood that his mother will try to get him to tidy up his toys.

Not wanting to further escalate the situation, Isaac's mother withdraws her demand for him to tidy up his toys. She lowers her voice and says, "What are you reading?" The mother's withdrawal of her demand to tidy up negatively reinforces Isaac's yelling and kicking and increases the chances that the next time she makes an issue of tidying up, he will react. Over time, Isaac may also escalate the intensity of his negative reaction by throwing items and hitting his mother.

As soon as Isaac's mother withdraws her demand, Isaac stops yelling and engages in neutral or positive behavior. "I'm reading Spiderman. It's really cool, he's fighting Doctor Octopus." Isaac, by ceasing his aversive behavior, negatively reinforces his mother for giving in and increases the likelihood that she will do so again in response to his yelling and protests.

fail to acquire the necessary skills to complete homework, fail to care for or understand others feelings, and fail to engage in organized sports. The failure to acquire such desirable skills along with interactions that effectively train children to use a wide range of coercive behaviors causes the child to be doubly handicapped.

If left unchanged, these coercive patterns of interaction continue into adulthood. Children with disruptive behavior often use the same coercive behaviors at school that have had a payoff for them at home. Their aggressive and uncooperative behavior makes them difficult to teach (Finn, Pannozzo, & Voelkl, 1995). When such behavior is directed towards normal peers it leads to rejection. Thus, if the pattern of socially inappropriate behavior does not change, these children have an increased risk of failing in school and being rejected by normal peers. By the time they reach middle school, rejected children tend to form deviant peer groups, which function as a further training ground for deviant behavior (Patterson, 2016).

The role of negative reinforcement in promoting coercive interactions has been examined in a number of analogue experimental studies. Devine (1971, as reported by Snyder & Stoolmiller, 2002) randomly assigned mothers and their children to one of two conditions. In each condition, mothers were instructed to create an aversive state by withdrawing attention from their young children. Mothers in one condition were asked to only attend to their child if their child engaged in some kind of aversive behavior (such as complaining or whining). In the other condition, mothers were asked to attend to their child if their child engaged in positive social behavior. In just a few trials of these contingencies, the reinforced behavior occurred more quickly and for a longer duration—aversive behavior in the first condition, prosocial behavior in the second. These findings have been replicated in single-subject designs across many mother-child dyads (Patterson, 1982). Although these analogue studies demonstrated that negative reinforcement can shape coercive behavior, they do not prove that these learning processes are actually occurring in the natural environment.

The best evidence that parents can influence the development of child disruptive and antisocial behavior has come in the form of experimental manipulations where families are randomly assigned to an intervention condition where they are taught positive parenting strategies, such as those described in Table 2, designed to defuse coercive and promote positive family interactions. These studies have found that families assigned to the intervention conditions show

Table 2 Description, Applications, and Conceptual Background of Parenting Skills Promoted through the Triple P—Positive Parenting Program

Skill	Description	Applications	Conceptual background
Developing good relationships with children			
Spending quality time with children	Spending frequent, brief amounts of time (as little as 1 or 2 min) involved in child-preferred activities	Encourages exploration, and provides opportunities to build children's knowledge, and for children to self-disclose and practise conversational skills	• Respondent learning • Operant learning • Vicarious learning • Social learning
Talking with children	Having brief conversations with children about an activity or interest of the child	Promoting vocabulary, conversational and social skills	• Operant learning • Vicarious learning • Social cognitive learning
Showing affection	Providing physical affection (e.g., hugging, touching, tickling, patting)	Opportunities for children to become comfortable with intimacy and physical affection	• Respondent learning • Operant learning • Vicarious learning • Cognitive, social learning
Encouraging desirable behavior			
Using descriptive praise	Providing encouragement and approval by describing the behavior that is appreciated	Encouraging appropriate behavior (e.g., speaking in a pleasant voice, playing cooperatively, sharing, drawing pictures, reading, cooperation)	• Operant learning • Vicarious learning
Giving attention	Providing positive non-verbal attention (e.g., a smile, wink, pat on the back, watching)	As above	• Operant learning • Vicarious learning
Having interesting activities	Arranging a child's physical and social environment to provide interesting and engaging activities, materials and age-appropriate toys (e.g., board games, pencils and paper, CDs, books, construction toys)	Encouraging independent play and promoting appropriate behavior when in the community (e.g., shopping, travelling)	• Operant learning
Teaching new skills and behaviors			
Setting a good example	Demonstrating desirable behavior through parental modelling	Showing children how to behave appropriately (e.g., speak calmly, wash hands, tidy up, solve problems)	• Vicarious learning
Using incidental teaching	Using a series of questions and prompts to respond to child-initiated interactions and promote learning	Promoting language, problem-solving, cognitive ability, and independent play	• Operant learning • Vicarious learning
Using ask-say-do	Using verbal, gestural and manual prompts to teach new skills	Teaching self-care skills (e.g., brushing teeth, making bed) and other new skills (e.g., cooking, using tools)	• Operant learning • Vicarious learning

(continued)

Table 2 (continued)

Skill	Description	Applications	Conceptual background
Using behavior charts	Setting up a chart and providing social attention and backup rewards contingent on the absence of a problem or the presence of an appropriate behavior	Encouraging children for appropriate behavior (e.g., doing homework, playing cooperatively, asking nicely) and for the absence of problem behavior (e.g., swearing, lying, stealing, tantrums)	• Operant learning
Managing misbehavior			
Setting clear ground rules	Negotiating in advance a set of fair, specific, and enforceable rules	Clarifying expectations (e.g., for watching TV, shopping trips, visiting relatives, going out in the car)	• Operant learning • Vicarious learning
Using directed discussion for rule breaking	The identification and rehearsal of the correct behavior following rule breaking	Correcting occasional rule breaking (e.g., leaving school bag on the kitchen floor, running through the house)	• Operant learning • Vicarious learning
Using planned ignoring for minor problems	The withdrawal of attention while the problem behavior continues	Ignoring attention-seeking behavior (e.g., answering back, protesting after a consequence, whining, pulling faces)	• Operant learning
Giving clear, calm instructions	Giving a specific instruction to start a new task, or to stop a problem behavior and start an appropriate alternative behavior	Initiating an activity (e.g., getting ready to go out, coming to the dinner table), or terminating a problem behavior (e.g., fighting over toys, pulling hair) and saying what to do instead (e.g., share, keep your hands to yourself)	• Operant learning • Vicarious learning
Backing up instructions with logical consequences	Using a specific consequence that involves removing an activity or privilege from a child, or the child from an activity for a set time	Dealing with disobedience and mild problem behaviors that do not occur often (e.g., not taking turns)	• Operant learning
Using quiet time for misbehavior	Removing a child from an activity in which a problem has occurred and having them sit on the edge of the activity for a set time	Dealing with disobedience and children repeating a problem behavior after a logical consequence	• Operant learning
Using time-out for serious misbehavior	Taking a child to an area away from others for a set time when problem behavior occurs	Dealing with temper outbursts, serious misbehavior (e.g., hurting others) and children not sitting quietly in quiet time	• Operant learning

Note. Adapted from "Core principles and techniques of positive parenting," by M. R. Sanders and T. G. Mazzucchelli, 2017a, in M. R. Sanders and T. G. Mazzucchelli (Eds.), *The power of positive parenting: Transforming the lives of children, parents and communities using the Triple P system* (pp. 63–78). Copyright 2017 by Oxford University Press

improvements in parenting practices, and that these improvements are associated with reductions in antisocial child behavior. For instance, Forgatch and colleagues randomly assigned 238 recently separated mothers with a son in grade 1–3 to a parenting intervention or to a no-intervention control condition. At 1-year follow-up, families who received the parenting intervention demonstrated improved parenting practices and child adjustment outcomes, with child outcomes being indirectly achieved through changes in parenting practices (Forgatch & DeGarmo, 1999). At 3-year follow-up, children continued to show enhanced adjustment, and these positive outcomes were mediated by improvements in parenting practices (Martinez Jr & Forgatch, 2001). At 9-year follow-up, teacher-reported delinquency and police arrests were

lower for boys in the intervention condition, and these effects were mediated by improvements in parenting practices as measured at the 3-year follow-up (Forgatch, Patterson, DeGarmo, & Beldavs, 2009). Interestingly, mediation modelling and latent growth curve modelling suggested that both reductions in coercion and increases in positive parenting mediate reductions in delinquent behavior, but that the relationship between positive parenting and child problem behavior is stronger. In addition, coercion may act to prevent or wear away positive interactions between family members (Forgatch et al., 2009; Forgatch, Beldavs, Patterson, & DeGarmo, 2008; Martinez Jr & Forgatch, 2001).

A range of parenting interventions derived from, or heavily influenced by, the coercion model have replicated these positive outcomes (for examples, see Brestan & Eyberg, 1998; Forgatch & Patterson, 2010; Mazzucchelli & Sanders, 2017; Webster-Stratton & Reid, 2010). It is also important to note that many of these demonstrations have not just been based on parent-report measures of parenting practices and child behavior, but on independent and objective indices of behavior. Numerous meta-analyses have found that evidence-based parenting programs are effective in reducing child disruptive and antisocial behavior (e.g., Epstein, Fonnesbeck, Potter, Rizzone, & McPheeters, 2015; Piquero et al., 2016; Sanders, Kirby, Tellegen, & Day, 2014; van Aar, Leijten, Orobio de Castro, & Overbeek, 2017), and that parent training is the most critical intervention component for the prevention and treatment of child disruptive behavior disorders (e.g., Epstein et al., 2015).

Operant or Cognitive Learning?

Coercive and (a lack of) positive interactions between parents and their children are implicated in the development and maintenance of disruptive behavior, but what learning process best accounts for this phenomenon? Bandura's (1965) seminal research on vicarious learning illustrates that it is possible that children learn aggressive behavior by observing others. Further, some social learning theorists, such as Bandura (1986), and Dodge and Pettit (2003), propose that cognition plays a central mediational and causal role in determining how a person responds to another person's behavior. For instance, Crick and Dodge (1994) propose that children develop social knowledge about the world, and this knowledge is used to guide the processing of social information which results in children's responses in interpersonal situations. While studies have demonstrated that aggressive behavior in children is related to various atypical processing of social information, including a tendency to attribute hostile intent to other people's behavior (see de Castro, 2010 for a review), less is known about the causes of atypical social information processing by aggressive children.

Dodge (2006) has suggested that early life experiences play an important role in nurturing either a benign or a hostile attributional style. Such experiences include being exposed to models who display hostile attributional tendencies in their interactions with children. Evidence supporting this idea includes research showing that children's attributional biases are similar to those of their mothers and that, as one would expect from social learning theory, this relationship is stronger within rather than across gender (MacBrayer, Milich, & Hundley, 2003). Also, Nix et al. (1999) found evidence that mothers' tendency to make hostile attributions about their child's ambiguous problem behavior predicts children's future disruptive behavior problems at school, with a large proportion of this relationship being mediated by mothers' harsh discipline practices (Nix et al., 1999). These results have been interpreted as evidence of social learning of attributional biases.

In contrast, Dishion and Patterson (2006) argue that coercive behavior is under operant control without any conscious cognitive control. They make the point that the frequency of aversive events and conflict in these families means that family members have intensive practice in coercive interactions and that these interactions probably become overlearned and automatic. Also, that rather than processing social information about ongoing interactions incorrectly, that their cognitions are likely to be accurate

representations of their social experience. They also offer an alternative interpretation of Nix et al.'s (1999) findings noting that while mothers' negative attributions disrupt effective parenting practices, it is the operant processes themselves that directly influence child behavior.

Bidirectional Influences

If parenting is associated with child disruptive and antisocial behavior and if changes in parenting practices lead to changes in children's behavior, does this mean that parents are to blame for disruptive and antisocial behavior in their children? Although there is compelling evidence that parenting practices can influence children's disruptive and antisocial behavior, it is important to not lose sight of bidirectional influences between children and parents. There is considerable empirical evidence that children are not just passive recipients of parenting practices; but rather, they play an active role in influencing their social environments (see Sanson, Letcher & Havighurst, 2018).

Children with disruptive and antisocial behavior are very difficult to parent. It is very easy to see poor parenting as a cause when it may be being driven by the child's behavior. Aggressive and destructive child behaviors can evoke strong reactions, like anger and overly harsh responses from parents. Negative parenting practices and parent–child conflict may lead to antisocial behavior, but they may also be a reaction to the oppositional and aggressive behaviors of their children. Some studies support the view that child behaviors exert equal or greater influence on parenting behaviors than the reverse, perhaps more so for mothers than fathers (Burke, Pardini, & Loeber, 2008; Narusyte et al., 2011; Smith et al., 2014). This suggests that the level of emotional dysregulation that children bring to their interactions with parents may have more influence on outcomes than poor parenting practices (Loeber, Burke, & Pardini, 2009). Nevertheless, interventions directed at changing parent behaviors are effective in reducing children's disruptive behavior.

Adoption, twin, and longitudinal studies suggest that both genetic and environmental factors contribute to antisocial behavior across development (Bornovalova, Hicks, Iacono, & McGue, 2010; Burt & Neiderhiser, 2009). It is likely that genetic and psychological pathways interact to create the developmental pathways and that parent–child bidirectional influences begin at a very early age (Lahey et al., 2011). However, it is also interesting that certain child characteristics such as emotional, physiological, or biological reactivity to context appear to moderate the effects of parenting (e.g., Bakermans-Kranenburg & van Ijzendoorn, 2011; Erath, El-Sheikh, Hinnant, & Cummings, 2011; Scott & O'Connor, 2012). For instance, children with less efficient dopamine-related genes show differential susceptibility to parenting practices, exhibiting more disruptive behavior when exposed to insensitive parenting, but showing greater improvements in behavior when exposed to supportive parenting (Bakermans-Kranenburg & van Ijzendoorn, 2011).

Summary

There is clear evidence that parenting practices influence child disruptive and antisocial behavior. Observations of microsocial processes and experimental intervention studies involving longitudinal follow-up implicate operant processes. However, it is also possible that vicarious learning and cognitive processes assumed to play a role in social learning models are also involved. There is also strong evidence that learning processes are bidirectional—parents can influence children's behavior, but children also influence parenting practices.

Anxiety

Anxiety disorders, such as separation anxiety disorder, specific phobia, social anxiety disorder, and generalized anxiety disorder, are among the most common mental health disorders experienced by children with 6.5% of youth around the globe meeting the criteria for at least one anxiety disorder (Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015). These disorders are associated with substantial distress and cause considerable impairment in a range of domains, such as academic performance, social functioning, and relationships with parents and siblings (Muroff &

Ross, 2011; Wood, Piacentini, Southam-Gerow, Chu, & Sigman, 2006). Longitudinal studies indicate that these disorders are chronic and, if untreated, persist into adulthood (Cummings, Caporino, & Kendall, 2014). Anxiety disorders in children also increase the risk for other forms of psychopathology in adolescence and adulthood such as depression and substance abuse (Beesdo et al., 2007; Bittner et al., 2007). In addition to the personal suffering associated with these disorders, the additional costs to society associated with anxious children, and the cost of treatment of these disorders in adulthood is enormous (Bodden, Dirksen, & Bögels, 2008; Greenberg et al., 1999). Given these personal and economic costs, it is essential that we understand the causes and how to prevent and treat these disorders.

Anxiety Runs in Families

Studies that have assessed the prevalence of anxiety disorders in the children of anxious parents, or in the parents of anxious youth have consistently found higher rates compared to families in which the child or the parent does not have an anxiety disorder. Summarizing this literature, Ginsburg and Schlossberg (2002) concluded that ~60% of children of anxious parents meet the criteria for an anxiety disorder, and among children with anxiety disorders, ~80% of parents have been found to have an anxiety disorder.

Although these studies indicate that anxiety runs in families, they do not explain the mechanisms by which families influence the development of anxiety. Studies of twins and adoptees have led to the conclusion that genes, shared environmental factors (i.e., factors that are similar for siblings such as socioeconomic status), and nonshared environments (i.e., factors that are unique to each individual sibling such as peer group influences) each explain a proportion of this variance (Gregory & Eley, 2007). It is generally accepted that children's genetic characteristics interact with the child's environment to determine the child's anxiety status (Farmer, Eley, & McGuffin, 2005; Murray, Creswell, & Cooper, 2009). However, using a children-of-twins design, Eley et al. (2015) recently found evidence for the direct environmental transmission of anxiety without any significant genetic transmission. The investigators of this study noted that there are several ways that environmental factors could account for the relationship between parent and child anxiety. The first is that parental anxiety results in an environment that makes the development of anxiety in children more likely—for example through the modelling of anxiety. The second is that certain general child-rearing behaviors (e.g., a general tendency to be overcontrolling or negative and critical) may encourage the development of anxiety through cognitive processes implicated in social learning models. The third is that anxiety in the child elicits parenting behaviors that exacerbates or maintains anxiety. This section briefly reviews the evidence for each of these hypotheses, but first, evidence for parental involvement in the development of child anxiety through respondent learning is considered.

Respondent Learning

Watson and Rayner's (1920) demonstration of the induction of fear in a young child via respondent learning illustrates that this pathway to fear is theoretically possible. It is also conceivable that this pathway might be potentiated by parents who perpetrate physical or sexual abuse, since such abuse is likely to be perceived by children as traumatic and uncontrollable. Such trauma could also strengthen unrelated conditioned fears through an inflation effect (Mineka & Zinbarg, 2006). A test of this hypothesis comes from studies that have assessed childhood abuse and later disorders. For instance, Fergusson, Boden, and Horwood (2008) examined the relationship between exposure to (retrospectively recalled) child sexual and physical abuse and mental health outcomes (assessed via structured diagnostic interview) in over 1,200 young adults in New Zealand. The authors found that both childhood sexual and physical abuse were associated with an increased risk for a range of mental health disorders when these youths were 16–25 years of age. After controlling for socioeconomic and individual factors, the relationship between sexual abuse and mental health outcomes remained, however the relationship between physical abuse and mental health outcomes reduced to the point

of statistical non-significance. However, abuse was found to be a risk factor for a variety of forms of mental health problems and the odds of experiencing anxiety was somewhat less than the odds of experiencing depression. Other studies employing similar methodology have produced similar results (e.g., Levitan, Rector, Sheldon, & Goering, 2003; Silverman, Reinherz, & Giaconia, 1996). Overall, results from this research provide limited support for parent involvement in the development of anxiety disorders through respondent learning.

Vicarious Learning of Anxiety

It has long been hypothesized that parents might inadvertently teach their child to be anxious and avoidant by modelling anxious behaviors themselves (Rachman, 1977, 1991). The potential for vicarious learning to lead to the development of child anxiety comes from experimental studies that have found that children will show the same fearful reactions as their parents to both fear-relevant objects (e.g., rubber spider) and fear-irrelevant objects (e.g., a flower) even after a single fearful reaction to that object (e.g., Dubi, Rapee, Emerton, & Schniering, 2008). This learning has also been shown to apply to strangers. For instance, de Rosnay, Cooper, Tsigaras, and Murray (2006) found that infant responses to a stranger reflected the behavior of their mothers such that, infants showed more fear and avoidance towards a stranger when their mother had previously shown a socially anxious (as opposed to a friendly or neutral) reaction towards the stranger. In another study involving school-aged children (8- to 12-year-olds), Burstein and Ginsburg (2010) found that children allocated to an anxious condition where their parents acted anxiously before a planned spelling test reported higher levels of anxiety and a desire to avoid a spelling test, compared to children allocated to a non-anxious condition where parents behaved in a relaxed and confident manner before the test. Although these experimental studies involved small samples, they suggest that parents can directly affect the development of child anxiety by modelling anxious behavior. This research does not demonstrate, however, that this learning does take place in families who have greater levels of anxiety.

Support for the notion that vicarious learning is implicated in the development of child anxiety in the real world comes from correlational studies that show a positive relationship between parent-reported modelling of anxious behavior and child-reported fears in anxious children (Muris, Steerneman, Merckelbach, & Meesters, 1996), as well as anxiety symptoms in non-clinically anxious children (Roelofs, Meesters, Ter Huurne, Bamelis, & Muris, 2006). Also, in two analog studies Murray and colleagues observed socially anxious and non-anxious mothers and their infants (aged 10 weeks and 10 months) during natural interactions with a stranger (Murray et al., 2008; Murray, Cooper, Creswell, Schofield, & Sack, 2007). In both studies they found that over time, babies and infants with socially anxious mothers showed increasing avoidance of the stranger and that this avoidance was predicted by mothers' expressed anxiety and avoidance in front of the child.

In addition to evidence involving younger children, there is increasing evidence that older children are able to learn to fear a novel stimulus following overt verbal expression about its dangerous qualities (Muris & Field, 2010). The assumption is that anxious parents express more threat and danger when describing objects and experiences and this, in turn, leads to children learning to fear these things. For example, Barrett, Rapee, Dadds, and Ryan (1996) presented clinically anxious and non-anxious children with ambiguous situations and asked them to provide an interpretation and a response. Afterwards, each family was asked to discuss two of these situations as a family and for the child to provide a final response. Compared to non-anxious children, anxious children were more likely to interpret ambiguous situations in a threatening way and choose avoidant responses. Further, after family discussions, anxious children's avoidant plans of action increased and their parents were more likely to reward and model avoidant responses (Dadds, Barrett, Rapee, & Ryan, 1996). Although some have not found evidence for the hypothesis that family

discussion enhances children's preference for avoidant responses (e.g., Bögels, van Dongen, & Muris, 2003), overall findings suggest that aspects of parent–child communication may play a role in the transmission of threat bias (and subsequently anxiety) from parent to child. In summary, evidence is accumulating that children emulate the anxious behavior and cognitions they observe in their parents.

Overprotective Parenting

A considerable amount of research, using both retrospective questionnaire and direct observation methods has shown that parent–child interactions in anxious families are different to those of non-anxious families with similarly aged children (McLeod, Wood, & Weisz, 2007; Rapee, 1997). A challenge in combining this work has been inconsistencies in how parenting behaviors have been defined and measured; nevertheless, the evidence has been interpreted as suggesting that parental overprotection and control are more consistently associated with anxiety disorders, while parental rejection and lack of warmth seems to be more strongly associated with depression (Rapee, 1997).

Overprotective parenting refers to a style of parenting in which parents seek to protect children from uncomfortable feelings, as evidenced by showing concern about the child's emotional state when it is not warranted, and granting the child less autonomy and being inappropriately directive (e.g., making decisions for the child, telling the child what to do, taking over the child's tasks; Clarke, Cooper, & Creswell, 2013). These behaviors are believed to increase child anxiety via cognitive processes implicated in social learning theory. By restricting children's opportunities to experience new and challenging situations, children have less opportunity to develop mastery and confidence in their ability to cope with challenges. Cross-sectional research is consistent with this theory. For instance, mothers of anxious, compared to non-anxious, children are more likely to be perceived by their children and independent observers as overcontrolling and restrictive (e.g., Barrett, Fox, & Farrell, 2005; Bögels & van Melick, 2004). Also, Affrunti and Ginsburg (2012) found that children's perceived competence partially mediated the relationship between maternal overcontrol and child anxiety. This cross-sectional research has been augmented by longitudinal studies showing that parental overcontrol predicts later anxiety symptoms in both children (Edwards, Rapee, & Kennedy, 2010) and adolescents/young adults (Beesdo, Pine, Lieb, & Wittchen, 2010; Rapee, 2009). Further, there is longitudinal support for the proposition that there is a reciprocal relationship between parent overprotection and child anxiety. Edwards et al. (2010) assessed parents of over 600 children aged around 4 years at baseline, and then reassessed them 1 year later. They found that mothers' reports of overprotection predicted symptoms of child anxiety 1 year later, and child anxiety symptoms predicted mothers' overprotection 1 year later.

Experimental research has also demonstrated that overprotective parenting behaviors may cause more anxious behavior in children. In one study, mothers of 26 non-clinical children aged 7–13 years were randomly allocated to conditions in which they were either required to act in an overly protective and controlling fashion or in a minimally involved but supportive fashion during preparation of a speech by their child (de Wilde & Rapee, 2008). In a subsequent speech that children were required to prepare alone, children whose mothers had previously been overly controlling during the practice showed more overt signs of anxiety than did children whose mothers had previously been minimally controlling. This study has been replicated with mothers of 4- to 5-year-old children (Thirlwall & Creswell, 2010), although an interaction effect was found whereby children high in trait anxiety whose mothers were controlling displayed the greatest increase in observed anxiety.

Two meta-analyses have found a medium sized relationship between overprotective parenting and child anxiety, with higher levels of parental protectiveness being associated with higher levels of child anxiety (McLeod et al., 2007; van der Bruggen, Stams, & Bögels, 2008). Another meta-analysis examined only studies involving children up to the age of 5 years (Möller, Nikolić, Majdandžić, & Bögels, 2016). This study found

only small associations between parenting and anxiety. However, post hoc analyses revealed that mothers and fathers' parenting were more strongly related to children's anxiety symptoms than to child anxiety precursors (such as the child's temperament). Pairing the results of this study with earlier findings suggests that parenting may make a relatively small contribution to anxiety symptoms in young children, but the influence of parenting may accumulate over time. The results are also consistent with an effect in the opposite direction (or a reciprocal influence); that is, as children get older and anxiety problems worsen, their anxiety may be more likely to elicit overprotective parenting practices which could then maintain children's anxiety.

Overall, the current evidence indicates a relationship between parental overprotection and anxiety. While some longitudinal and experimental research has shown that overprotective parenting could play a causal role in child anxiety, this has not yet been clearly established.

Family Involvement in Treatment and Prevention

Historically, treatment outcome research for child anxiety has focused on child-focused cognitive behavioral therapy (CBT; Kendall, 1994). However, as the role of parenting in the etiology and maintenance of child anxiety has become better understood, there have been efforts to involve parents in the therapy for child anxiety (Ginsburg, Silverman, & Kurtines, 1995). Several reviews and meta-analyses have indicated that programs in which parents of anxious children are incorporated into the treatment are efficacious for the majority of children who receive them, but are not more efficacious than programs targeting the child alone (e.g., In-Albon & Schneider, 2006; Reynolds, Wilson, Austin, & Hooper, 2012). However, several reasons have been proposed to explain why the involvement of parents has not consistently enhanced treatment effectiveness of child-focused CBT. These include methodological differences across studies, failure to target parental behaviors that have been found to be associated with child anxiety (e.g., overcontrolling and overprotective parenting), and failure to differentiate between families that theoretically could benefit from parental involvement in CBT (e.g., families with parents who suffer from anxiety, younger children, or where the child is unmotivated) compared to those that would benefit from child-only CBT (Breinholst, Esbjorn, Reinholdt-Dunne, & Stallard, 2012).

A small number of studies have also investigated whether parent-only treatments are effective for child anxiety. Although many of these studies are uncontrolled or hindered by small sample sizes, these studies have produced promising results—all reporting significant reductions in child anxiety. The handful of randomized controlled trials that have included a waitlist comparison condition suggest that parent-only treatments that are based on learning principles (typically combining strategies derived from respondent, operant, vicarious, and social cognitive learning theories) are efficacious for treating child anxiety (e.g., Cobham, Filus, & Sanders, 2017; Ozyurt, Gencer, Ozturk, & Ozbek, 2016; Waters, Ford, Wharton, & Cobham, 2009). Further, some studies that have compared parent-focused treatments to family-focused treatments or child-focused treatments have found comparable outcomes between conditions (e.g., Mendlowitz et al., 1999; Waters et al., 2009), while another study reported that a treatment involving both parents and the child was superior to a treatment that only involved the parents (e.g., Monga, Rosenbloom, Tanha, Owens, & Young, 2015).

In addition to treatment, work has also been undertaken to investigate whether child anxiety disorders can be prevented. For instance, Rapee, Kennedy, Ingram, Edwards, and Sweeney (2010) trialed a group intervention for parents of 146 young children (3- to 5-year-olds) who were assessed as being at-risk of developing an anxiety disorder on the basis of having high levels of behavioral inhibition (based on parent-report measures and observation). The six group sessions focused on educating parents about the nature of anxiety and how it develops, reducing overprotective parenting, how to support children to engage in gradual exposure, how to challenge

parents' and children's worries, and the importance of applying these strategies during high-risk times (such as the beginning of school). Results showed that children receiving the intervention had fewer and lower severity anxiety disorders and lower levels of anxiety symptoms at 2- and 3-year follow-up.

In another selective intervention trial, Ginsburg, Drake, Tein, Teetsel, and Riddle (2015) recruited clinically anxious parents with a child aged 6–13 years without an anxiety disorder. Over one hundred families were randomly assigned to either an 8-session prevention condition or an information and symptom monitoring control. The prevention intervention included psychoeducation, cognitive restructuring, graded exposure, problem-solving, and contingency management to increase child independence and autonomy. At 1-year follow-up, 31% of children in the control group developed an anxiety disorder, compared to 5% in the prevention group. Importantly, these outcomes were found to be mediated by parental distress and parental modelling of anxiety.

Together these studies provide evidence for parents' influence on child anxiety and the potential to prevent and treat child anxiety through parent-focused interventions.

Summary

Twin studies have found evidence for the direct environmental transmission of anxiety. Cross-sectional, longitudinal, and experimental studies provide evidence that parent–child interactions, and particularly overprotective parenting practices, are linked to anxiety disorders. This is consistent with the hypothesis that social learning mechanisms are involved in the origin and maintenance of anxiety conditions. Longitudinal studies also provide evidence that these learning processes are bidirectional—child anxiety elicits overprotective behaviors, and these behaviors promote anxious behavior in children. Treatment and prevention interventions derived from learning principles and involving parents are limited, but provide further support that parents influence child anxiety.

Prosocial Behavior

Prosocial behavior refers to voluntary behaviors intended to benefit others (Eisenberg et al., 2015). These behaviors can include helping, sharing, cooperating, volunteering and conforming to socially accepted behaviors (such as obeying street signs and paying for shopping items). These behaviors are important for the quality of social interactions and for the well-being of society (Helliwell & Putnam, 2004).

Twin studies have shown that both genetic and environmental factors contribute to individual differences in prosocial behavior (see Israel, Hasenfratz, & Knafo-Noam, 2015). Most of these studies have used questionnaires on child prosocial behavior completed by parents, teachers, or by children themselves. A smaller number of studies have used observational measures. In addition to suggesting substantial heritability and non-shared environmental contributions, some of these longitudinal studies provide evidence that heritability effects increase with age (e.g., Knafo & Uzefovsky, 2013). It has been hypothesized that this finding may be due to novel genetic effects that emerge with age (Knafo, Zahn-Waxler, Van Hulle, Robinson, & Rhee, 2008); however, it has also been proposed that gene–environment interactions may account for these findings. For example, parents may show more negative emotion and be more punishing with children who exhibit less prosocial behavior. In this way, the environment may feedback to the child, further influencing their behavior (Beam & Turkheimer, 2013). Support for the proposal that parents can influence children's prosocial behavior are studies involving parents of identical twins that have found that mothers treat their identical twins differently and that these differences predict differences in children's prosocial behavior (e.g., Deater-Deckard et al., 2001). In order to more directly understand the effects of the environment, researchers have investigated ways in which parents might promote prosocial behavior.

Vicarious Learning of Prosocial Behavior

Experimental studies have demonstrated that children who see a person engage in generous or helpful behavior are more likely to display similar behavior (Eisenberg & Fabes, 1998). For instance, Williamson, Donohue, and Tully (2013) showed 2-year-olds a video of an adult comforting an adult in pain with a soft cleaning mitt. These children then had the opportunity to use the same response with their own parent. Children who saw the video were more likely to perform the action and to show other prosocial behaviors compared to children who did not see the video, or children who watched the video but saw their mother engage in a neutral activity. This research demonstrates the potential for vicarious learning to lead to the development of prosocial behavior in children.

Evidence supporting the idea that this learning takes place in families comes from research which has found that parents who display high levels of empathy are more likely to have young children who display helpful and other prosocial behaviors (Farrant, Devine, Maybery, & Fletcher, 2012). Similarly, in a sample of adolescents, McGinley, Lipperman-Kreda, Byrnes, and Carlo (2010) found that parental encouragement and modelling of volunteer work predicted adolescent volunteering and that this relationship was mediated by adolescents' sympathy and helpfulness. Although this work suggests that cognitive processes implicated in social learning theory may be operating to promote prosocial behavior, a limitation of this research is that it is mostly correlational and retrospective, and longitudinal studies are required to more convincingly demonstrate the impact of modelling on children's prosocial behavior. Also, it is very difficult to disentangle whether the relationship between parental and children's prosocial behavior is due to modelling or through operant processes via parenting practices.

Operant Learning of Prosocial Behavior

Operant learning principles suggest that providing praise and rewards contingent on children's prosocial behavior such as helping and sharing should increase these behaviors; however, it has also been suggested that making rewards contingent on these behaviors might undermine children's intrinsic motivation to engage in prosocial behavior. In support of this view is evidence from analogue studies that young children's prosocial behavior, such as helping an adult retrieve a dropped item is spontaneous and intrinsically motivated (Svetlova, Nichols, & Brownell, 2010; Warneken & Tomasello, 2013). However, when children receive material rewards such as a toy for helping, this reduces subsequent prosocial behavior (Warneken & Tomasello, 2008). Further support for this position comes from the finding that adolescents who report that their parents use material and social rewards to encourage prosocial behavior are less likely to report altruistic behaviors (actions that have a direct cost to oneself) and more likely to report public prosocial behaviors (i.e., when others are watching; Carlo, McGinley, Hayes, Batenhorst, & Wilkinson, 2007).

Other studies have shown that positive responses to children's prosocial behavior do predict subsequent child prosocial behavior. For instance, Garner (2006) observed prosocial behavior in African American preschoolers at preschool as well as mothers' parenting practices at home. Mothers' praise and social approval of prosocial behavior, but not material rewards, were positive predictors of their children's prosocial behavior. Similar longitudinal support is provided by a study by Hastings, McShane, Parker, and Ladha (2007). The existing evidence suggests that the impact of rewards varies depending on age and the type of reward, such as praise and tangible rewards. Children are more likely to behave prosocially when provided with praise, and particularly praise that attributes their prosocial behavior to internal factors such as the child's choice or disposition (see Eisenberg, Fabes, & Spinrad, 2006). This may suggest that such praise may promote desirable behavior by promoting children's internalization of standards for prosocial behavior—a cognitive mechanism consistent with social learning theory.

Bidirectional Influences

While there is evidence that parenting practices are related to prosocial development, there is also

evidence that child behavior influences parenting. For instance, in a longitudinal study involving over 300 families with an adolescent child, Padilla-Walker, Carlo, Christensen, and Yorgason (2012) found that in addition to authoritative mothering predicting prosocial behavior a year later, both reported and observed youth prosocial behavior predicted authoritative parenting. Other longitudinal studies have found similar bidirectional relationships between children's prosocial behavior and parenting practices (e.g., Newton, Laible, Carlo, Steele, & McGinley, 2014).

Strengths and Limitations of the Evidence Base and Future Directions for Research

Adoption, twin and longitudinal studies considering the etiology and development of disruptive behavior disorders, anxiety disorders, and prosocial behavior suggest that both environmental and genetic factors explain a substantial portion of the variance in these behaviors, that these factors interact and parent–child bidirectional influences begin at an early age. However, much of this research has been conducted at a macro-level relying on self-report rating scales and retrospective reports in response to interviews. This methodology is more prone to systematic biases and requires respondents to aggregate information across time and situations, obscuring details such as the frequency, duration, intensity, topography, and sequence of interpersonal events. Consequently, the resulting data limits our ability to discern the social learning mechanisms by which risk and protective factors are operating.

Parents' influence on child disruptive and antisocial behavior is one of the best-researched areas of developmental psychology. Support for operant processes (and particularly negative reinforcement) has evolved systematically from self-report cross-sectional and longitudinal correlational data relating to specific discipline practices, fine-grained moment-by-moment naturalistic observational studies, analogue experimental studies, and "real world" intervention studies that have shown that altering parenting practices reduces antisocial behavior many years after the intervention. Importantly, these studies have included independent observations of behavior in addition to self-report measures. The fact that the findings of intervention studies have been replicated by many independent research groups, provides further confidence in the conclusion that parents can influence children's disruptive and antisocial behavior, and that disruptive and antisocial behavior can be reduced if parents change their parenting behaviors and have less coercive and more positive interactions with their children.

Although much of the research has been interpreted as supporting operant processes, there continues to be debate as to the learning processes that are operating in family interactions. Research on cognitions (as well as emotions/physiological responses) embedded in ongoing social interactions between parents and children is needed to better understand the mediating and moderating effects among cognition, emotion, coercion, and reinforcement. Such research will lead to a greater understanding of the precise learning mechanisms that are operating and may provide further insight into how to enhance interventions designed to prevent and treat disruptive behavior disorders.

Evidence that the effects of parenting on externalizing problems are moderated by various child characteristics, such as physiological reactivity, is a reminder of the heterogeneity in children at risk of developing disruptive behavior disorders. One of the challenges for future research will be to identify and understand how individual characteristics moderate learning processes, and how interventions can be tailored to better meet child and family needs.

Compared to the literature on disruptive and antisocial behavior, considerably less research has been undertaken with respect to the influence of parents on child anxiety. Nevertheless, cross-sectional, longitudinal, and experimental research involving both self-report and observational data, have linked overcontrolling parenting to child anxiety, and shown that such parenting practices may play a causal role in the development of anxiety. However, more longitu-

dinal research is needed to confirm this. Also, although it is assumed that overprotective and overcontrolling parenting are related to the development of child anxiety by influencing cognitive processes (such as children's threat appraisal) a comprehensive conceptual model for such an influence needs to be elucidated and tested. Similarly, cross-sectional, experimental, and naturalistic studies indicate that parents' verbal and behavioral expressions of anxiety demonstrate that vicarious learning (and possibly operant) processes may be involved in development of child anxiety; however, more work is needed to clarify the extent to which these processes are implicated. An exciting area for further research is investigating the potential of parent interventions to prevent and treat child anxiety. Such research will shed greater light on the influence that parents have over anxiety in children. Refinement of parenting strategies and tracking possible mediators may also provide important insights into the key learning mechanisms operating in anxious families.

With respect to prosocial behavior, cross-sectional surveys and analogue experimental studies provide preliminary support for the hypothesis that children learn prosocial behavior vicariously from their parents. The results of research investigating the role of operant processes appears to be less clear-cut and it is possible that the impact of rewards varies depending on age, whether rewards are social or tangible in nature, and what the behavior is attributed to. There is a need for more longitudinal research and intervention experimental studies to further test the assertion that parents influence their child's prosocial behavior and, if confirmed, to tease out the precise mechanisms through which this occurs. There have also been suggestions that the impact of parenting practices may be moderated by children's temperament (e.g., Augustine & Stifter, 2014) and type of prosociality (such as helping, sharing, or comforting; Dunfield, 2014). Future research should investigate these hypothesized moderators as they may have implications for how to tailor socialization strategies for individual children.

In this chapter, I have reviewed evidence that parents' interactions with their children can influence three major areas of children's development as well as the learning processes through which such influence might occur. Although I have focused particularly on research relating to disruptive behavior disorders, anxiety, and prosociality, it is important to recognize that social learning influences have also been linked to a great many other outcomes, such as language (Hart & Risley, 1999), gender roles (Leaper & Farkas, 2015), problem-solving (e.g., Keen, 2011), coping skills (Frydenberg, 2017), resilience (Zolkoski & Bullock, 2012), health-related behaviors (Carmody, 2007), pain behavior (Kreitler & Kreitler, 2007), substance abuse (Giovazolias & Themeli, 2014), and crime (Akers & Jennings, 2009).

Implications for Policy and Practice

Parents can have a powerful impact on children's development through learning processes that take place in a social context. The evidence is particularly strong with respect to disruptive and antisocial behavior; however, as indicated in this chapter, evidence is accumulating in other areas of child development, such as anxiety and prosocial behavior. From a policy and practice perspective, the most salient evidence is that demonstrating the impact of the environment on children's lives, and research showing that parenting programs based on social learning principles are efficacious in preventing and treating mental health problems in children. Also relevant are economic analyses which indicate that these parenting interventions are highly cost-effective (Washington State Institute for Public Policy, 2017).

A key challenge facing contemporary society is to decrease rates of mental health problems and associated suffering, and to improve psychological functioning at a societal level. The importance of this issue is indicated by evidence that mental health problems in contemporary society are common and that the personal suf-

fering and direct and indirect economic costs associated with these problems are substantial (Trautmann, Rehm, & Wittchen, 2016). It has been suggested that if we are to make a meaningful impact on the prevalence and burden of mental health problems we need to invest more money in the prevention of mental health problems, and that one of the most promising ways to accomplish this is through the widespread provision of evidence-based parenting interventions (e.g., David-Ferdon & Simon, 2014; Moffitt, 2013).

One factor that currently restricts the impact of available evidence-based parenting interventions is their limited reach. At present, the vast majority of parents whose children are at risk and who would likely benefit from parenting support either do not receive, or fail to complete, an evidence-based intervention (Chacko et al., 2016). It has been argued that the emphasis on the traditional one-on-one model of service delivery should be changed in favor of a public-health approach where the goal is universal access to high quality parenting support via a suite of interventions that vary in terms of their intensity, mode of delivery, and target population (Kazdin & Blase, 2011). An exemplary example of such a system of parenting support is described by Sanders and Prinz (2017). Of course, the adoption of such an approach is likely to require policy makers to recognize the importance of parenting and to develop national policies, strategies, and commit expenditure prioritizing evidence-based parenting programs at a whole-of-population level.

The focus of this chapter was to review evidence that parents influence their children's development and the social learning mechanisms through which this occurs. This research is essential for program developers, since it is vital that they understand how parents can influence their children's behavior, and how programs work so that essential content and mechanisms are utilized in programs, and retained in subsequent iterations and variants. It is also important that practitioners delivering parenting programs understand these principles and mechanisms so that they can be responsive to the needs and circumstances of individual families, flexibly delivering parenting interventions while still providing the essential ingredients with fidelity (Mazzucchelli & Sanders, 2010). Parenting programs should also include a focus on educating parents about how social learning influences children's behavior so that they can make informed decisions about how they wish to interact with their children in order to promote the values, skills, and behaviors they desire (see Table 3).

While this chapter reviewed evidence demonstrating that parent–child social learning processes influence children's behavior, it also indicated that there are gaps in our understanding. More research is needed to help us better understand how parents influence children's development and the mediators and moderators of intervention effects. This research will inform innovations in parenting support that may come in the form of more efficient or effective interventions, and the ability to tailor interventions to specific child and family characteristics.

Conclusions

Parents make a substantial contribution to children's development. Although the strength of the evidence varies depending on the particular area of child development, there is strong support for the proposal that this influence occurs through operant and social cognitive learning processes. Parenting interventions based on these processes not only provide evidence of the operation of these processes but also hold great promise for a population-level improvement in the well-being of children and families.

Table 3 Influences of Child Behavior Reviewed in the Stepping Stones Triple P—Positive Parenting Program

Influence	Description	Conceptual background
Genetic and biological makeup		
Temperament	Children may inherit their temperament from their parents. Some children want lots of attention and like to be with others and talk a lot. Some cry and are hard to settle into sleeping and feeding routines. Some are very active and have lots of energy. Others find it hard when things change around them. Some of these characteristics can make children difficult to manage.	• Behavior genetics • Gene × environment interactions
Nature of disability	A child's genetic makeup can occur not just from the genes they inherit from their parents. Changes which occur by chance in the egg or the sperm, or in the newly fertilized egg can also result in some of the physical, behavioral, and emotional characteristics of a child. Some disabilities such as Down syndrome can occur this way. Other disabilities may be related to how an embryo or fetus develops before birth and the birth procedure itself. Some syndromes and disabilities can increase the chances that a child will develop specific behavioral patterns.	As above
Lack of skills	A lack of skills such as communication skills, social skills, self-help skills, and physical abilities, can contribute to behavior problems since they may interfere with learning appropriate, functional ways to satisfy needs.	• Human functioning model proposed by American Association Intellectual and Developmental Disability (Schalock et al., 2010) • International Classification of Functioning, Disability, and Health model proposed by the World Health Organization (World Health Organization, 2001)
Health		
Hearing problems	Sometimes children can seem to be misbehaving and not following requests when actually they may not be hearing what they are being asked to do. They may have a hearing problem or ear infection.	As above
Poor diet	If children are not eating well, they may not have the energy to listen, learn, and follow requests.	As above
Illness	Children may act differently and seem more difficult when they are sick.	As above
Family environment		
Accidental rewards for misbehavior	Children quickly learn that their behavior has an effect and they can influence the actions of others. Problem behavior is likely to continue if it gets children what they want.	• Operant learning

(continued)

Table 3 (continued)

Influence	Description	Conceptual background
Child escalates	If children want something and do not get it, they can learn that by escalating (e.g., getting louder, crying, nagging and pestering) they are more likely to get what they want. When children escalate and get what they want they will do it more often. They are learning that when you do not get what you want, you try harder or get louder and then you get what you want.	• Operant learning • Social cognitive learning
Parent escalates	Parents can learn that if they escalate (e.g., get louder, get angry, make threats), they are more likely to get what they want. The child learns that their parents are only serious when they yell and make threats, and may wait until then before they do as you ask. This can lead parents to believe that the only way to get children to listen or do as they are told is to shout and make threats, so this escalation trap is likely to happen again.	As above
Ignoring good behavior	Behavior that gets no attention is likely to happen less often. If children rarely receive positive attention when they behave well, they may learn that the only way to get attention is to misbehave. Even negative attention can be rewarding for children.	• Operant learning
Watching others' bad habits	Children learn by watching what other people do. For example, when parents get angry and yell at others and get their own way because they yell, children learn that it is okay to shout when they have a problem. Behaviors such as yelling, talking back, losing your temper, swearing, hitting, untidiness and how to react when something frightening happens, can all be learnt through watching others.	• Vicarious learning • Social cognitive learning
How instructions are given	The way in which parents give instructions can influence whether or not children will do as they are told. Some common problems include: too many or too few instructions, instructions which are too hard, instructions which are not timed well, instructions that are not clear, and instructions that are accompanied by confusing body language.	• Operant learning
Emotional messages	When parents say negative things about their children, rather than about the behavior they do not like. Putting children down or calling children names (e.g., *stupid* or *idiot*) and making them feel guilty (e.g., *What would Grandma think if she could see you carrying on like this?*) may shame children into doing what is wanted, but it can also make them angry or resentful, and to feel bad about themselves.	• Social cognitive learning

(continued)

Table 3 (continued)

Influence	Description	Conceptual background
Punishment that does not work	Children can develop behavior problems because of the way parents use punishment or discipline. Some reasons why punishment does not work include: it is the only strategy used to manage behavior, it is threatened but not carried out, it is given in anger and overly harsh, and it is used inconsistently.	• Operant learning • Social cognitive learning
Unhelpful beliefs	Some beliefs are unhelpful and can make parenting difficult. Some common unhelpful beliefs include the following: *It's just a phase; They're doing it on purpose just to annoy me; It's all my fault, I'm a bad parent; The poor thing*.	As above
Unrealistic expectations	It is not realistic to expect children to be perfect. This is likely to lead to disappointment and conflict with children. At the same time, it is also unhelpful to have expectations that are too low for children. Parents can also have unrealistic expectations of themselves. When they aim to do a perfect job, they are setting themselves up for dissatisfaction and frustration.	• Social cognitive learning • Operant learning
Parents' relationship with each other	If there are problems between parents, and children see a lot of tension, arguing, and fights, it can affect their behavior. Boys may become aggressive, and girls may become anxious or depressed.	• Vicarious learning • Social cognitive learning
Parents' feelings	Parents' feelings can also have an effect on how children behave. Feelings, such as anger, depression, or anxiety, make parents more likely to be irritable and impatient, have unhelpful thoughts, provide less supervision, and want to spend less time with their children. They are also likely to be less calm, patient, and consistent in how they deal with children's behavior.	• Vicarious learning • Social cognitive learning • Operant learning
Stress	All parents get stressed and have to deal with problems and work pressures. The problem is that stress can interrupt family routines and children need routine.	• Operant learning • Social cognitive learning
Influences outside the home		
Peers and friends	When children start to mix with other children, they are influenced by their relationships with their peers and by what other children do. For example, aggressive and disruptive children are often rejected by their peers, and have poor social skills and find it hard to make and keep friends. It is likely that these children will mix with and learn from other disruptive children and the problem behavior will continue.	• Operant learning • Vicarious learning • Social cognitive learning

(continued)

Table 3 (continued)

Influence	Description	Conceptual background
School	Children's success at school can influence their adjustment and behavior. How well a child copes will depend on their everyday living skills, intellectual ability and the support they have from the school community. If a child is placed in a social or academic situation that is too difficult for them and is not given the level of adult support and encouragement they need, they are more likely to develop behavior problems.	• Operant learning • Social cognitive learning
Media and technology	Children can learn problem behavior, such as swearing or aggression, from watching movies and television programs, and comics, surfing the Internet or playing computer games.	• Operant learning • Vicarious learning • Social cognitive learning

Note. Adapted from "Stepping Stones Triple P Family Workbook," by M. R. Sanders, T. G. Mazzucchelli, and L. J. Studman 2016. Copyright 2016 by Triple P International

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Effects of the Parents' Relationship on Children

W. Kim Halford, Galena Rhoades, and Megan Morris

Introduction

Alex watched as his parents argued, again; they seemed to be getting angrier and angrier, and it was scary. He went into the next room and then heard something break. Then his Mum was yelling at his Dad to "get out, just leave." He wondered if he was to blame for the fights they had, because they were arguing about him.

Mee Ling heard her Mum and Dad come in talking together after their date night. They thanked Grandpa for looking after her, and told him about a movie they had seen and enjoyed. Then her Mum and Dad came up to her room for story time. They liked to read to her as a team. Mee Ling felt very special.

Carmen's father came to pick her up from her mother's house. Her mother and father argued about why her father was late. Just when it seemed it was calming down, her dad's partner called out from the car that they needed to get going. Then her mother and the partner started yelling at each other. Carmen clenched her fists, stared into the distance, and tried to listen to a bird singing in a tree.

The relationship between parents has a profound effect on children. Some parents can be highly conflictual, like Alex's parents. Some parents frequently show love toward each other in front of their children, like Mee Ling's parents. Other parents are like Carmen's parents and are no longer together, but the relationship between the separated parents often still impacts on children. The parents' relationship also influences, and is influenced by, their interactions with their children. In this chapter we review the evidence on the effects of the parents' relationship on children. We begin by presenting an ecological model that provides a framework for understanding the interaction between parents' relationship with the parent–child relationships, and the range of factors that impact on each of these family relationships. We then examine the association of negative aspects of parental relationships, like high conflict and violence with children's adjustment; and then examine the association of positive aspects of parental relationships, like intimacy and affection, with child adjustment. Finally, we consider attempts to enhance the parents' relationship and how they affect children.

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Theories of Couple Relationships and How They Impact on Children

An Ecological Model of Parental Relationships

Figure 1 presents an ecological model of influences on the parents' interaction with each other and parent–child interaction. The couple's interactions, and each parent's interactions with their child(ren), are depicted as double headed arrows. Central to the model is that couple interaction and parent–child interaction reciprocally influence each other, which reflects the long-established association of the quality of couple relationship interaction with parenting and adjustment of children (Erel & Burman, 1995). Meta-analysis indicates that there is a consistent interrelationship between couple relationship functioning and parent–child interactions, with average effect sizes ranging from $d = 0.46$ to 0.62 (Erel & Burman, 1995; Krishnakumar & Buehler, 2000). Specifically, mutually satisfying, low-conflict couple relationships covary with satisfying and positive parent–child relationships, whereas negative couple relationships covary with negative parent–child relationships (Cox, Paley, Payne, & Burchinal, 1999; Kouros, Papp, Goeke-Morey, & Cummings, 2014; Linville et al., 2010).

The association of couple interaction with parenting seems to be reciprocal. Parents who have mutually supportive, satisfying relationships have more collaborative coparenting (Zemp, Milek, Cummings, & Bodenmann, 2017), which in turn is associated with more positive parenting and better child adjustment (Harold, Shelton, Goeke Morey, & Cummings, 2004). Conversely, child-related stress (concerns about child behavior) tends to erode couple

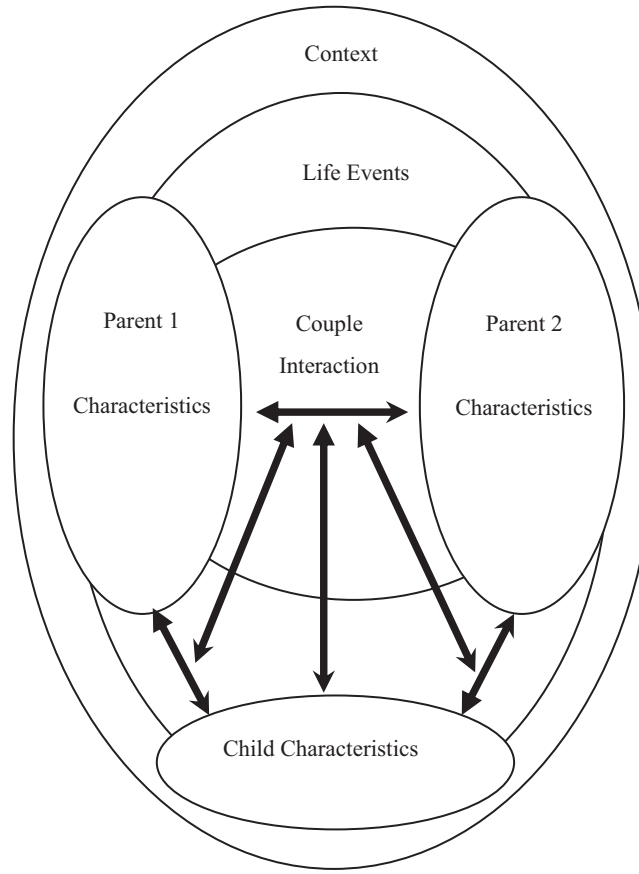


Fig. 1 An ecological model of the interaction of the parental couple relationship with parent–child interaction

communication and relationship satisfaction (Zemp, Nussbeck, Cummings, & Bodenman, 2017). The couple relationship most often begins before children are born (although not in the case of blended families), and the couple relationship is likely to be a particularly influential aspect of the family system; couple communication in newlyweds prospectively predicts parent–child interaction 9 years later (Stapleton & Bradbury, 2012). Conversely, when the parent–child relationship is established and a parent repartners, then the agreement between the partners about the parenting responsibilities of the stepparent, and the relationship between the stepparent and child predict the couple's future relationship satisfaction and stability (Slattery, Bruce, Halford, & Nicholson, 2011)

The model also includes influences on both couple interaction and parent–child interaction. These influences can usefully be classified into three broad classes. First is context, which refers to relatively stable characteristics of the environments where families live. For example, culture influences relationship standards, which are beliefs about what makes for a good couple relationship (Hiew, Halford, van de Vijver, & Liu, 2015a), and also beliefs about what constitutes appropriate parenting (Rubin & Chung, 2006). Couple relationship satisfaction reflects the extent to which a relationship meets each partner's standards (Hiew, Halford, van de Vijver, & Liu, 2015b), and judgements about parenting satisfaction likely also reflect culturally influenced standards of what is expected in parents' relationships with their children (Rubin & Chung, 2006). Other examples of context include family law, which influences how families form and separate; paid parental leave, which influences what childcare options are available to parents of young children; and extended family support for the couple and parenting (Halford & Pepping, 2017).

A second class of family influences is life events, which refer to changing circumstances in parents' lives that impinge upon family members. In particular, high rates of stressful life events predict more negative couple interaction, deteriorating couple relationship satisfaction (Ledermann, Bodenmann, Rudaz, & Bradbury, 2010; Neff & Karney, 2007), and more negative parent–child interaction (Belsky, Schlomer, & Ellis, 2012; Leinonen, Solantus, & Punamaki, 2002). There are two types of stressful life events that are associated with negative family interactions. Chronic stressors tend to be relatively long lasting, such as reported experience of racial prejudice (Trail, Goff, Bradbury, & Karney, 2012) or economic strain (e.g., Masarik et al., 2016). Acute stressors are events that fluctuate from day-to-day, such as daily hassles (Ledermann et al., 2010) or negative workplace interactions (Leinonen et al., 2002). Couples who report high chronic stress seem to be more negatively affected by acute stress than couples with low chronic stress (Neff & Karney, 2007).

Individual characteristics refer to stable historical and personal factors in each partner and child. For example, adult attachment insecurity (the tendency to be anxious about—or avoid—emotional closeness), is associated with less positive couple interactions and low couple relationship satisfaction (Li & Chan, 2012). As another example, depression in one or both parents predicts more negative couple interaction across time, which in turn predicts more hostile and ineffective parenting by fathers and mothers (Sutton, Simons, Simons, & Cutrona, 2017). As a third example, difficult child temperament is associated with parenting stress and low positivity in parent–child interactions (Halford, Petch, & Creedy, 2015), and stresses also are associated with more negative couple interaction, particularly about how to parent (Zemp, Milek, et al., 2017).

An important implication of the ecological model is that the family outcomes (like couple interaction and relationship satisfaction, and parent–child interaction and child adjustment) are influenced by the complex interaction of context, life events, and individual characteristics. For example, the negative effects of economic strain on couple relationships are attenuated if the couple have effective communication (Masarik et al., 2016), otherwise economic strain often undermines effective coparenting, increases parental individual adjustment problems, and increases negative parenting (Leinonen et al., 2002). As a

second example, people with a history of depression tend to be particularly sensitive to criticism, and spouse criticism tends to be particularly impactful in undermining relationship satisfaction for these people (Baucom, Whisman, & Paprocki, 2012). An inability to regulate the resultant negative affect is likely to translate to negative parenting (Kim, Peras, Capaldi, & Owen, 2009).

Theories of How Couple Relationships Influence Children

There are three prominent theories that have been suggested to explain how the couple relationship impacts upon children, which we see as explicating the nature of the processes depicted as arrows between couple interaction, parent–child interaction, and the child shown in our ecological model in Figure 1. Social learning theory posits that the contingencies parents provide for children's behavior strongly influence the child's behavior (Patterson, 1975), a proposition that now has very strong empirical support (Kazdin, 2005; Lundahl, Risser, & Lovejoy, 2006). It is well demonstrated that couple interaction moderates the behavioral contingencies parents show toward their children. For example, high couple relationship satisfaction is associated with positive couple interaction, and more sensitive and responsive parenting by both mothers and fathers (Barnett, Deng, Mills-Koonce, Willoughby, & Cox, 2008). In contrast, chronic couple conflict predicts low sensitivity and responsiveness in parents of infants (Owen & Cox, 1997), and this association is particularly strong when the infant is exposed directly to couple conflict (Crockenberg, Leerkes, & Lekka, 2007).

Social learning theory also proposes that children learn much of their interpersonal relationship skills by observing their parents' interactions (Bandura, 1977). Consistent with this proposition, parents' anger, hostility, and negative affect toward each other prospectively predict similar behavior in children (Doh, Shin, Kim, Hong, Choi, & Kim, 2012; Kim et al., 2009). The effects of social learning observation of parents on offspring's behavior extend into adulthood. For example, young adults who observed their parents being physically aggressive toward each other, are themselves more likely to be negative and aggressive toward their romantic partners (Cui, Fincham, & Pasley, 2008; Halford, Sanders, & Behrens, 2000; Skuja & Halford, 2004).

A variant of social learning theory is the cognitive-contextual theory (Grych & Fincham, 1990), which adds attention to the child's perspective of family interaction, particularly parental conflict. Couple conflict that is intense, frequent, that the child perceives as threatening to them, and that the child self-blames for the conflict, is argued to be particularly harmful to child adjustment. Consistent with these propositions, children's perceived threat from, and self-blame for, parental couple conflict mediate the association of couple conflict and child adjustment problems (Mueller, Jouriles, McDonald, & Rosenfield, 2015).

A third framework is Emotional-Security Theory (Davies & Cummings, 1994) which proposes that children's emotional security moderates their responses to interparental conflict. Emotional security is based on the idea that children seek a close emotional bond to their parents, as their primary caregivers, and parental conflict can trigger a lack of attention to children, which in turn elicits emotional insecurity in the child. When emotional security is threatened, children increase their emotional and behavioral reactivity to try to get parental attention and meet their security needs. For example, in the presence of parental conflict a child cries, and by gaining attention of the parent the threat is reduced and parental caregiving resumed. However, long-term arousal of the emotional security system expends psychobiological resources and is suggested to undermine children's psychological development (Cummings, George, McCoy, & Davies, 2012).

A theme shared across the social learning, cognitive-contextual and emotional security theories are that the parental relationship, particularly its negative aspects, has important effects on children. The imputed mechanisms for the effects vary somewhat, but each places strong emphasis

on the destructive impact of parental conflict on children's adjustment. Social learning theory focuses on how parental interaction modifies contingencies on children, plus the modeling effects of parental behavior on child behavior. The cognitive contextual theory adds the importance of the child's cognitive appraisal of parental interaction, and emotional security theory adds security-focused emotional responses to parental interaction, respectively. These theoretical frameworks seem complementary, suggesting mechanisms by which parental interaction impacts upon children. The proposed mechanisms in these three models seem complementary, rather than being alternatives.

Parental Separation and Family Instability

Across the western world, the traditional view of family as centered on a lifelong marriage between parents is being replaced by a view of family relationships as often more dynamic across time (Tai, Baxter, & Hewitt, 2014). The divorce rate in the USA reached its highest rate in 1981 (Stanley, 2015). There were similar trends in Australia and the UK, with the divorce rate steadily climbing throughout the 1970s and 1980s (Australian Bureau of Statistics [ABS], 2015; Office of National Statistics, 2017), plateauing in the 1990s and declining somewhat in the first two decades of the twenty-first century. As we write in 2017, the divorce rate is around 40% in the USA and the UK, and around 35% in Australia (Stanley, 2015).

As divorce became more common, research grew concerning the impact of divorce on the parents and children involved. Research on the effects of divorce began in the 1950s, and through to the 1980s suggested a rather negative picture of consequences for the families involved (Amato, 2010). For example, studies found that children of divorced families in comparison to children from intact families experienced lower levels of well-being across the domains of scholastic achievement, conduct, psychological adjustment, self-esteem, social competence, and relationships with parents (e.g., Wallerstein & Lewis, 1998). Later studies found smaller and more variable effects of divorce.

Recent research has begun to incorporate the separation of unmarried parents into the analysis of family instability. Births to unmarried mothers have risen to more than 40% of all births in the USA (Center for Disease Control and Prevention, 2017), 48% in the UK (Copen, Daniels, & Mosher, 2013), and 34% in Australia (ABS, 2015). These rates represent a dramatic increase in births to unmarried parents over the last several decades. Unmarried families tend to be less stable than married families. For example, in a large study of low-income cohabiting new parents in the USA only 44% of couples were still living together by the baby's first birthday (Carlson, McLanahan, England, & Devaney, 2005). Historically, the breakup of unmarried parents and parents who were not in a relationship at birth has not been represented in research on the impact of parents' relationships on children. In this chapter, we refer not to divorce, but to parental separation to capture both married and unmarried families.

Meta-analysis of the available evidence suggests that, on average, parental separation is associated with negative outcomes for children such as reduced educational attainment, more negative parenting and parent–child relationships, and more child internalizing and externalizing problems, though these effects tend to be small (Amato, 2010). Studies (Bierman, Fazio, & Milkie, 2006; Hughes & Waite, 2009; Lorenz, Wickrama, Conger, & Elder, 2006) and meta-analysis (Amato, 2010) also find that, on average, relative to men and women in intact couple relationships, separated men and women have lower levels of physical and mental health (e.g., higher depressive and anxiety symptoms and substance use), though again the size of these effects is small. In the long term, people who divorce and remain single are somewhat more likely to be poor, less satisfied with life, and lonelier in later life, than those who remained married (Caruana, 2011).

While the average effect size of family separation on adjustment is small, there is also a

substantial overrepresentation of adults and children from separated families among those in the population who have serious problems. For example, relative to adults and children from intact families, adults and children from separated families are two to three times more likely to be diagnosed with depression, to have substance abuse problems, or to be in poverty (Amato, 2010). This overrepresentation of separated families in those with severe problems points to the need to identify what might account for the severe negative outcomes for a subset of separated families.

Contemporary perspectives conceptualize family separation as a process of transition and that people respond to this process quite differently. More specifically, contemporary models such as Emery's (2012) cyclical model and Amato's (2000) *Divorce-Stress-Adjustment* model seek to explicate moderators and mediators of the outcomes of family separation. Emery's (2012) cyclical model of coping with separation recognizes there is often ongoing emotional attachment between parents even after separation. In contrast to death, separation from a partner is not an irrevocable loss, and some separated parents struggle to adjust to changes within the family system. In Emery's model, attachment to the former partner can fluctuate across time, and the ongoing coparenting relationship often forces some level of contact with a former partner, which impacts on the adjustment of the families involved. The model suggests separation is a gradual process of physical and emotional separation of the parents with the reorganizing of identities, and family lifestyles over time (Emery, 2012).

Amato (2000) proposed a stress-adjustment model of separation, which emphasizes the role of multiple moderators and mediators that shape individuals' adjustment after separation. The most influential moderators that attenuate the impact of separation include access to interpersonal resources (e.g., family relationships and support), and economic resources (e.g., education level that enhances employability, government support for child care and other costs and access to affordable health care). Crucial mediators of adjustment include conflict with the former partner, and the individual's interpretation of the meaning of separation (e.g., relief from escaping a negative relationship, versus a sense of loss or rejection). Both the cyclical and stress adjustment models share an emphasis on separation as a change across time, and that adjustment reflects the balance of protective factors and risk factors.

Healthy adjustment to separation is characterized by managing physical and mental health and well-being, parenting competently at home, functioning at work and leisure, managing the responsibilities of competing roles and the development of an independent identity, free from the marital relationship (Kitson & Morgan, 1990). In contrast, maladjustment is characterized by the presence of anxiety, depression and emotional distress, loneliness, and an inability to engage with social networks (Birnbaum, Orr, Mikulincer, & Florian, 1997; Kitson & Morgan, 1990).

There are important differences between families most likely to get and stay married. Parents with low education and income are less likely to marry, and more likely to divorce if they do marry, than parents with a college degree, at least in the USA (Copen et al., 2013; Torr, 2011). These demographics of family instability highlight that children most at risk for experiencing parental separation also face socioeconomic disadvantages, which also have their consequences. For example, children who grow up in poverty have more difficulties with behavioral and emotional problems, more trouble academically, and more health problems than children whose parents are together (Brooks-Gunn & Duncan, 1997). Thus, family instability and disadvantage are often linked and need to be considered together in developing interventions and social policy.

One consequence of parental separation is the distribution of the shared financial resources across two households, which puts particular strain on low-income households. The chronic stress of poverty in itself is associated with higher rates of relationship instability (Johnson, 2012). Many separated parents repartner, and children can experience multiple family and parental

romantic relationship transitions, and this pattern of multiple family dissolutions is most common among the socially disadvantaged (Johnson, 2012). Children's adjustment is particularly compromised when separated parents have multiple subsequent repartnerings and separations (Amato, 2010).

Parental Conflict

Experiencing some conflict is an inevitable part of family life, but certain types of parental conflict are particularly harmful to children. Children experience stress, unhappiness, fear and insecurity when parents engage in hostile communication (Maccoby & Mnookin, 1992) and the presence of parental conflict *both in intact families and in separated families* reliably predicts poor psychological well-being, parent–child relationships, and child adjustment (Amato, 2010; Cummings & Davies, 2002). Parental conflict is also associated with poorer sibling and peer relationships (Stocker & Youngblade, 1999).

Parental conflict can be categorized into two distinct types: constructively or destructively managed conflict. Constructive conflict is characterized by parents demonstrating mutually supportive behaviors; supportive behavior by the parents toward the child around the conflict, such as the provision of explanation or meaning about the conflict to children; and parental resolution of the conflict; all of which are likely to elicit positive reactions from children such as happiness and understanding (Cummings, Goeke-Morey, & Papp, 2004; Goeke-Morey, Papp, & Cummings, 2013). In contrast, destructive conflict is characterized by verbal and physical aggression between parents; a lack of resolution of the dispute; parental withdrawal from each other and the children; which evokes negative behaviors from children such as anger and sadness (Cummings et al., 2004; Goeke-Morey et al., 2013).

Constructive conflict can be helpful to the social and emotional development of children by providing models for resolution and acceptable behaviors for debate and disagreement. Destructive conflict is harmful to children and places them at greater risk of developmental adjustment problems. Heightened chronic conflict predicts negative psychological and behavioral outcomes for children of all ages (Cummings & Davies, 2010; Grych, Oxtoby, & Lynn, 2013).

Destructive conflict can impact on children directly or indirectly. Direct impact is when children are present during parental arguments, and the child experiences distress and might even become involved in the conflict (e.g., trying to stop parental arguing). Indirect impact of parental conflict is when the parental conflict changes parenting behaviors, which in turn impact upon children. For example, a parent upset by a conflict with his or her partner might be inattentive to their child, be angry or punitive, or might miss preparing a meal. Amato and Afifi (2006) found that children's reports of being impacted on by parental conflict, either directly or indirectly, were associated with poor child adjustment and well-being in both separated and intact families.

There have been inconsistent findings on whether boys or girls are most affected by parental conflict (e.g., Buehler, Anthony, Krisnakumar, & Stone, 1997; Simons, Lin, Gordon, Conger, & Lorenz, 1999). Further research is required into the complex relationship between children's gender, ages and stages of child development and the short- and long-term impacts of parental conflict. However, gender difference seem to be small, and it is clear that there are negative effects of destructive parental conflict for both boys and girls.

The type, intensity and duration of conflict can mediate children's adjustment outcomes. Children display more negative feelings in the face of destructive conflict compared to constructive conflict; with unresolved conflict than resolved conflict; with recurrent chronic conflict; and with conflict about the child and parenting in comparison to other topics (Emery, 2012; Kouros et al., 2014). Long lasting hostility between parents seems to be a particularly strong predictor of poor adjustment in children (Emery, 2012). In addition, chronic parental conflict beginning when the child is young seems to be particularly harmful to children's development (Cummings &

Davies, 2010). Cummings and colleagues (2012) suggest that early experiences of parental conflict can prompt cognitive hyperarousal of children and be a significant inhibitor of children's ongoing psychological development. Severe parental conflict in early childhood predicts poorer child adjustment from kindergarten through to adolescence (Cummings et al., 2012).

The effects of parental conflict and/or separation on children can be long lasting. Parental conflict is associated with adolescents' and young adults' own conflict with their romantic partners (Cui & Fincham, 2010; Rhoades, Stanley, Markman, & Ragan, 2012; Simon & Furman, 2010). Parental separation during childhood predicts problems in the romantic relationships of those children when they become young adults. More specifically, young adult offspring of parents who separated show less positive attitudes toward marriage, lower commitment to their own relationships, and on average have less satisfying relationships, than offspring of intact families (Cui & Fincham, 2010; Rhoades et al., 2012). Relative to the offspring of married parents, the offspring of parents who never married report particularly low levels of relationship quality in their romantic relationships when they are young adults (Rhoades et al., 2012). Much of this intergenerational effect might be attributable to the impact of parental conflict. Finally, parental divorce in the family of origin is a predictor of higher risk of divorce in the adult relationships of offspring (Amato, 2010).

Positive Aspects of Parents' Relationship and Effects on Children

A positive couple relationship predicts the long-term adjustment of offspring. When parents support each other in the parenting role, infants tend to be more securely attached to both parents (Brown, Schoppe-Sullivan, Mangelsdorf, & Neff, 2010). Couple relationship satisfaction and positive communication with each other early in a child's life predict low rates of childhood problems in early childhood (Linville et al., 2010) and in middle childhood (Ratcliffe, Norton, & Durtsch, 2016); greater interaction and engagement of adolescents with their parents (Ackerman et al., 2013); and more positive romantic relationships of offspring in early adulthood (Cui et al., 2008). Finally, the quality of the parental couple relationship is also predictive of the parent offspring relationship when offspring are young adults (Lee, Zarit, Rovine, Birditt, & Fingerman, 2016). When offspring say that their parents' relationship was a role model for their own adult romantic relationships, they report higher relationship quality themselves (Rhoades et al., 2012).

One mechanism by which the couple relationship impacts on children is through parental engagement. Research on parental conflict shows that parental hostility toward children mediates associations between parental conflict and children's relationships with their siblings and peers (Stocker & Youngblade, 1999). Parents whose relationship is positive have more positive coparenting across time, which in turn predicts sustained relationship satisfaction (Le, McDaniel, Leavitt, & Feinberg, 2016).

High couple relationship satisfaction is associated with sensitive and responsive parenting by both mothers and fathers (Barnett et al., 2008). Furthermore, there is a moderate association between maternal and paternal parenting sensitivity (Barnett et al., 2008). The mechanisms by which the couple relationship and sensitive parenting interact are elucidated in observational studies of triadic interactions between father, mother and infant. Couple coparenting is when the parents jointly and collaboratively interact with the infant, and couple relationship satisfaction reliably predicts the extent of observed coparenting of infants (Gordon & Feldman, 2008; Schoppe-Sullivan, Mangelsdorf, Brown, & Sokolowski, 2007). The positive association of high couple relationship satisfaction and coparenting is strongest in couples with an infant rated by observers as being of a fussy, irritable temperament (Schoppe-Sullivan et al., 2007). Furthermore, coparenting predicts later paternal positive engagement with the infant (Gordon & Feldman, 2008), which in turn predicts future

female relationship satisfaction (Feeney, Hohaus, Noller, & Alexander, 2001). In summary, a warm, satisfying couple relationship seems to be a key element of a virtuous cycle of mutual coparenting support and sensitive, positive parent–child interactions.

Couple Interventions to Enhance Child Functioning

There have been a number of different types of couples interventions evaluated that are intended to enhance the couple relationship of parents, as well as to have positive consequences for parenting and child outcomes. The most widely researched couple intervention is relationship education for couples becoming parents for the first time (e.g., Cowan & Cowan, 1992; Doss, Cicila, Hsueh, Morrison, & Carhart, 2014; Petch, Halford, Creedy, & Gamble, 2012a). This focus likely reflects the previously mentioned findings that there is high risk for parental separation when children are young, and that parental conflict and separation early in a child's life are particularly harmful to child development. There have also been some evaluations of couple education programs for parents of older children (e.g., Bodenmann, Cina, Ledermann, & Sanders, 2008). A small number of studies have evaluated the effects of couple therapy on parenting and child adjustment (e.g., Gattis, Simpson, & Christensen, 2008), or evaluated adding a couple relationship intervention component to parenting interventions (e.g., Cowan, Cowan, & Barry, 2011; Dadds, Schwartz, & Sanders, 1987). Finally, there are programs for separated parents that include promoting a positive coparenting relationship.

Couple Relationship Education for New Parents

The Couple Relationship and the Transition to Parenthood

For most couples, becoming parents is a major life change, which often brings an enhanced sense of meaning, purpose and contentment, but also brings more frequent negative emotions like depression and anxiety, disturbed sleep, and magnified economic problems (Nelson, Kushlev, & Lyubomirsky, 2014). Assisting couples to manage the transition to parenthood successfully seems important for many reasons. First, as shown by meta-analysis of a large number of studies of couples becoming parents, average couple relationship satisfaction declines markedly after couples have their first baby (Mitnick, Heyman, & Smith-Slep, 2009). Average relationship adjustment is substantially lower among parents of young infants than couples at other life stages (Doss & Rhoades, 2017; Twenge, Campbell, & Foster, 2003.) As described previously, low couple relationship satisfaction is associated with couple conflict, less positive parenting and poorer child outcomes. Second, longitudinal research suggests that if the couple relationship deteriorates early in the child's life, there is a high risk of sustained couple relationship problems, and negative impacts on child development (Ackerman et al., 2013; Belsky et al., 2012; Ratcliffe et al., 2016). Third, many expectant parents are open and willing to access programs that will help them transition to parenthood (Petch, Halford, Creedy, & Gamble, 2012b).

There are at least five major changes that new parenthood brings, which can contribute to deteriorating couple relationship satisfaction. First, the care of an infant adds ~35 h of work per week to the average couple household (Craig & Bittman, 2005). Sleep disturbance, crying and feeding problems are very commonly reported sources of stress for new parents (Halford et al., 2015). For example, soon after birth, infants' sleep patterns are haphazard, with sleep occurring in relatively short bursts (up to 3–4 h) across the day and night (Teng, Bartle, Sadeh, & Mindell, 2012). When awakened, infants usually require feeding or parental soothing (Sadeh, 1996). Crying occurs on average 2 h a day (or more in the case of the 20% of infants who are diagnosed with colic) up until the age of 3 months, after which time crying usually slowly reduces in duration (Barnard & Sparrow, 2010). Hence, new parents frequently are caring for

their infant through the day and night, and fatigue is almost universal among parents of infants (Sinai & Tikotzky, 2012).

Second, there is often inequity in the division of infant care between mothers and fathers. Many, although not all, couples report an egalitarian approach to housework before parenthood that they plan to maintain and expect to continue while raising their child (Katz-Wise, Priess, & Hyde, 2010). However, on average women, regardless of whether they are in paid employment, do about two to three times more of the extra work generated by having a child than men (Hansson & Ahlborg, 2012). The inequitable burden of child care responsibility can be a source of significant dissatisfaction to women, particularly if they expected and desired an egalitarian division of labor (Feeney et al., 2001).

A third effect of becoming a parent on the couple relationship is that there is less time for couple-focused communication and shared activities. Relative to before children, on average after becoming parents couples' communication is characterized by the use of less self-disclosure, less praise, and increased negativity and conflict (Belsky & Kelly, 1994; Gottman & Notarius, 2000). During the last trimester and after the arrival of the baby, parents' social and recreational activities decrease, in particular their leisure time such as weekends away and holidays away from home (Claxton & Perry-Jenkins, 2008).

Fourth, most couples report stress associated with a decline in disposable income after the birth of their first child (Thomas & Sawhill, 2005). Men often report an increased sense of responsibility to provide financially, and tend to increase their commitment to paid employment after the birth of their child (Astone, Dariotis, Sonenstein, Pleck, & Hynes, 2010). Particularly for couples on low incomes, the financial squeeze can substantially erode their opportunities for individual and shared leisure activities (Thomas & Sawhill, 2005).

Finally, many couples stop having sex in the third trimester of pregnancy and do not start again until 2–3 months after the birth of their child (Johnson, 2011). Many new mothers experience discomfort during sex after the birth of their child, which reduces the sexual activity of the couple (Sagiv-Reiss, Birnbaum, & Safir, 2012). In addition, many mothers, and some fathers, report reduced sexual desire attributable to a combination of fatigue and a reduced sense of sexual attractiveness in the woman (Hipp, Kane-Low, & van Anders, 2012; Johnson, 2011). For about 30% of new parents, sexual problems persist for at least 3–4 years after birth (Johnson, 2011; Sagiv-Reiss et al., 2012).

Content and Outcomes of Couple Relationship Education for New Parents

Table 1 summarizes 16 randomized controlled trials evaluating couple-based interventions for the transition to parenthood. We have only included in the table studies that had random assignment of couples to a couple based intervention and a control comparison condition. We did not include quasi-experimental studies, or studies that just focused on one parent (e.g., interventions for fathers to enhance their parental involvement)[1].

The interventions ranged in duration and when they were offered relative to the birth. Some programs were very brief, consisting of 1–2 h of discussion and didactic education offered as an adjunct to antenatal classes (e.g., Coffman et al., 1994; Kermeen, 1995). Some programs were extensive, such as the 24 weekly, 2 h group education and discussions sessions offered across the antenatal and postpartum periods (Cowan & Cowan, 1992), or the 20–40 session group programs offered in the postpartum period by Wood et al. (2014). The emphasis in the program content was also variable. A few programs were only couple relationship focused (e.g., Trillingsgaard et al., 2012), others were predominantly focused

[1]Trillingsgaard et al.'s study (2012) was not a true randomized trial, in which couples within blocks of dates for the expected birth of the child were clumped into groups of couples, who were randomly assigned to condition, but that seems unlikely to systematically favor outcome in a particular condition.

Table 1 Randomized controlled trials of couple-focused psychoeducation for the transition to parenthood.

Author/s (Year)	Participants	Outcome	Intervention	Key findings of effects of intervention
Coffman, Levitt, and Brown (1994)	141 expectant couples	Relationship satisfaction, affect, attitude toward infant, support.	1 h group and couple discussion of mutual support expectancies. Control = 1 h group and couple discussion of child sex-role behaviors.	No intervention effects.
Cowan and Cowan (1992) Schulz, Cowan, and Cowan (2006)	72 expectant couples	Relationship satisfaction and separation at second trimester, multiple follow-ups to 5½ years postpartum.	24 weekly group sessions focused on the couple relationship and parenting expectations.	At 18-month postpartum higher relationship satisfaction, and reduced rate of couple separations. At 5.5 year follow-up intervention couples reported less decline in relationship satisfaction compared to control couple ($r = 0.3$).
Cowan, Cowan, Pruett, Pruett, and Wong (2009)	289 expectant couples	Relationship satisfaction, father involvement with parenting, couple conflict about parenting 18 months after RE.	16 weekly 2 h group sessions focused on parenting, couple communication, individual stress management, and social support, with a focus on promoting father's involvement with parenting, fathers only group covering similar content; or a single information session (control).	Both the couple and father only interventions increased relationship satisfaction and enhanced father involvement in parenting, the couple intervention produced stronger effects.
Doherty, Erickson, and LaRossa (2006)	132 expectant couples	Observed and reported father engagement 6 and 12 months postpartum.	8 sessions parenting and couple relationship information, group discussion and skill-training sessions.	Increased quality and quantity of father–infant positive interaction.
Doss et al. (2014)	90 expectant couples	Couple relationship satisfaction, coparenting alliance, childcare involvement.	6 h of couple relationship education, OR 6 h of coparenting education. Control: minimal information control.	Both interventions enhanced relationship satisfaction and coparenting relationship, no effect on division of childcare.
Feinberg and Kan (2008)	169 couples expectant couples	Self-reports of coparenting support parent–child interaction, parental depression and anxiety.	8 group sessions across antenatal and perinatal period, couple problem-solving, mutual support focused on coparenting. Control: no treatment.	Increased coparental support ($d = 0.35$ mother, $d = 0.54$ father) and more positive parent–child interaction ($d = 0.34$ mother, $d = 0.70$ father).

(continued)

Table 1 (continued)

Author/s (Year)	Participants	Outcome	Intervention	Key findings of effects of intervention
Feinberg et al. (2016)	399 expectant couples	Observed couple communication and coparenting, reports of relationship satisfaction and coparenting, parenting quality and child adjustment. To 10 months postpartum.	5 × 3 h antenatal sessions and 4 × 2 h postnatal group sessions on coparenting education. Control: minimal information by mail out.	Effects on observed couple communication, and coparenting, reduced reported childcare worries, no effects on reported coparenting, negative effect on relationship satisfaction. Evidence that effects were greater for high-risk couples.
Hawkins, Fawcett, Carroll, and Gilliland (2006); Hawkins, Lovejoy, Holmes, Blanchard, and Fawcett (2008)	155 expectant couples	Self-report of relationship adjustment, parenting adjustment and father involvement in childcare 9 months postpartum.	5 sessions of brief antenatal group relationship education with homework activities from workbook; second intervention same content delivered as self-directed education. Control: standard antenatal classes.	No significant effects on relationship satisfaction or parenting adjustment, increase in father involvement in child care.
Kermeen (1995)	139 expectant couples	Relationship satisfaction, couple sexual relationship.	2–3 extra sessions focused on psychological and emotional health of couple relationship. Control: antenatal classes as usual.	Improved sexual relationships prepartum and postpartum compared to comparison.
Matthey, Kavanagh, Howie, Barnett, and Charles (2004)	268 expectant couples	Parental support, parenting competence, to 6-month postpartum follow-up.	Extra antenatal information and discussion class on couple adjustment to parenthood. Control: usual 6-session antenatal classes.	Enhanced maternal sense of parenting competence and satisfaction with partner support (89%) at post-intervention but effects were lost by follow-up. No intervention effects for men.
Midmer, Wilson, and Cummings (1995)	70 expectant couples	Relationship satisfaction, parenting adjustment.	Two extra antenatal information, skill-training and group discussion classes focused on role changes, couple adjustment, parenting, and support. Control: usual 6-session antenatal classes.	Reduced decline in relationship satisfaction increased postpartum parental adjustment.
Halford, Petch, and Creedy (2010)	71 expectant couples	Relationship adjustment, parenting stress, couple communication to 1 year postpartum.	Six sessions of relationship and parenting skill-training, education. Control: six sessions of information and support phone calls to mother only.	Women but not men reported less decline in relationship satisfaction, more positive observed couple. No effects on parenting stress.

(continued)

Table 1 (continued)

Author/s (Year)	Participants	Outcome	Intervention	Key findings of effects of intervention
Petch et al. (2012a, 2012b)	250 expectant parents	Couple satisfaction, parenting stress, and sensitive parenting to 2 years postpartum	Six sessions of relationship and parenting skill-training, education. Control: six sessions of information and support phone calls to mother only.	Less decline in relationship satisfaction for high-risk but not low-risk couples. No effects on parenting stress or sensitive parenting.
Shapiro and Gottman (2005)	38 expectant couples	Relationship satisfaction, observed couple communication to 12 months postpartum.	2-day group of relationship education, group discussion and skill-training, parenting information.	At follow-up higher relationship satisfaction.
Trillingsgaard, Baucom, Heyman, and Elkit (2012)	290 expectant couples	Relationship satisfaction, couple communication to 18 months postpartum.	Four 3.5 h group sessions of PREP antenatally, and one 3.5 h booster 6 months postpartum. Two comparison conditions: Information control and usual care.	Decline in satisfaction across all conditions, no effects of PREP on communication or satisfaction.
Wood, McConnell, Moore, Clarkwest, & Hsueh (2010); Wood, Moore, Clarkwest, and Killewald (2014)	6212 unmarried couples expecting or recently had a child	Relationship satisfaction and separations to 3-year follow-up.	Variable across the eight sites in the study, all involved 20–42 h of group sessions focused on couple relationship. Control: no intervention.	No overall significant intervention effects, some evidence of small increase at one site for relationship satisfaction.

on coparenting (i.e., how the couple would share the parenting role together effectively; e.g., Feinberg, Roettger, Jones, Paul, & Kan, 2015), but most programs combined emphases on both the couple relationship and parenting (e.g., Petch et al., 2012a; Shapiro & Gottman, 2005). Almost all studies assessed couple relationship satisfaction, but only about half examined effects on parenting or children.

Twelve of the 16 studies reported positive effects of the interventions on couple relationships, although in one study the effect had dissipated by 6 months postpartum (Matthey et al., 2004). All of the 11 programs with sustained significant effects were of at least moderate dose (more than 10 h), included interventions that began in the antenatal period, and most continued into the postpartum period. Two of the programs with null effects (Coffman et al., 1994; Hawkins et al., 2006), and the Matthey et al.'s (2004) program with no effects at follow-up, were brief interventions (1–5 h). Meta-analyses of relationship education more generally show that moderate dosage (9–20 h) interventions have larger effects on relationship satisfaction than shorter interventions (Hawkins, Blanchard, Baldwin, & Fawcett, 2008). Another null effect program was Trillingsgaard et al.'s (2012) program, which focused only on the couple relationship. It has been suggested that expectant parents are more attracted to programs that focus on coparenting rather than just the couple relationship (Doss et al., 2014), perhaps attention to the parenting focus in programs is needed to engage expectant parents. The other program with null findings was Wood and colleagues (2014), which evaluated extensive duration programs with both a couple education and parenting focus, and had a very large sample size. That study had a specific focus on working with socially disadvantaged, low-income couples. There were substantial problems with lack of attendance at sessions,

despite great efforts being taken to make attendance easy (e.g., providing free transport and childcare to attend).

Overall, the pattern of findings suggests medium effect size benefits for couple relationships from these programs. The effects on positive coparenting have been assessed in only a few studies and positive results were reported (Doss et al., 2014; Feinberg et al., 2015; Feinberg & Kan, 2008). However, Feinberg et al's program emphasizes positive coparenting, so it is really only Doss et al's program showing a positive effect on coparenting from a more general couple relationship focus. Some studies suggest that couples who have certain risk indicators (e.g., unplanned pregnancy, history of psychological distress in either parent) might benefit more from such programs than other couples without those risk factors (Doss et al., 2014; Petch et al., 2012a). One noteworthy null finding was a very large multisite trial with $n = 5102$ low-income parents conducted in the USA (Wood et al., 2014). We consider this study later in the chapter.

On the balance of evidence we conclude that couple education for new parents that includes a focus on coparenting is effective. However, the relative merit of standard couple education versus an approach that focuses upon promoting effective coparenting is unclear. In addition, which couples might benefit more—and which couples might not benefit at all—remains to be clarified.

Other Couple Interventions for Parents in Intact Families

Numerous studies have found that couple relationship education for parents of young children improves positive parenting and child adjustment (Adler-Baeder et al., 2013; Cowan et al., 2011, 2009; Cowan, Cowan, Pruett, Pruett, & Gillette, 2014; Cummings, Faircloth, Mitchell, Cummings, & Schermerhorn, 2008; Zemp, Milek, Davies, & Bodenmann, 2016). Interestingly, one of the reported positive changes is enhanced father involvement in parenting (e.g., Adler-Baeder et al., 2013; Cowan et al., 2014). However, a very large trial with $n = 6298$ low-income parents in a multisite trial in the USA produced only small but significant effects on the couple relationship, but had little to no effect on coparenting or child adjustment (Lundquist et al., 2014). We return to consider this study in a little more detail later in the chapter.

Some of the effective couple programs for parents have content that focused just on the couple relationship, and was essentially the same as that offered to couples who are not parents. For example, Zemp, Merz, et al. (2017) evaluated the effects of the Couple Coping Enhancement Program, which focuses on the couple's interaction and particularly on dyadic coping with stresses the partners are facing (although in practice during the process of dyadic coping skills, parent couples often raise parenting challenges). Other programs add a specific focus on parenting related issues, such as how to reduce child exposure to negative parental conflict (e.g., Cummings et al., 2008), or encouraging father involvement with children and parenting (e.g., Cowan et al., 2014). The weight of evidence suggests couple programs can enhance parenting and couple adjustment, but it is unclear if a focus on parenting related couple processes enhances outcomes.

Two studies have focused on work with distressed couples. In a large randomized controlled trial of integrative behavioral couple therapy for severely distressed couples there were 68 couples with children (Gattis et al., 2008). Parents reported declines in conflict over parenting, and enhanced child adjustment, although the latter effects attenuated by 2-year follow-up. Cordova et al. (2014) evaluated the effects of a brief (3 session) intervention for moderately distressed couples that included assessment of the couple relationship, feedback, goal setting and found it enhanced the couple relationship across a 2-year period. In subsequent analyses it was shown that, among the couples with children, there was an improvement in positive parenting mediated by improvements in the couple relationship (Morrill, Hawrilenko, & Cordova, 2016). Few couple therapy studies evaluate the effects on children, but that is highly desirable in future research to establish if these promising findings are replicated.

Two Large-Scale Failures in Couple Relationship Education for Parents

As noted previously, the largest-scale trials evaluating the effects of couple relationship education showed overall null effects on parenting and child adjustment (Lundquist et al., 2014; Wood et al., 2014). These disappointing outcomes have generated considerable commentary. Some suggest that couple relationship education is inappropriate for socially disadvantaged couples based on these largely null findings (Johnson, 2012), or even more broadly that couple relationship education is ineffective and based on false premises about the influences on couple relationship satisfaction and stability (Johnson & Bradbury, 2014). However, in contrast to the small effects on the couple relationship reported by Lundquist and colleagues (2014) and the null effects of Wood and colleagues (2014), numerous recent randomized controlled trials have reported small to medium effect size enhancement of relationship satisfaction after couple relationship education for low-income and minority couples (Hawkins & Elliot, 2015).

Numerous factors might have contributed to the failure to detect benefits in these two large-scale trials. In the Wood et al's (2014) study, rates of engagement by couples with the programs were low, most couples received little or nothing of the intended program. Taking the programs to scale effectively requires attention to integrity of program delivery, no measures of integrity were taken, so we cannot know if the many leaders of the program delivered what was intended. In both studies, there was concern about managing participant assessment burden among low-income participants who often had modest formal education. Hence many of the measures administered were very brief. For example, the key outcome of couple relationship satisfaction was assessed in both studies using a single item global rating scale, and the assessment was done only at post-program. It was assumed that random assignment of participants ensured couples in the program and control conditions were similar, and hence comparing post-program scores would suffice to evaluate program effects. The sensitivity of a single item administered on just one occasion to detect differential change resulting from Relationship education (RE) is questionable, as item analysis of a range of relationship satisfaction measures highlight (Funk & Rogge, 2007). Moreover, in the Lundquist et al's (2014) study mean post-RE satisfaction in the control condition was 8.3 out of a possible 10, and in the Wood et al.'s study was 5.7 out of a possible 7. Even multi-item scales show low measurement precision at the upper ends of the satisfaction continuum (Funk & Rogge, 2007), which makes it likely that there was low power to detect program effects on satisfaction as the post-program control condition satisfaction was high.

Coparenting Interventions for Separated Parents

While separated parents are no longer a couple in a romantic relationship, they usually do need to have contact with each other, and collaborate to provide effective coparenting to their children. There are a number of programs for separated parents with a focus on enhancing the coparenting relationship, which typically also try to enhance positive parenting and child adjustment (Frackrell, Hawkins, & Kay, 2011). These programs differ markedly in duration (ranging from a single 1-h group session to more than 20 h), and mode of access (face-to-face is most common but online is being more widely used). Most programs are psychoeducational and focus on didactic presentation and discussion, but a few include active skills training in conflict management, coparenting, and parenting (Frackrell et al., 2011).

In the USA, Family courts usually provide such programs, while in the UK and Australia programs are most often provided by community-based agencies (Kaspiew et al., 2009; Pruett & Cornett, 2017). Participation in these programs is sometimes mandated by courts when the court has concerns that child well-being is compromised by coparenting conflict, and in some jurisdictions is a mandatory requirement for parents filing for divorce (Whitehurst, O'Keefe, & Wilson, 2008). While effectiveness evaluations

almost universally report that separated parents find the programs helpful (Brandes, 2001; Criddle Jr, Allgood, & Piercy, 2003), there is very limited rigorous evaluation of programs as to whether they reduce coparenting conflict or enhance parenting or child outcomes. Frackrell et al. (2011) conducted a meta-analysis of 26 divorced parent education programs all conducted in the USA or Canada, only four of which were randomized controlled trials. Overall, they found programs produced a small reduction in coparenting conflict, $d = 0.36$, a medium enhancement of child-parent relationships, $d = 0.49$, and a small effect on child well-being $d = 0.34$. Some recent studies have employed more rigorous evaluation designs, and suggest there can be positive outcomes from relatively brief interventions that have an appropriate focus on coparenting (Braver, Sandler, Hita, & Wheeler, 2016; Keating, Sharry, Murphy, Rooney, & Carr, 2016). Importantly, Braver and colleagues showed that didactic education and exhortation to reduce coparenting conflict was ineffective, while helping parents to develop specific strategies to manage coparenting conflict was effective. In summary, there are some evidenced-based programs available to assist separated parents with enhancing their coparenting relationship. However, the programs that are widely available within the court system have little evidence for their efficacy. Social policy initiatives are needed to encourage agencies funded to provide coparenting programs to use evidence-based programs. Examples of such policies are providing training to staff in evidence-based programs, making funding contingent on using evidence-based programs, and requiring agencies to evaluate the effects of services they do offer.

Some Key Issues in Use of Couple Interventions to Enhance Child Outcomes

In the earlier sections of the chapter we argued that parents' couple relationship, and more specifically high rates of destructive conflict in that relationship, are closely associated with less positive parenting and adjustment problems in children. Moreover, we argued that the couple interaction, parent–child interaction and child adjustment all reciprocally influence each other. These reciprocal influences suggest that enhancing any of these mutually influencing factors might induce positive change in other factors. Consistent with this proposition, both behavioral parenting programs (Zemp, Milek, Cummings, Cina, & Bodenmann, 2016; Zemp, Milek, Davies, & Bodenmann, 2016), and parenting discussion and education groups (Cowan, Cowan, Ablow, Johnson, & Measelle, 2005), that enhance child adjustment also improve couple relationship satisfaction. So, if parenting interventions enhance the parents' couple relationship, are couple interventions necessary when seeking to enhance parenting or improve child outcomes? The boxed text offers some clinical guidelines that can be helpful in negotiating the focus of therapy (Zemp & Bodenmann, 2018) (Box 1).

Two studies have directly compared parenting-focused and couple-focused interventions for their effects across the couple relationship, parenting, and child adjustment. Bodenmann et al. (2008) compared the Positive Parenting Program (Triple P) with Couple Coping Enhancement

Box 1 Negotiating Whether to Focus on Couple or Parenting Interventions

A common clinical presentation is when both child adjustment and the parents' couple relationship are of concern. There needs to be negotiation of the focus of therapy: parenting and the child, or the couple relationship, or both. There is an absence of clear empirical evidence to guide us on when to focus on parenting versus the couple. The following heuristics can be used in negotiating the focus of therapy.

1. If the presenting problem is child adjustment, also assess the parent's couple relationship and normalize that assessment. For example, the clinician might say something like: "It can be really

(continued)

Box 1 (continued)

stressful if you are concerned about your child's adjustment and behavior. What effect has it had on you? On your relationship with your partner?"

2. If the presenting problem is the couple relationship and the couple has children, also assess child adjustment and normalize that assessment. For example, the clinician might say something like: "It can be really stressful if you and your partner are not getting on. What effect has it had on you and your parenting? How does your child respond when you and your partner are not getting along?"
3. When appropriate, provide psychoeducation about the reciprocal influence between the couple relationship of the parents, parenting and child adjustment.
4. If both couple and parenting problems are evident, explore the association between the problems. Is it possible to identify which problem came on first? What do the parents(s) believe about the association between the couple and parenting problems? If the adults believe the child problems came later than the couple problems, and that the couple interactions are causing child problems, then a couple-focused intervention might be more acceptable to the clients. Conversely, if the child problems came first, and the parents(s) view the child adjustment problems as causing their couple problems, then a parenting and child focus will likely be more acceptable to the clients.
5. Whatever the focus of therapy, reassess parenting, child adjustment, and the couple relationship during the course of therapy and use the assessment to guide further discussion of the most helpful focus for therapy.

Training (CCET). Both Triple P and CCET enhanced the couple relationship, parenting and child adjustment. Perhaps not surprisingly, the Triple P parenting-focused intervention produced somewhat larger changes in parenting and child adjustment than CCET, while the couple relationship-focused CCET produced a larger change in couple relationship functioning than Triple P. In other words, the programs had the most effect on the targets of intervention (parenting or the couple relationship, respectively), but also had some smaller effects on other outcomes. Cowan et al. (2011) also compared a couple-focused and parenting-focused intervention. They found sustained effects 10 years after intervention only for the couple-focused intervention. Further research is needed to test whether it is replicable that couple relationship-focused intervention reliably produces more long-term improvements than parenting-focused interventions.

Dadds et al. (1987) did a very early study showing that adding a brief couple intervention enhanced the maintenance of effects of behavioral parenting training on child adjustment, but only for families in which the parents reported couple relationship distress. To the best of our knowledge this study has not been replicated, but it does point to the possibility that attention to the parental couple relationship might be of particular importance when the relationship is distressed or conflictual. A useful direction for future research is identifying which parent couples seem to benefit most from intervention focused on the couple relationship.

Conclusions

In summary, there is clear evidence that a positive couple relationship between the parents is associated with more positive parenting practices, more effective coparenting, and better child adjustment. In contrast, a highly conflictual relationship between parents, whether they remain together or separate, is associated with more negative parenting, less effective coparenting, and poor child adjustment. Most studies of

couple-based interventions for intact families (both therapy and education), produce meaningful and sustained enhancement of the couple relationship and through that change there are positive benefits for parenting and child adjustment. However, there have been some large-scale trials that have produced null results (e.g., Lundquist et al., 2014; Wood et al., 2014) and it is possible that some parents (e.g., those with severe social disadvantage) do not benefit as much as other couples. Further research is needed on the moderators of the effects of couple interventions.

Some studies show that parent training interventions that enhance both parenting and child adjustment can also improve the couple relationship of the parents. Conversely, studies also show couple interventions that enhance the couple relationship also enhance positive parenting and child adjustment. However, it is not yet clear which families might benefit most from more parenting-focused intervention versus a couple intervention, or if there are families that might need both parenting and couple interventions. It seems likely that couples who have ineffective coparenting and/or distressed relationships might particularly benefit from a focus on enhancing the couple relationship.

Coparenting interventions for separated parents show promise in reducing coparenting conflict, but more research is needed to establish what content is most helpful. Moreover, there needs to be social policy and clinical changes to make greater use of evidence-based programs.

In summary, to assist child adjustment it is important to attend to the couple relationship of the parents. Clinicians need to be attentive in their assessments and clinical formulations to the potential interactions between the couple relationship, coparenting, and child adjustment. It seems likely that couple-based interventions will be, at least for some families, important in producing sustained improvements in child adjustment.

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The Role of Fathers in Supporting Children's Development

Louise J. Keown, Nike Franke, and Ripi Kaur

Introduction

Thousands of professional articles have explored the ways in which fathers affect their children's development. The goal of this chapter is to provide a summary of contemporary understanding of father–child relationships and the impact they may have in key domains of child development. The chapter begins with a brief history of the scientific study of fatherhood and father–child relationships. Current conceptualizations of father involvement and theoretical frameworks for understanding direct and indirect paternal influences on child outcomes are subsequently presented and discussed. Next, evidence for processes linking fathers and fathering to key areas of children's development is reviewed. These include children's social, emotional, language, and cognitive development, and atypical behavioral development.

In the interests of space, there is an emphasis on key citations and research reviews (e.g., Cabrera & Tamis-LeMonda, 2013; Lamb, 2010; Lamb & Lewis, 2010, 2013), which interested readers can refer to for more detail. The chapter concludes with an overall summary of strengths and limitations of the evidence base, directions for future research, and implications for policy and practice.

Brief History

The beginning of the scientific study of fatherhood and father–child relationships can be traced to the early twentieth century and the emergence of psychoanalytic theory, which saw fathers as providing a motivational system for boys to seek identification with their fathers. The prominence of this idea can be seen between 1920 and 1940 in the research focus on identification (Lamb, 2000). In the years immediately following World War II, two significant issues emerged in psychology that had major repercussions for fatherhood research. As Lamb (2000) explains, the first matter was connected to the literature on maternal deprivation based on children raised in orphanages or hospital settings, and which shaped emergent attachment theory (Bowlby, 1951). The second topic arose from an analogous body of literature concerned with father absence, which suggested that children were permanently harmed when they grew up in families without fathers, either because fathers had been killed or had long periods of absence (e.g., Sears, 1951). While subsequent critiques demonstrated that the maternal deprivation and father absence literatures had oversimplified the relationship between

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harrowing experiences and purported outcomes, and ignored other risk factors, the thinking continued to impact the nature of fatherhood research (for a review see Lamb, 2000). In particular, attachment theory led to a specific focus on mothers and underestimated the potential contribution by others, such as fathers. The father absence literature with its specific focus on whether fathers were absent or present led to a line of research that explored variations in father presence and a narrow, quantitative focus on the amount of time that fathers spent with their children. The use of quantitative measures of father involvement was fueled by the popularity of time use studies during the 1970s. However, this body of research was limited in several ways. It did not recognize variation in the quality of father–child interaction and other ways that fathers could contribute to children's development, such as financial support to the family and support to the mother (Lamb, 2000). From the mid-1980s broader, more inclusive models of fatherhood emerged that shaped subsequent research (Lamb, Pleck, Charnov, & Levine, 1985). The development of these models came at a time when researchers became aware of the need to study fathers to address fast-growing changes in family life (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000). Key trends included women's increased labor force participation and changes in parental work schedules (e.g., flexible work hours, part-time employment, home-based work) which were associated with increases in paternal responsibility for childcare in many families (Cabrera et al., 2000). Another trend was the absence of fathers from many families, due to the rise in divorce and births outside marriage. This led to concern about the impact of father absence on children's development and well-being, although subsequent reviews identified that many supposedly absent fathers were in fact involved with their children (Fagan, Day, Lamb, & Cabrera, 2014).

Theoretical Models

The first major effort to conceptualize father involvement was made by Lamb et al. (1985). This influential and widely used model comprised three components: (a) engagement (direct interaction with the child, in the form of caretaking or play or learning activities); (b) accessibility (the time the father is available to the child but not interacting directly); and (c) responsibility (planning and arranging child-related activities and taking care of the child's needs). This conceptualization of paternal involvement was developed to address a gap in the research about how large a part fathers play in the care and socialization of their children (Pleck, 2010). The engagement component has received the most attention in the fatherhood literature and in many early studies it was measured using time diaries and fathers' total engagement with all children in the family, rather than individual children, was often reported (for a review see Pleck, 2010). Although later studies did look at fathers' total amount of interaction time with individual children, there was little evidence that interaction time was significantly linked with child developmental outcomes (Cabrera et al., 2000; Pleck, 2010).

For pragmatic reasons, due to the cost and burden of time diary methods, measures of father engagement were developed asking fathers about specific activities with their children and their frequency (Pleck, 2010). Examples of such activities included playing with their children, reading, engaging in leisure activities, and helping with homework (Marsiglio, 1991). Activity measures like these were often positively correlated with developmental outcomes because they focused on the types of interactive activities that theoretically promote child development (Pleck & Masciadrelli, 2004). Measures of positive engagement activities, that is, the frequency of specific kinds of interactive activities likely to promote development (e.g., play and reading), were often combined with items concerning qualitative dimensions, such as warmth and sensitivity. Pleck (2010) later noted that because much of the recent research operationalized involvement as including warmth/responsiveness and control, in practice the involvement construct now included these dimensions. Thus, Pleck (2010) proposed a revised conceptualization of paternal involvement, which comprised three primary components: (a) positive engagement activities (in the form of direct interactions with

the child of a more intensive kind likely to promote development, such as playing games, reading); (b) warmth and responsiveness; and (c) control (in the form of monitoring and decision making). Two secondary domains were also proposed: (d) indirect care in the form of social (fostering community connections with peers and institutions) and material care (doing activities for the child that may not necessarily be with the child, such as selecting childcare, arranging goods and services); and (e) process responsibility (fathers' monitoring that the child's needs for the first four components of father involvement are met, distinct from the extent to which fathers meet those needs).

The Lamb et al. (1985) three-component construct of father involvement had not been positioned within any particular theoretical context. In contrast, Pleck (2010) saw the first three components of his revised model as involving the kind of reciprocal, increasingly complex interaction captured in Bronfenbrenner's (1986) concept of proximal processes, hence fostering the child's development. Pleck's revised model also drew on Coleman's (1988) social capital theory, which identified two forms of family-based capital provided by parents that optimize development, financial capital, and social capital (family and community). Pleck relabeled these terms as parental financial capital, parental socialization social capital, and parental community social capital. The first expression captures the material goods (food, shelter) and services (education) provided to children. Parental socialization social capital makes it clear that this concept refers specifically to parent socialization behaviors, while parental community social capital refers to linkages parents provide to the larger world (e.g., serving as advocates for them at school), and sharing their own social networks with their children (Pleck, 2010). Pleck does not propose that his revised model should be applied to mothers as well as fathers. He comments that research is moving in the direction of applying the construct of paternal involvement to mothers as well as fathers, but notes that using the same measures of involvement for both mothers and fathers requires careful attention to issues of similarity of factor structure and measurement equivalence (Adamsons & Buehler, 2007).

However, Cabrera, Fitzgerald, Bradley, and Roggman (2007, 2014) argued that collectively the earlier body of work on father involvement models (Lamb et al., 1985; Palkovitz, 2002; Paquette, 2004; Pleck, 2010) did not provide a comprehensive theoretical framework to guide future research on fathers' influence on children's development. In particular, they contend that most models are not sufficiently developmental, not recognizing that some effects are more likely at specific points in development, that effects can be cumulative, and that fathers' roles change over time. Furthermore, little attention has been paid to indirect as well as direct effects on development. In response, Cabrera et al. (2007) proposed a heuristic model of the dynamic of parental behavior and influence on children over time to guide studies of the influence of fathers on children's development. The model draws on key ideas from Bronfenbrenner's (1986) ecological theory and Belsky's (1984) process model of parenting to describe potential pathways by which fathers may directly and indirectly influence children's development from infancy to adolescence. The heuristic model was expanded in 2014 (see Fig. 1) to incorporate dynamic systems concepts as well as transactional and dialectic processes. In other words, the model portrays parent–child relationships as embedded in complex dynamic systems that change over time (Cabrera, 2016). As Cabrera et al. (2014) explain, the model also accords with eco-cultural theories that focus on the intersecting, multiple systems in which children are located. Furthermore, the model goes beyond Belsky's (1984) model by indicating "how fathering mediates influences from the exosystem (e.g., neighborhood risk), how fathering moderates influences within the microsystem (e.g., maternal depression), how coparenting influences fathering, and how cultural values and current macro-level conditions … influence fathering" (p. 343). Based on the model, fathers' behaviors are directly and indirectly associated with children's behavior through other family relationships and other contextual influences (Cabrera, 2016). While the expanded model was

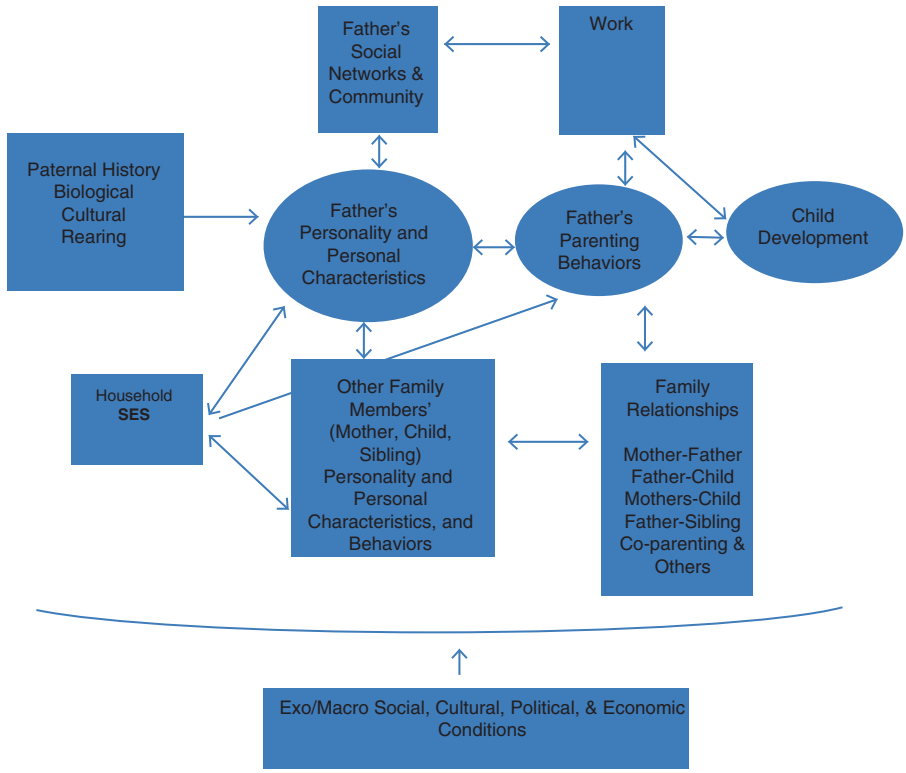


Fig. 1 The ecology of father-child relationships: an expanded model. From Cabrera, N. J., Fitzgerald, H. E., Bradley, R. H., & Roggman, L. (2014). The ecology of father-child relationships: An expanded model. Journal of Family Theory and Review, 6(4), Figure 2: Expanded model. Copyright © 2014 by John Wiley & Sons, Inc. Reprinted by permission of John Wiley & Sons, Inc.

designed to apply to fathers, it might also apply to mothers or other caregivers.

The review that follows illustrates where there is empirical support for aspects of the models by Pleck (2010) and Cabrera et al. (2014). The review also includes research based on specific theoretical models, such as attachment, that were originally designed to assess mother–child relationships and have been applied to father–child relationships. The evidence for the processes linking fathers and fathers' parenting will be discussed in relation to children's social, emotional, language, and cognitive development, and atypical behavioral development. The review is organized thematically and covers key findings from landmark studies as well as new and emerging areas of father research. There is a focus on studies that have data from fathers and mothers in two-parent, coresident families. The review also includes indirect influences, such as paternal mental health, the influence of culture, coparenting, and bidirectional influences between parenting (fathers and mothers) and child behaviors.

In studying the consequences of father involvement for children's development, reviewers (Amato & Rivera, 1999; Marsiglio, Amato, Day, & Lamb, 2000; Pleck & Masciadrelli, 2004; Pleck, 2010, 2012) have emphasized the importance of three design standards. These are: (1) using different source data on father involvement components and child outcomes; (2) longitudinal analysis, and (3) controlling for maternal involvement. This last point is important because maternal and paternal behaviors are highly correlated in many studies. If the quality of maternal involvement or the mother–child relationship is not controlled, the impact of the father–child relationship on child outcomes may be overesti-

mated. There is an accumulating body of research which incorporates these three design features that demonstrates the independent effect of father involvement on child outcomes (Pleck, 2010). Where available, studies that include all three design criteria are reviewed in this chapter.

Evidence for Processes Linking Fathers and Fathering to Areas of Child Development

Attachment

The establishment of attachment relationships between parents and children is said to comprise one of the most significant aspects of human social and emotional development (Lamb & Lewis, 2010). Bowlby's (1969) attachment theory has driven research on this topic over the last five decades. Research into the father's role as an attachment figure began in the 1970s, and early studies showed conclusively that most infants form attachments to both of their parents during the first 2 years of life (Lamb & Lewis, 2013). Although many mothers may spend more time with their babies compared to fathers, it is the quality of interaction that counts in establishing an attachment rather than the quantity of time spent together (Lamb & Lewis, 2013). For both fathers and mothers, parental sensitivity is an important determinant of the security of attachment (Lucassen et al., 2011). In fathers, as with mothers, there is a transmission gap (van Ijzendoorn, 1995) – the gap between what can and what cannot be explained by examining the determinants of attachment security in parent-infant dyads (Belsky, 2002). However, a recent meta-analysis that reexamined the intergenerational transmission of attachment security noted that factors, such as family functioning, parental relationship quality, and genetic indicators, need to be considered alongside sensitivity when examining the processes behind attachment transmission (Verhage et al., 2016).

Although much less research has been conducted with fathers, there is some evidence that infant-mother attachments have a greater and more consistent impact on children's adjustment than father–infant attachments (Lamb & Lewis, 2013). These different findings may be partly due to measurement issues. There has been criticism that the construct of sensitivity as assessed in infancy has limited value for understanding the father–child attachment processes (Palm, 2014). Concerns have also been raised about whether the Strange Situation procedure, which is used to assess the security of attachment in infancy, is able to capture the unique nature of father–child interactions, since the measure was devised around behavioral constructs (e.g., sensitivity) based on observations of mothers (Grossmann et al., 2002; Palm, 2014). In response to these concerns, new constructs (such as activation theory; Paquette, 2004) and new instruments (e.g., the Sensitive and Challenging Interactive Play [SCIP] scale; Grossmann et al., 2002) have been created to specifically assess father–child interactions, subsequent relationship patterns and their effects on children. For instance, Grossmann et al. (2002) created the SCIP scale to measure the quality of father–child attachment in toddlerhood during a free-play situation. The assumption behind the development of this measure was that a major role of fathers as an attachment figure, "might be to provide security through sensitive and challenging support as a companion when the child's exploratory system is aroused" (Grossmann et al., 2002, p. 311), thus complementing the mothers' secure base role as an attachment figure. Grossmann et al. (2002) conducted a 16-year longitudinal study examining 49 intact families in Germany, which assessed the infant-parent quality of attachment for both parents, and mothers' and fathers' play sensitivity during toddlerhood. The authors found that fathers' play sensitivity at age 2 and infant-mother attachment security predicted children's internal working model of attachment at age 10 but not vice versa. Adolescents' attachment representations at age 16 were predicted by fathers' play sensitivity only (Grossmann et al., 2002). The results support the idea that fathers' play sensitivity is a better predictor of the child's long-term attachment representation than early infant–father security of attachment. However, in a

review of fathers in attachment theory and research, Bretherton (2010) points out that Grossman et al. subsequently acknowledged that their study was begun at a time when parental roles were distinct, with father as the breadwinner and mother as the homemaker. They have since emphasized that both parents can foster security and attachment, and so provide psychological security for the child. Subsequently, Bretherton (2010) proposed that attachment research should not only examine how each parent separately fosters secure attachment and secure exploration, but also "the degree to which fathers and mothers do and do not value and support each other's parental contributions, whether similar or different" (p. 21). This issue, the quality of the coparent relationship, has a growing body of research supporting its importance to father–child attachment (for a review see Palm, 2014). The topic of coparenting will be elaborated on later in the chapter.

Social Development

Researchers have also examined the influence of father–child attachment on child social competence. During middle childhood, having a secure attachment to both parents seems to be especially important for relationships with peers (Lamb & Lewis, 2013). Findings include higher levels of self-reported social competence in 10-year olds (Booth-LaForce et al., 2006), various aspects of positive friendship qualities (i.e., companionship, closeness, help, security, and conflict) in 9- to 14-year-olds (Lieberman, Doyle, & Markiewicz, 1999), less withdrawn behavior in 4- to 6-year-olds (Verschueren & Marcoen, 1999), and greater same-sex peer acceptance at ages 8 and 11 years (Verschueren & Marcoen, 2005).

Another body of research that has examined how the quality of the father–child relationship impacts children's peer relationships, has focused on associations between the quality of the father–child interaction, especially in play, and children's social outcomes. This work is based on the cognitive social learning tradition which assumes that face-to-face interactions between children and fathers may offer children opportunities to learn social skills that are necessary for successful social relationships with peers (Leidy, Schofield, & Parke, 2013).

An early example is a study with 3- and 4-year-old children by MacDonald and Parke (1984) who found that fathers who were low in directiveness (i.e., low in giving commands) and frequently engaged their children in physical play, had children with higher levels of social competence (as measured by teacher ratings and peer ratings of social acceptance). Other researchers have since emphasized the importance of the quality of the father–child relationship as a moderator of the links between fathers' physical play and children's later relationships with peers (Flanders et al., 2010; Flanders, Leo, Paquette, Pihl, & Séguin, 2009). These studies found that rough-and-tumble play was associated with more aggression only when fathers were less dominant and were unable to maintain an authoritative stance in the play interactions. The physical play context is important for positive social outcomes only when fathers are able to set boundaries about what are acceptable levels of rough behavior and when the child has exceeded their partner's comfort zone. Thus, it is not any kind of physical play that is linked to children's peer relations, rather it is modulated and regulated physical play (Leidy et al., 2013).

Building on work that identified links between attributes of parent–child play and children's social status and behavior (e.g., MacDonald & Parke, 1984), some research has identified key elements of play that underlie these connections. For example, Lindsey, Mize, and Pettit (1997) found that father–child mutual compliance (defined as the balance in play initiations between father and child) was associated with children's social competence and peer acceptance even after controlling for each individual's contribution to the interaction. The same pattern of associations was not found for mothers. The researchers suggest that balanced father–child play may contribute to children's sense of efficacy in play contexts, thus enabling them to be more comfortable and sociable in the peer context.

Several child mediators have been postulated to link father–child interaction to child social competence. These include affect management

and emotion regulation abilities, cognitive representational models and attention regulation, each of which is assumed to be attained through parent–child interactions, which in turn guide children's behavior with peers (Leidy et al., 2013). One set of affect management skills that children are thought to learn through playful interactions with parents, particularly fathers, is being able to read a partner's emotional signals and send clear emotional cues which are key to successfully maintaining play activities (Leidy et al., 2013). These skills allow play partners to regulate their emotions in exciting and stimulating social interactions so that play continues at an optimal level of arousal for both (Flanders et al., 2010).

With regard to the mediating role of cognitive representations, several theorists suggest that individuals have internal mental representations that guide their social behavior. Social and social-cognitive theorists suggest scripts or cognitive maps as guides for social action (Leidy et al., 2013). Social interaction research has demonstrated connections between parent and child representations of social relationships and associations with social competence. For example, Rah and Parke (2008) examined links between parents' interaction styles, their children's social information processing, and peer acceptance. Fourth-grade children (n = 149) and their parents were observed during family discussions and ratings were made of parents' interactive style. One year later children's peer acceptance and information processing choices were assessed. Both boys and girls who had more positive interactions with their fathers subsequently endorsed few negative goals and strategies for solving interpersonal problems, which in turn, were related to peer acceptance. A similar pattern was obtained between mothers' interactive styles, social information processing and peer acceptance, but only for girls. Results of this study suggest that fathers play a particularly important role in the connections between child social information processing and peer relationships.

The role of attention regulation as a mediator between father–child interaction and child social competence was examined in a national longitudinal study in the USA, the NICHD Early Child Care Research Network (2009). Parent–child relationship quality assessed at 54 months and in grade 1, predicted peer social skills at first and third grades. Attentional processes, including the ability to sustain attention and ratings of attention problems, mediated the links between parenting and higher social skills ratings. Maternal and paternal interactions accounted for unique variance, suggesting that both fathers and mothers play an important role in the development of attentional regulatory capacities and social skills.

The research on parent–child interactions discussed so far can be viewed as examples of indirect pathways between parenting and child social competence, in that the parenting goal is often not specifically to influence children's relationships with peers (Leidy et al., 2013). In contrast, parents can have a more direct influence in their role as advisors, educators, and instructors about peer relationships. An example of the direct influence of fathers as social advisors is provided by McDowell and Parke (2009). The study involved 159 fourth-grade children, which examined concurrent relationships between parent and peer behaviors, and children's peer acceptance 1 year later. Assessment of parent behaviors included the quality of parent–child interactions, the nature of advice given for solving peer relationship problems, and the opportunities parents provided their children for peer interactions. All three forms of parenting, by both fathers and mothers, predicted children's social competence and, in turn, social acceptance 1 year later. The three pathways of influence together provided a better prediction of social competence than any of the socialization strategies by themselves (Leidy et al., 2013).

Emotion-Related Parenting Practices and Children's Emotional Development

Research on emotion related parenting practices and children's emotional development has largely focused on mothers. It is generally assumed that the impact of maternal and paternal parenting on

the child's development is similar within one family (Shewark & Blandon, 2015). However, looking specifically at fathers' responses to children's negative emotions (e.g., sadness, anger, fear), there is some evidence that fathers tend to be less supportive compared to mothers (Nelson, O'Brien, Blankson, Calkins, & Keane, 2009). For instance, in a US study of 101 intact families with a 7-year-old child, fathers reported significantly fewer supportive responses (defined as problem-focused, emotion-focused, and emotion expression encouragement response) to their child's negative emotions than mothers (Nelson et al., 2009).

Furthermore, findings from several studies suggest that fathers may play a unique role in their children's emotion socialization in middle childhood. For instance, in a study with 55 5- to 6-year-olds (McElwain, Halberstadt, & Volling, 2007), fathers' self-reported supportive reactions to children's negative emotions were linked to young children's emotion understanding, even when mothers' emotion socialization was taken into account. Zeman, Perry-Parish, and Cassano (2010) provide another example, in a study of 113 6- to 11-year olds, where one parent–child dyad per family participated in a task involving discussion of anger- or sadness-evoking events. Fathers were less likely than mothers to respond to their child with an emotion coaching style. The study results suggested that fathers play a unique role in sadness socialization, reflected in a tendency to control the conversation, especially with their daughters and with younger children, and to use more negative emotion words when discussing sadness events. Zeman et al. state the findings are consistent with other research indicating that mothers are more likely than fathers to provide children with socialization experiences that encourage adaptive regulation of sadness. Adding to the work on each parent's unique influence, Poon, Zeman, Miller-Slough, Sanders, and Crespo (2017) examined how each parent in a two-parent family may influence their child's emotional development interactively. Maternal and paternal responsiveness, in a parent–child sadness discussion task, were explored in relation to children's psychological and social functioning in a sample of 82 families of 8- to 11-year-old children. Findings indicated that the combined effects of maternal and paternal emotion socialization were not simply additive, but appear to operate in different ways. For boys, higher social functioning was associated with having one highly responsive parent and one parent who was low in responsiveness (i.e., disengaged; Poon et al., 2017). The authors suggest that the results support a *divergence model* where the most optimal outcomes for boys are fostered by a mixture of responsiveness. No significant interactive parental effects were found for girls, rather the individual effect of one responsive parent was associated with better psychosocial functioning for girls.

In keeping with recommendations to study fathers as part of a complex family system (Cabrera et al., 2014), recent research has examined the mediational role of parental emotional socialization in the relationship between fathers' and mothers' psychopathology symptoms and child social-emotional development (van der Pol et al., 2016). The study assessed parental talk about negative emotions with their 3-year-old child, during a picture book discussion task, in a community sample of 241 two-parent families. Self-reported parental psychopathology symptoms were measured at age 3 and parent-reported data on child behavior problems were collected at age 3 and 4. Findings revealed that at age 3, fathers' internalizing problems predicted more elaborative mother–child discussions about negative emotions, which in turn predicted more internalizing problems in children a year later. The authors suggest that results can be interpreted from the "perspective of emotional contagion, where mothers' focus on negative emotions can carry the risk of arousing children's cogitation on stressful experiences and the accompanying feelings" (p. 3367). The study provides some insight into the role of emotion talk in the intergenerational transmission of psychopathology.

Language

Most of the research on parents' influences on children's language development has been based on observations of mother–child interactions, leaving a paucity of information about fathers'

role in early language development. Tamis-LeMonda, Baumwell, and Cabrera (2013) provide three theoretical and practical reasons for broadening the scope of language development research to include fathers. First, a growth in active involvement by many fathers in the daily lives of their young children and the language experiences they likely provide, which build on or complement mother–child interactions. Second, the need to understand father's role in language development in low-income households. Children from low-income backgrounds tend to do less well on language and cognitive measures in early and middle childhood compared to children from middle-income backgrounds. These disparities may be due in part to differences in early language experiences and the number of words children hear (Hart & Risley, 1995). However, as Tamis-LeMonda et al. (2013) point out, there is considerable variability in the language environments and language skills of children from low-income backgrounds. A better understanding of fathers' contributions to these variations in language development is needed to inform programs and policies that seek to optimize positive parent–child interactions that support children's learning. Third, to gain a deeper theoretical understanding of children's language development in social context means recording the full range of language inputs (from fathers, mothers and other adults) in relation to the full range of language skills that children develop.

In reviewing current knowledge about fathers' role in language development during the first few years of life, Tamis-LeMonda et al. (2013) posed several research questions. The first question examined the pathways through which fathers may influence their children's language development. Research by Tamis-LeMonda, Shannon, Cabrera, and Lamb (2004) indicates one indirect pathway whereby educated, employed, and married fathers can affect children's development by enhancing mother–child relationships. Mother–child and father–child play interactions were videotaped in 290 low-income families participating in the Early Head Start National Evaluation study, when the children were 2 and 3 years old, and assessed the extent of supportive parenting. Fathers' income and education predicted mothers' supportive parenting during play interactions, after covarying fathers' supportive engagement with their child. In turn, mothers' supportive parenting predicted children's language and cognitive scores. Other research suggests that fathers might also influence their children's language development through the provision of resources to the family. For example, fathers with more education are likely to provide greater access to learning and material resources, such as books, compared to less educated fathers. Availability of books in the early years is associated with shared book reading with young children and the growth in receptive and productive vocabularies (Tamis-LeMonda et al., 2013).

A second question examined by Tamis-LeMonda et al. (2013) is whether fathers and mothers scaffold children's language development and learning in similar and/or unique ways. Findings have been mixed. Research reviewed by Tamis-LeMonda et al. (2013) noted some differences between mothers and fathers in the quality of their language interactions with their children, with fathers' speech being characterized as being more demanding and challenging. For example, in a US observational study of parent–toddler interactions in low-income families, fathers used more *wh questions* and clarification requests (i.e., asking the child to repeat or revise what they said) than did mothers (Rowe, Coker, & Pan, 2004). These types of questions anticipate a response, thus may be more cognitively and linguistically demanding for the child. These findings are consistent with earlier studies in middle class samples which support the hypothesis that fathers may serve as a bridge to the outside world. In this role, fathers' speech is said to be similar to people outside the family who are not attuned to the child, thus providing the child with experience in adjusting their speech to share meaning in conversations with others (Tamis-LeMonda et al., 2013). However, Tamis-LeMonda et al. (2013) point out that the bridge hypothesis was proposed in the 1970s when mothers' and fathers' roles were more limited. Recent research suggests more similarities than differences in mothers' and fathers' speech, indicating that the role of fathers in children's language development is changing.

Another question posed by Tamis-LeMonda et al. (2013) assessed which aspects of fathers' parenting related to which aspects of child language, with a focus on sensitivity towards children, language diversity, and engagement in learning activities such as book reading. In each of these areas, specific features of fathers' parenting have uniquely predicted measures of children's language and cognition. For example, in the study by Tamis-LeMonda et al. (2004), fathers' supportiveness (a composite of sensitivity, positive regard and cognitive stimulation) during play predicted Mental Development Index (MDI) and Peabody Picture Vocabulary Test (PPVT) scores in 24-month and 36-month-old children, even after controlling for mothers' supportiveness. Fathers' contributions to children's language development have also been documented in studies with older children. Research conducted in the US by Baker, Vernon-Feagans and Family Life Project Investigators (2015) with families living in poverty, found that the mean length of fathers' utterances to their 60-month-old children during reading of a wordless picture book task predicted children's receptive vocabulary and math word problem-solving skills in kindergarten, even after controlling for mothers' language input. The researchers suggest that more complex speech from parents may support children's vocabulary development, which in turn supports children's ability to reason and respond to math word problems, highlighting the role of both parents as intellectual resources for their children. Across these studies of fathers' influence on child language and cognition, findings indicate that children benefit from fathers who are sensitive to their cues, who engage frequently in activities such as book reading and who use a diverse range of language.

Cognitive Development

As illustrated by several studies in the previous section, fathers' supportive parenting and quality of language input during early childhood are important for children's cognitive outcomes as well as language development (Baker et al., 2015; Tamis-LeMonda et al., 2004). However, this small body of research is based on low-income samples and may not be applicable to other families, such as fathers of infants and those from lower-risk middle and higher socioeconomic backgrounds. A recent study addressed these limitations by examining father–infant interactions at 3 and 24 months, in relation to cognitive outcomes at 24 months (Sethna et al., 2017). The study was conducted in the UK with a sample of 192 full term infants and their families, who were predominantly Caucasian and middle class. Paternal remoteness (withdrawal and disengagement) and depressive affect (affective state and level of enjoyment) at 3 months predicted low cognitive scores 21 months later (based on Mental Development Index scores [MDI], using the Bayley Scales of Infant Development [BSID-II]; Bayley, 1993). At 24 months, children whose fathers were more engaged and sensitive and less controlling in their interactions had higher MDI scores. These findings held after adjusting for paternal depression, age, and education, infant age, and were independent of maternal sensitivity. The authors indicate that this is the first longitudinal study to investigate how father–child interactions, as early as 3 months of age, influence children's later cognitive development. A possible explanation for the findings includes the provision of a less stimulating social environment provided by withdrawn fathers, which may impact the child's cognitive skills. Alternatively, the association between paternal behaviors and child cognitive skills may be a result of the genetic inheritance of cognitive skills from parent to child (Sethna et al., 2017).

Executive Function

Executive function (EF) is an important aspect of cognitive development that has received research prominence in recent years. EF encompasses higher level thinking skills, such as inhibition, working memory, and mental flexibility. Accumulating evidence demonstrates that early executive functioning is critical for learning, self-regulated behavior, and mental health (Carlson,

Zelazo, & Faja, 2013). While research suggests that relationships with caregivers provide opportunities for developing EF skills, until recently, research focused on the role of maternal parenting quality, with little known about the role of father–child interactions (Fay-Stammbach, Hawes, & Meredith, 2014).

Findings by Towe-Goodman et al. (2014) suggest that both mothers and fathers play a distinct and complementary role in the development of EF skills. The study of 620 low-income, predominantly rural families in the USA, examined the longitudinal relationship between maternal and paternal sensitive parenting during play in infancy and toddlerhood and child executive function at the age of 3 years. Findings indicated that only maternal sensitivity at the age of 7 months predicted child executive function. However, both paternal and maternal sensitive parenting at 24 months predicted child executive function 1 year later. The findings for fathers' sensitive parenting appeared after accounting for the quality of concurrent and prior maternal care, children's early cognitive ability, as well as other child and family factors. Towe-Goodman et al. (2014) suggest these findings highlight the importance of maternal and paternal sensitive support for executive function development in children growing up in rural economically disadvantaged communities.

Research conducted with preschool samples has also highlighted specific relationships between father's parenting and child EF. For instance, in a cross-sectional study of 607 families in early childhood, Lucassen et al. (2015) found that self-reported harsher parenting of the father and less observed sensitive parenting of the mother were related to lower scores of emergent meta-cognition (the child's ability to initiate, plan, organize, implement, and sustain future-oriented problem-solving) and inhibitory self-control (the child's ability to modulate actions, responses, emotions, and behavior via appropriate inhibitory control) in early childhood.

Similar findings for fathers were obtained by Meuwissen and Carlson (2015) in a cross-sectional study of 110 fathers and their 3-year-old child, using observational measures of fathers' control during dyadic play. The authors found that controlling paternal parenting was negatively associated with a child EF composite, consisting of inhibitory control, working memory, and set shifting. This study did not include mothers. However, the authors commented that future research needs to examine whether the pattern of high control being more predictive of child EF than autonomy support applies to mothers or is specific to fathers.

A longitudinal study of at-risk low socioeconomic status children across early to middle childhood (Meuwissen & Englund, 2016) was one of the first studies to investigate father-figure parenting and child EF. Father-figure (defined as any adult male living in the home) support was based on maternal reports of the amount of emotional support given to the target child. Concurrent father-figure support was associated with child EF in both early and middle childhood, and added to the prediction of child EF above mother's parenting (based on a composite measure of observed parenting support in early childhood) in middle childhood. These findings support the suggestion that father-figure–child interactions play an important role in EF development. The authors suggest a possible reason for the findings may be that children who interact with multiple caregivers have more practice at being mentally flexible (Cabrera et al., 2000).

Atypical Behavioral Development

In general, the literature reviewed in the preceding sections shows that father involvement (e.g., supportive father–child interactions) has positive effects on children's typical development (i.e., social, emotional, language, and cognitive development). In this section, evidence about the processes linking fathering to atypical behavioral development is reviewed.

Evidence from a systematic review of 24 longitudinal studies involving 22,300 children found that paternal involvement (such as talking and interacting with their child and having a significant role in childcare) reduced the frequency of behavior problems in boys and psychological

problems in young women (Sarkadi, Kristiansson, Oberklaid, & Bremberg, 2008). Socioeconomic status was controlled in 18 of the studies, of which 12 also controlled for maternal involvement, but not all had different source data (Pleck, 2010). Thus, the two design criteria deemed essential to establish the independent influence of father involvement were absent in some of the studies reviewed.

A clearer indication of the unique contribution of father involvement (i.e., positive engagement) in relation the development of child behavior problems is provided by data from the NICHD Study of Early Child Care and Youth Development (2004). Specifically, findings indicated that observed paternal sensitivity (including emotional support, lack of hostility, and respect for the child's autonomy) in early childhood contributed uniquely to lower levels of children's externalizing scores in middle childhood. The study is noteworthy for collecting separate observational data for fathers and mothers, and for examining whether fathers' interactions with their children predict adjustment in the early school years over and above the prediction from mothers' interactions.

Studies of high-risk samples have also identified the role of early fathering in the subsequent trajectories of behavioral functioning in children with preschool behavior problems. For instance, a prospective 3-year longitudinal study, which investigated preschool parenting predictors of attention-deficit/hyperactivity disorder (ADHD), found that lower levels of paternal sensitivity were uniquely predictive of higher levels of inattentiveness in middle childhood and that intrusive paternal behaviors were predictive of hyperactive-impulsive behaviors at school (Keown, 2012). Lower levels of maternal positive regard (demonstrations of affirmation, warmth, and affection towards the child) were also uniquely predictive of child inattentiveness in middle childhood. These predictions held after statistical adjustment for the effects of preschool ADHD behaviors and conduct problems. The findings highlight the importance of considering the unique associations between ADHD symptoms and responsive parenting behaviors of both fathers and mothers.

Behavior dysregulation has also been examined as a mediator of the relationship between fathering and social functioning in children with developmental delays (Stevenson & Crnic, 2013). These children have an elevated risk of peer relationship difficulties. Drawing on research linking fathering and social competence in typically developing children, Stevenson and Crnic (2013) sought to extend the findings to children with developmental delays by examining whether intrusive fathering (verbal or nonverbal behaviors that restrict or derail the child's activity) poses a risk for later social competence. It was predicted that increased intrusiveness on the part of the father would be detrimental to children's self-regulatory abilities, and in turn decreased social skills. Paternal and maternal intrusiveness were coded during naturalistic home observations. Child dysregulation (noncompliance or defiant behavior and instances of disruptive and distracted behavior that impaired the child's ability to complete the task) was coded during a structured laboratory task. Child social skills were assessed using teacher ratings on the Social Skills Rating System. After controlling for mother intrusiveness and child behavior problems, fathers' intrusiveness was associated with later reduced social skills, with child behavioral dysregulation mediating this association. Empirical research on fathering among children with developmental delays is scarce. As such, these findings are important for suggesting that intrusiveness on the part of fathers carries unique risks for children with developmental delays.

Internalizing Problems

There is some evidence that the impact of parenting behaviors on the development and maintenance of child anxiety may differ for mothers and fathers (Bögels & Perotti, 2011; Möller, Nikolić, Majdandžić, & Bögels, 2016). Möller et al. (2016) conducted a meta-analysis of 31 studies to assess differential associations between maternal and paternal parenting behaviors, child anxiety and its precursors. There was a focus on children aged 0–5 years given the especially important

role that parents play in children's development during this age range. Five types of maternal and paternal parenting behavior were examined: overprotection, overcontrol, overinvolvement, autonomy granting, and challenging parenting behavior. In general, associations between parenting and child anxiety were small. The only differential association found between maternal and paternal parenting behaviors and child anxiety was for challenging parenting behavior (i.e., to playfully encourage their child to exhibit risky behavior, such as rough-and-tumble play, competing with the child, and teasing). Paternal challenging behavior was associated with less child anxiety, whereas maternal challenging behavior was not related to child anxiety. This can be understood in the light of fathers' assumed role of pushing children's limits, as suggested by Bögels and Perotti (2011), which may assist children with overcoming their anxiety. When post hoc analysis was conducted to compare the differential associations between maternal and paternal parenting behavior and child anxiety symptoms, anxiety disorders, and any precursors of anxiety (e.g., shyness and behavioral inhibition), anxiety symptoms were more strongly related to paternal than to maternal parenting. More anxiety-enhancing paternal parenting behaviors were associated with higher levels of child anxiety symptoms. The authors suggest this finding is congruent with the assumption that fathers have a special role in opening children to the outside world (Bögels & Perotti, 2011). Thus, anxiety enhancing behavior by fathers may provide a stronger signal that the world is a dangerous place, and therefore increase children's anxiety more so than similar behaviors by mothers (Möller et al., 2016).

Although the findings of the meta-analysis suggest that parenting plays only a minor role in the development and maintenance of child anxiety, it appears that the influence of fathers is at least as important as that of mothers (Möller et al., 2016). Given the findings about the association between challenging paternal parenting and child anxiety, the authors suggest that further research is needed to determine whether this type of paternal parenting can prevent the development of child anxiety (Möller et al., 2016). The authors recommend that as the family comprises a dynamic system, in future research triadic interactions should be examined in addition to dyadic interactions. They further recommend that new research include families from backgrounds underrepresented in the studies covered by the meta-analysis (e.g., anxious parents, families from low socioeconomic status, non-Western families, single parent, same-gender couple households).

There is also some indication that fathers have an influential role in relation to children's internalizing symptoms in middle childhood. For example, in a study of 237 children aged 9–12 years, Roelofs, Meesters, ter Huurne, Bamelis, and Muris (2006) found that insecure father–son attachment was associated with greater levels of concurrent internalizing symptoms, such as anxiety and depression. Another study of 133 children aged 8–11 years found that mothers' unsupportive responses to sadness and unsupportive paternal responses to children's anger were associated with depressive symptoms in children (Sanders, Zeman, Poon, & Miller, 2015). The findings support the idea that mothers and fathers play unique roles in children's emotion regulation skills and subsequent risk for depression.

Indirect Effects: Paternal Mental Health

According to the model by Cabrera et al. (2014) fathers' behaviors are directly and indirectly associated with children's behaviors via other family relationships and other contextual factors (Cabrera, 2016). The focus of the review to this point has mainly been on how fathers directly influence their children's development. As the model by Cabrera et al. illustrates, there are numerous ways by which fathers may indirectly influence child development. Paternal mental health is discussed here as an illustration of an indirect pathway of influence. Of all mental health problems affecting fathers that may impact child development, paternal depression is proba-

bly the most studied (Sweeney & MacBeth, 2016). Findings from a systematic review examining child outcomes of fathers with depression in the antenatal and postnatal stages indicate that paternal depression is associated with an increased risk of internalizing and externalizing behavior difficulties in their offspring, especially during early childhood (Sweeney & MacBeth, 2016). In a paper reviewing what is known about the relationship between fathers and the development of child psychopathology, Barker, Iles, and Ramchandani (2017) state that although research in this area has increased in the past decade, more studies are needed to better understand the mechanisms by which paternal psychopathology may influence child development. Barker et al. (2017) delineate three mechanisms of risk transmission: (1) through the influence on the relationship of the parenting couple, especially increased couple conflict; (2) via the impact on paternal parenting and the father–child relationship; and (3) through its effect on the psychological health of the mother and interaction with the child (Barker et al., 2017). An example that illustrates two of these mechanisms is provided by a population-based cohort study in the UK (Gutierrez-Galve, Stein, Hanington, Heron, & Ramchandani, 2015) which found that two-thirds of the association between postnatal paternal depression and negative child outcomes could be explained by couple conflict and maternal depression combined.

Coparenting and Father Involvement

Family relationships, such as coparenting, are another potential influence on fathers' parenting behavior and involvement (Cabrera et al., 2014). Coparenting refers to "the ways that parents relate to each other in the role of parent" (Feinberg, 2003, p. 96). A key component of coparenting is the extent to which parents support each other versus undermining the other parent through criticism and blame (Feinberg, 2003).

A meta-analysis of 59 studies found that children's positive adjustment is associated with high quality coparenting behaviors, such as teamwork and support for the other parent, lack of conflict over childrearing, and agreement on child-related topics (Teubert & Pinquart, 2010). Furthermore, the quality of coparenting may moderate prospective associations between father involvement and child adjustment. Support for this possibility was provided by Jia, Kotila, and Schoppe-Sullivan (2012) in a 1-year longitudinal study of 112 families of preschoolers. The authors found that father involvement in play predicted decreases in externalizing and internalizing behaviors and increases in social competence at school only, when accompanied by supportive coparenting. The results showed that in families with low support for each other's parenting efforts, more father involvement in play was even associated with relative decreases in children's social competence. Jia et al. suggest a possible explanation for this finding is that unsupportive coparenting may lead to emotional tension and insecurity in the child, which may have counteracted the advantages of father involvement in play.

Translational Relations Between Fathering and Child Development

The expanded model (the ecology of father–child relationships) by Cabrera et al. (2014), considers the transactional and reciprocal nature of the relationship between father and child. This perspective views parents and children as mutual socializers of parenting behaviors, children's development, and relationship quality. Bidirectional influences between parent and child have been elaborated in a number of transactional models (e.g., Patterson, 1992; Sameroff, 1975), and are supported by several decades of work (Paschall & Mastergeorge, 2015). However, there are very few studies testing reciprocal links between parenting and child outcomes that include both fathers and mothers. One example is a study by Verhoeven, Junger, van Aken, Deković, and van Aken (2010), which examined bidirectionality in toddlerhood between parenting and child externalizing behavior, in a sample of 104 intact two-parent families with toddler sons in the

Netherlands. Fathers and mothers reported on a broad range of parenting dimensions at four time points between 19 and 35 months of age, and mothers reported about their son's externalizing problems. The results of structural equation modelling showed that for both mothers and fathers, parenting did not predict externalizing problems. However, child effects were evident across time and were equally strong for both parents. Specifically, at 23, 29, and 35 months of age, boys' externalizing behavior predicted parent-reported support, lack of structure, psychological control, and physical punishment. The authors suggest their findings indicate that toddlers who display high levels of externalizing problems are at risk of evoking dysfunctional parental behaviors. Verhoeven et al. (2010) further state the results indicate the need to include both fathers and mothers in parenting programs designed to develop effective parenting strategies that support optimal child development.

A second is example is provided by Newton, Laible, Carlo, Steele, and McGinley (2014) who examined bidirectional influences between children's prosocial behavior and parental sensitivity. Using the National Institute of Child Health and Development Study of Early Child Care data set (NICHD Early Child Care Research Network, 2005), observational data on paternal and maternal sensitivity was collected when children were 54-month-olds, third graders, and fifth graders. Children's prosocial behavior was measured at third, fifth, and sixth grades. Support was found for a bidirectional relationship between maternal sensitivity (but not for paternal sensitivity) and child prosocial behavior in middle childhood. For both mothers and fathers, sensitive parenting at 54 months predicted prosocial behavior in third grade, but children's prosocial behavior only predicted later sensitivity in mothers. The authors indicate that other constructs, such as education, may be more important to fathers' sensitivity than prosocial behavior.

Overall, most research on fathers' parenting and child outcomes has looked at father effects only (rather than child effects or bidirectional effects). As discussed in more detail later in the chapter, bidirectional influences between paternal parenting and child development is a topic where more research is needed.

Other Cultures

The research discussed in the preceding sections was based predominantly on samples in Western countries and these findings may not apply to fathers in non-Western cultures, such as India. Although India is vast and culturally diverse with marked distinctions based on region and religion, there are several domains, such as patterns of family relationships, where some common themes can be seen. Patterns of Indian fatherhood among the Hindu majority as described by Chaudhary (2012) are delineated here. The gender role of fathers is prescribed by the Laws of Manu, which are derived from Hinduism. Fathers are placed at the top of the family hierarchy and are the acknowledged authority in the family.

Traditionally, Indian fathers are expected to make economic contributions to the family, whereas Indian mothers are expected to be responsible for childcare. As the breadwinner, fathers are perceived to be exercising strict authority, in contrast to mothers who are largely perceived as affectionate. Another important role of traditional Indian fathers is to fulfil their obligations to the extended family system by being fully committed to their siblings and their families. As a result, father involvement with his own children is perceived as a distraction from fulfilling his responsibilities towards other important members of the family, such as family elders (Chaudhary, 2012). Therefore, a father often fulfils these responsibilities to the extended family by sacrificing his involvement with his own children.

Some research (Seymour, 1999) has noted that fathers feel somewhat awkward when they are with their children, especially in the presence of older men, who decide the conduct of the father in traditional families. Connected to this role prescription, Hindu fathers have historically been characterized as emotionally distant (Chaudhary, 2012), but benevolent and protective towards their children (Pandey, 2006). However, these

patterns of emotional display reverse when fathers become grandfathers. They are far more affectionate and involved with their grandchildren than they were with their own children. Recent studies indicate some changes among urban Indian fathers who have been found to be more interactive and emotionally expressive with their children (Roopnarine & Suppal, 2003). However, fathers in India, as in several other societies (e.g., Brazil, Japan), have only recently been willing to talk to researchers (Shwalb, Shwalb, & Lamb, 2012). Thus, there is still much to be learned about fathers' contribution to children's development in these societies.

Strengths and Limitations of the Evidence Base

Many of the studies reviewed in this chapter have applied one or more of the design standards recommended by reviewers that allow the independent effect of father involvement on child outcomes to be evaluated (Amato & Rivera, 1999; Marsiglio et al., 2000; Pleck & Masciadrelli, 2004; Pleck, 2010, 2012). Thus, there is a growing body of evidence that demonstrates the independent effect of father involvement in relation to specific child outcomes. In spite of this progress, reviewers continue to note the lack of inclusion of fathers, and key aspects of fathering, in many studies, which limits understanding of parenting influences and effects (Barker et al., 2017; Fay-Stammbach et al., 2014; Tamis-LeMonda et al., 2013).

Fagan et al. (2014) argue that researchers should include measures of both the quality and quantity of parenting by fathers and mothers, given the convergence of maternal and paternal roles in Western society in recent times. The authors note that while great gains in the fathering literature have been made in assessing quantity of involvement through variables such as engagement, accessibility, and responsibility, this template may be useful for assessing mother's involvement with children. Studies that use the same constructs to assess quality and quantity of parenting for fathers and mothers "may lead to better understanding of how the quantity of higher or lower quality parenting behavior matters to children" (Fagan et al., 2014, p. 401).

Across the domains of child development that were covered in this chapter, reviewers mentioned the direction of effects as an unresolved issue (Kiel & Kalomiris, 2015; Leidy et al., 2013; Möller et al., 2016). For example, in relation to children's social development, it is assumed that fathers are influencing their children's peer relationships (Leidy et al., 2013). However, given the cross-sectional and correlational nature of much of the research, the direction of causality may also be from the child to the parent. Similarly, the extent to which the peer system affects fathers and families and vice versa needs to be better understood (Leidy et al., 2013).

Future Directions for Research

There are numerous directions for future research about the role of fathers in supporting children's development. In this section, some specific recommendations are made arising from topics covered in the review, as well as general suggestions mentioned by reviewers in the field of father involvement research.

One recommendation relates to studies across the transition to school. There is an expanding body of knowledge about fathers' role in the development of infants and preschoolers (Cabrera & Tamis-LeMonda, 2013). In contrast, there is a paucity of knowledge about how father engagement contributes to the socialization of children as they transition to school and how these activities might affect child well-being, independent of the activities of mothers (Mincy, Um, & Turpin, 2016). For example, mothers' and fathers' behaviors might complement (or interact with) each other (Cabrera, 2016). The early school years are an important period when skills and behaviors are learnt that continue to build on earlier development, and set the course for later academic attainment and successful adjustment and relationships with others (Mincy et al., 2016). Thus, more research is needed to identify the ways in which fathers are important for children's development during the early school years.

As earlier discussed, in relation to children's social development, in North American and Western European studies, fathers' physical play style has been suggested as one way that fathers uniquely influence their children's behavior with peers (Leidy et al., 2013). However, the cross-cultural generality of this finding is not well understood, given that physical play is not a universal feature of father–child interactions. Therefore, as recommended by Leidy et al. (2013), further investigation is needed about other pathways by which children learn emotional competencies that are important for effective peer relationships.

Concerning fathering from a cultural perspective more generally, Shwalb et al. (2012) note that there is a large gap between the amounts of research on fathering in Western and non-Western societies, and there has been no research on fathering whatsoever in many countries around the world. One suggestion offered to initiate new research in these societies, is to conduct comparative studies within regions (such as Africa) or between Asian societies with common religious heritages (Shwalb et al., 2012). This type of research needs to include measurement of specific contextual or cultural antecedent variables, to facilitate interpretation of differences found when fathers are studied and compared across several countries (Shwalb et al., 2012).

The main focus of this chapter has been on studies that have data from fathers and mothers in two-parent coresident families. As suggested by Fagan et al. (2014) researchers need to address the complex arrangements of parenting in families nowadays. For example, in divorced families where parenting is shared across households, there is a need to investigate both the quantity and quality of mothers and fathers' parenting behavior with their children.

Implications for Policy and Practice

There is ample evidence that fathers do affect children's development. There are implications for policy and practice in each of the domains of development reviewed in this chapter. For example, Tamis-LeMonda et al. (2013) advocate that practitioners and policy makers consider ways to promote father involvement in children's language development. This could involve support for programs aimed at low-income families, given children from these families may have less exposure to parenting that facilitates language development, compared to middle-class children (Tamis-LeMonda et al., 2013).

The mounting body of research linking fathers' behaviors with children's well-being highlights the importance of engaging fathers in parenting programs that target child behavior problems and associated family risk factors. The majority of program participants are mothers, with fathers underrepresented in parenting interventions (Panter-Brick et al., 2014). However, there is evidence suggesting that key aspects of fathering can be positively affected by behavioral family interventions (Frank, Keown, & Sanders, 2015) and research is building about effective approaches to engage fathers in parenting programs (Keown, 2017).

A final practice recommendation comes from Pleck (2010) who advises that practitioners should always have in mind the multifaceted nature of father involvement. As there is no one way for fathers to be involved, this implies there is no *one way* to promote father involvement (Box 1).

Box 1 Fathers Talk About Parenting (Keown, 2008)

Just as there is no one way for fathers to be involved in parenting, there is also variation in fathers' views on what parenting support is helpful. This point is illustrated in the following quotes from fathers when asked what would help with parenting (taken from Keown, 2008):

"Bite sized bits of parenting information on TV, almost in a commercial format."

"Strategies for how to cope with different situations, such as how to encourage your child in learning."

(continued)

Box 1 (continued)

"It would be good to have changes in the way that maybe school communicated back to parents, to enable Dads to feel more involved in that process. To have some flexibility around how school activities are programmed, so there would be more potential for Dads to do an activity with the school and children."

"Some ideas for how to spend quality time—I think we need some prompting on things that are just fun to do with sons, and what they might get out of it."

"As kids get older I think fathers need different kinds of resources. The challenges I face with my 16-year-old are mountainous compared to the challenges with R. (age 7)."

"What I would find useful is to have some sort of break-down of the different stages that boys in particular go through."

"I think the biggest thing for me is telling fathers not to be afraid to kiss your son—like if he's had a good game and he gets off the field I give him a big kiss and a cuddle and say you did really well mate."

"How to set boundaries with your kids, being consistent with parenting. That's where I struggle most is being consistent in terms of what we're doing."

"Fathers should have time with their kids. It's a rewarding thing to do it."

"Any information that can help a father to realise that we can't really change anyone else but ourselves first."

"I think it would be enormously helpful really if fathers could find resources to help them balance all the pressures that they face in terms of the changing requirements of work life generally and balancing that with family."

"I think the best thing I've had is L (wife). She's supported me in being a father and she's really made me a good father."

Conclusion

This chapter provided a summary of contemporary understanding of the impact of father–child relationships in key domains of child development. A growing body of evidence has demonstrated the independent effect of father involvement in relation to specific child outcomes. Research has also moved beyond looking at the direct effects of fathers' behavior on later child outcomes, to a recognition of the influence of wider, dynamic networks of relationships, such relationships with other adults, on the quality of fathers' behavior and father–child relationships. However, understanding of the role of parenting influences is still limited by the lack of inclusion of fathers, and key aspects of fathering in many studies. Future studies need to further examine how fathers' behaviors are directly and indirectly related to child outcomes through other family relationships and contexts, and the reciprocal links between parenting and child outcomes.

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Trauma and Parenting: Considering Humanitarian Crisis Contexts

Vanessa E. Cobham and Elizabeth A. Newnham

Introduction

This chapter focuses on three humanitarian crisis contexts, which constitute potentially traumatic events or experiences that impact children worldwide—namely, natural disasters, war, and forced displacement. In considering how these three contexts relate to each other, it is important to recognize that the refugee experience is typically linked to exposure to armed conflict or war—indeed, the necessity of escape from armed conflict or persecution (e.g., religious or ethnic) is the defining feature of the term "refugee." On the other hand, the majority of conflict or war-exposed children do not also experience being a refugee. Finally, the experience of being exposed to a natural disaster can occur independently of exposure to war and/or displacement; or, in combination with one or both of these other potentially traumatic contexts (thus, a child exposed to a natural disaster may also be growing up in a war-torn community and/or become displaced).

This chapter presents a brief overview of similarities and differences across the three crisis contexts; before focusing on each context separately. Each of the three crisis contexts discussed in this chapter is associated with adverse mental health outcomes for children. Yet, not all—or indeed most—children will experience enduring mental health difficulties as a result of being exposed to these potentially traumatic experiences. In keeping with research in the area of mass trauma, this chapter follows a risk and resilience framework—where resilience is viewed as an individual's or a system's capacity to withstand or recover from significant adversity (Bonanno, Brewin, Kaniasty, & La Greca, 2010; Masten, 2011; Masten & Narayan, 2012). Thus, for each of the three contexts, the following topics are reviewed to the extent that the research exists: child mental health outcomes as a consequence of exposure to that context; risk and protective factors (which, following ecological approaches, are broken into individual child/youth-level, parent[1] and family-level, and community-level factors) in relation to child outcomes; and outcomes of evaluated parent inter-

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[1]The term 'parent' is used throughout the chapter to refer to children's primary caregiver(s). It is recognized that often, in the contexts described here, the primary caregiver is not a child's biological parent.

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ventions. It should be noted that, both risk and protective factors—though separated into different ecological categories in this chapter—are more frequently interrelated than they are distinct (for example, exposure might be associated with poor parent and child mental health, with these two exerting a pattern of reciprocal influence on one another).

Similarities and Differences Across Contexts

Similarities

The experiences of displacement and being exposed to war or natural disaster share a number of important common threads—they all represent humanitarian crises; and contexts in which exposure to potentially traumatic experience(s) is shared (to different degrees) by the child's family and community. In other words, the experience does not affect the child or youth alone, but rather all significant people—adults and peers—in their lives. Another important commonality is that each of the humanitarian crisis contexts discussed in this chapter is typically associated with a cascade of potential stressors (such as increased family-level violence or economic pressure) that persist and impact children and families long after the index event or experience (i.e., the event or experience which triggers the symptoms of posttraumatic stress) ends.

Differences

The issue of an "end" to the index experience raises an important point. An endpoint to a crisis may depend on the severity of the emergency, effectiveness of the humanitarian response, the level of resources available to the community, and a child's opportunities to remain with their family, access schooling, and regain a normal routine quickly. These factors will vary across disasters occurring in high-, middle-, and low-income settings. For youth exposed to conflict, the endpoint will often be less clear—among a number of possibilities, the conflict may have been occurring on and off for months or years. For refugee youth, the issue is perhaps even more complex. The literature suggests that the refugee experience (in terms of an index experience) is best conceptualized as consisting of a number of stages that end in resettlement (which brings its own risks). But, even when resettlement in a new country has been achieved, does that guarantee an end to the displacement experience for young people? For many, the answer would be "no." Another important difference between exposure to a natural disaster compared with exposure to war and displacement is that natural disasters can occur independently of any other potentially traumatic experience. In other words, natural disaster exposure can constitute a single potentially traumatic event (or what is referred to as a single incident trauma) for a child. However, in many low resource areas, natural disasters further exacerbate the range of risks and hardships that arise from poverty. War and the experience of being a refugee, on the other hand, inevitably involve exposure to repeated and/or prolonged experiences; and/or multiple forms of interpersonal traumatic experiences—in other words, a sequence of potentially traumatic experiences with cumulative effects for mental health (Betancourt, Borisova, de la Soudière, & Williamson, 2011; Fazel, Reed, Panter-Brick, & Stein, 2012).

The Importance of Parents: The Protective Shield

Parents have a crucial role to play in protecting children's mental health in humanitarian crisis contexts, with the family environment more generally also representing a significant potentially protective buffer for children's mental health outcomes (Panter-Brick, Goodman, Tol, & Eggerman, 2011). Effective parenting may provide a *protective shield* (Bell, Flay, & Paikoff, 2002) for children in times of danger, upheaval, and uncertainty. Conceptualized as an emotional defense against environmental factors that have real or perceived potential to harm a child (Pynoos, Steinberg, & Piacentini, 1999; Spoth, Trudeau, Guyll, & Shin, 2012), parents' capacity

to provide a protective shield in times of crisis can become compromised in each of the three contexts reviewed here—as they contend with challenges on many fronts (including their own distress and the nature and quality of their interactions with their children).

Parent Intervention

A long-standing question in relation to humanitarian crises and mental health needs relates to the place and timing of psychosocial interventions (Annan, Sim, Puffer, Salhi, & Betancourt, 2016). Do such interventions have the capacity to be effective when individuals' more basic needs (including safety) may be ongoing concerns? Research on the role of parent and family factors in children's mental health outcomes has highlighted the importance of interventions that address not only individual but also family- and community-level factors in terms of risk and resilience (Panter-Brick, Grimon, & Eggerman, 2014). While parenting interventions have frequently been recommended for families in all three contexts, there is a marked lack of research evaluating such interventions. This is unfortunate given that the three contexts discussed in this chapter represent potentially traumatic experiences in which parents (because they are typically directly impacted) may particularly benefit from support in helping their children to make sense of, and cope with the effect of these experiences.

Natural Disasters

The Situation

In 2015, almost 23,000 people were killed and over 98 million were affected by 346 documented natural disasters worldwide; incurring an economic cost of ~US$67 billion (Guha-Sapir, 2016). As the earth's climate changes, extreme weather events and natural disasters have increased in frequency (Pall et al., 2011); disproportionately affecting people in resource-limited areas. Thus, understanding the emotional impact of these events for children—an especially vulnerable group in a post-disaster environment (McMichael, Neira, & Heymann, 2008)—becomes more important than ever before.

Adverse Outcomes for Children

A review of studies examining children's post-disaster mental health outcomes concluded that 30–50% of exposed children exhibited moderate to severe posttraumatic stress symptoms (PTSS), with 5–10% meeting criteria for a diagnosis of posttraumatic stress disorder (PTSD; La Greca & Prinstein, 2002). Similar rates of PTSS and PTSD have been reported across different countries and different types of natural disasters (Bokszczanin, 2007). Post-disaster, rates of depressive symptoms in children have been reported to range from 2% to 69% (Lai, Auslander, Fitzpatrick, & Podkowirow, 2014). Trajectory research among children exposed to different natural disasters has identified the same three PTSS trajectories over time: resilient (initially low levels of PTSS that showed improvement over time), recovering (initially high levels of PTSS that showed significant improvement over time), and chronic distress (initially high levels of PTSS that did not reduce over time) (La Greca, Lai, Joormann, Auslander, & Short, 2013; Self-Brown, Lai, Thompson, McGill, & Kelley, 2013). The two studies differed in their group distributions however, Self-Brown et al. (2013) in their 2-year follow-up (compared with the 10-month follow-up study conducted by La Greca et al. (2013)) reported a higher proportion of children to be in the resilient group (71%) and lower proportions to be in the recovering (25%) and chronic (4%) groups following exposure to Hurricane Katrina.

Risk

Individual Child/Youth-Level

Children's degree of exposure to the disaster (typically examined using variables such as proximity, and extent of home damage sustained) has

been reliably related to children's risk of developing PTSS following a disaster (Furr, Comer, Edmunds, & Kendall, 2010; Lonigan, Shannon, Taylor, Finch, & Sallee, 1994). Personal losses as well as total disaster-related deaths have also been associated with increased risk (Furr et al., 2010). Demographic variables have been implicated as risk factors, with some studies finding that being younger constituted a risk factor in predicting ongoing PTSS and depression (Kronenberg et al., 2010; McDermott, Berry, & Cobham, 2012). Younger children are of course more dependent on their parents and family unit; in addition, they are less well equipped in terms of cognitive functioning to make sense of, and cope with disaster exposure independently. Being female has also been found to place children at higher risk for developing PTSS post-disaster—with some studies finding that girls are approximately three times as likely as boys to develop severe to very severe PTSS (Furr et al., 2010; Lonigan et al., 1994; McDermott et al., 2012; McDermott, Cobham, Berry, & Stallman, 2010). Somewhat counterintuitively, having a history of previous mental health difficulties was found to be unrelated to the development of PTSS in children exposed to a cyclone disaster (McDermott et al., 2010), while high trait anxiety has been identified as a risk factor (Lonigan et al., 1994; McDermott, Lee, Judd, & Gibbon, 2005). Finally, children's threat appraisal has been found to constitute a unique risk factor over and above other related factors, such as exposure. Thus, children who thought that they were going to die during the disaster have been found to be at significantly increased risk of developing PTSS across disasters compared to other children (Furr et al., 2010; McDermott et al., 2010, 2012).

Parent/Family-Level

Post-disaster, the link between parent and child distress and mental health difficulties is well established (Bonanno et al., 2010; Masten & Narayan, 2012; Morris, Gabert-Quillen, & Delahanty, 2012). It has been suggested that children's post-disaster distress may impact parent distress in a pattern of reciprocal influence. Juth and colleagues examined the direction of the association between parent and child distress following the 2006 Indonesian earthquake (Juth, Silver, Seyle, Widyatmoko, & Tan, 2015). They found that, even after controlling for extent of exposure, parent PTSS contributed to children's general distress, but not vice versa. One of the ways in which parent mental health post-disaster has been proposed to impact children's mental health outcomes is via the mechanism of altered parenting (Dyb, Jensen, & Nygaard, 2011).

In research that is not specific to the humanitarian crisis contexts discussed here, it has been found that mothers with PTSD (compared to healthy controls) report using more punitive and physical strategies when disciplining their children (Chemtob & Carlson, 2004; Leen-Feldner, Feldner, Bunaciu, & Blumenthal, 2011). In keeping with this research, parents of children who reported greater loss following Hurricane Katrina reported increased use of corporal punishment with their children (Kelley et al., 2010). This was, in turn associated with children being at greater risk for PTSS at both the 4- to 7-month follow-up point and the 14- to 17-month follow-up (Kelley et al., 2010).

Following a storm disaster, children whose parents reported that their parenting had altered (becoming more protective, more likely to communicate a sense of danger and less likely to allow child autonomy) post-disaster were at increased risk for PTSS, even after controlling for disaster exposure (Cobham & McDermott, 2014). When parents' own distress was taken into account, it became apparent that the pattern of altered, more "anxious" parenting was only associated with elevated levels of child PTSS when parental distress was high. This is consistent with earlier research in which, over 2 years after a flood disaster, adolescents' perceptions of parental overprotection had both a unique effect on self-reported PTSD, and moderated the relationship between disaster exposure and adolescent distress (Bokszczanin, 2008).

It has often been hypothesized that following exposure to a humanitarian crisis (such as disaster, war or displacement) parents' compromised capacity to see and respond to their children's distress appropriately may be a crucial mecha-

nism in the maintenance of children's distress. However, little empirical research has examined this question. One qualitative study conducted with Norwegian parents whose families were exposed to the south-east Asian tsunami in 2004 while on holiday, found that parents who experienced disaster-related distress also noted that their ability to notice and react to their children's distress was diminished (Hafstad, Haavind, & Jensen, 2012).

Communication, conflict, and support have also been implicated. Thus, there is some empirical evidence for the importance of communication post-disaster, with children experiencing high levels of PTSS following the 2010 Chilean earthquake indicating that parents' unavailability/unwillingness (as perceived by the children) to discuss the earthquake was related to higher levels of child PTSS (Garfin et al., 2014). Children in the same study indicated a positive association between parent–child conflict and child PTSS. This is consistent with a longitudinal study of predominantly African-American children exposed to Hurricane Katrina, in which, after controlling for child PTSS at the 1-year post hurricane time point, parent–child conflict predicted child PTSS 2 years after the hurricane (Gil-Rivas & Kilmer, 2013). A lack of perceived parental support has also been found to be associated with elevated levels of youth distress following a flood disaster (Bokszczanin, 2008). The interested reader is referred to Cobham, McDermott, Haslam, and Sanders (2016) for a more thorough review of parent- and parenting-related factors in children's post-disaster mental health.

Family variables have also been implicated. Youth who endorsed being worried about their family and perceived low family connectedness 2–3 years after Hurricane Katrina were at increased risk for ongoing PTSS and depressive symptoms (Kronenberg et al., 2010). Youth perceptions of family conflict post-disaster have been associated with youth PTSD, over and above disaster exposure (Bokszczanin, 2008). Following a cyclone disaster in Australia, parent ratings of family dysfunction more generally were associated with increased risk for parent-rated internalizing symptoms (McDermott & Cobham, 2012). This is consistent with earlier research. Following a bushfire disaster, disrupted family functioning was found to be a more significant predictor of child PTSS than either disaster exposure or loss (McFarlane, 1987); while adolescent-rated family dysfunction predicted youth anxiety following the 1999 earthquake in Turkey (Kiliç, Özgüven, & Sayil, 2003).

Community-Level

Lack of peer support has been found to predict chronic symptom trajectories (Self-Brown et al., 2013). This is consistent with earlier work following a cyclone disaster in which, after other predictor variables were accounted for, children endorsing low levels of social connectedness were almost four times as likely as other children to develop severe to very severe levels of PTSS (McDermott et al., 2012). Finally, children's exposure to disaster-related media has been associated with adverse mental health outcomes (La Greca & Prinstein, 2002; Weems & Overstreet, 2008). A recent prospective study, followed children exposed to Hurricane Katrina, but prior to their exposure to Hurricane Gustav (Weems, Scott, Banks, & Graham, 2012). After controlling for exposure, disaster-related media exposure 24 and 30 months after Hurricane Katrina was associated with PTSD symptoms 1 month after Hurricane Gustav, with this relationship not being accounted for by preexisting PTSD symptoms.

Protective Factors

Individual Child-/Youth-Level

Self-regulation skills and cognitive abilities (including cognitive flexibility and general intelligence) appear to be protective factors for children exposed to a wide range of potentially dangerous and traumatic environments, including disasters (Masten & Narayan, 2012). Thus, effortful control abilities buffered children's PTSS following exposure to Hurricane Katrina (Terranova, Boxer, & Morris, 2009). A sense of competence or mastery has also been found to be

related to posttraumatic growth (or positive psychological change in response to adversity) in disaster-exposed children (Cryder, Kilmer, Tedeschi, & Calhoun, 2006).

Parent/Family-Level

There is some evidence that the quality of the parent–child relationship (as rated by parents) may reduce the risk of post-disaster distress among adolescents (Felix, You, Vernberg, & Canino, 2013; Wickrama & Kaspar, 2007). Following a hurricane disaster, adolescents' perceptions of their parents' availability and willingness to spend time with them, appeared to reduce the risk for internalizing symptoms—although only when parents had no history of, or current mental health issues of their own (Felix et al., 2013). In other studies, higher levels of youth-rated parental support did not act as a protective factor against PTSS (Bokszczanin, 2008). Finally, in relation to family factors, Thai youth exposed to the 2004 tsunami indicated that positive family functioning was protective against the development of behavioral problems (Tuicomepee & Romano, 2008).

Community-Level

Longitudinal research indicates that, even after accounting for hurricane exposure, peer social support appeared to be protective in terms of development of PTSD, depression and anxiety among youth exposed to Hurricane Katrina (Banks & Weems, 2014). Similarly, high levels of self-reported social connectedness were associated with children being significantly less likely to develop PTSS following a cyclone disaster (McDermott et al., 2012); while peer support has been found to protect children from chronic symptom course (Self-Brown et al., 2013).

Parent Interventions

Traditionally, intervention in the field of children's experience of natural disasters (and indeed, of any mass trauma) has focused on reducing psychopathology in individual children. In parallel with the move towards a risk and resilience framework (as opposed to a focus on risk alone), there has been a call for the development and evaluation of more strengths-based, family-focused interventions designed to support parents and children in the aftermath of disaster (Cobham et al., 2016; Cobham & McDermott, 2014). To date, two evaluations of universal programs for parents in a post-disaster context have been published. The Caregivers Journey of Hope (JoH) workshop was delivered to parents following an earthquake in New Zealand in 2011 (Powell & Leytham, 2014). A 3-h program, the JoH workshop is psychoeducational in nature, covering topics such as children's responses to trauma, how stress impacts the body, and building community assets and supports. From pre- to post-workshop, parents reported improvements in their: knowledge of stress in relation to themselves; understanding of coping strategies for managing their stress; current stress levels; ability to identify strengths in managing their stress; knowledge of available social and community supports; and the likelihood of a positive future for their community. Disaster Recovery Triple P—Positive Parenting Program (Cobham, McDermott, & Sanders, 2011) was developed following severe flooding in Australia in 2011. Also psychoeducational, this 2-h parenting workshop was designed to help parents to be aware of and mitigate potential parent- and family-related risk factors (e.g., avoiding conversation about the disaster), while simultaneously promoting resilience-enhancing strategies (e.g., dealing with media exposure, and having a dangerous weather plan). Disaster Recovery Triple P was evaluated in Australia following a flooding disaster in 2011. Attendees reported a high level of satisfaction with the program, as well as statistically significant reductions in children's emotional and behavioral problems from pre-workshop to the 6-month follow-up point (Cobham, McDermott, & Sanders, 2017). Both of these parenting intervention evaluations were limited by the lack of a waitlist control group.

Box 1 Case Study

Amita* is 13 years old and lives in Gorkha, Nepal. Gorkha was heavily affected by the April 2015 earthquakes that resulted in the death of more than 8800 people and displacement of hundreds of thousands. Amita spoke with our research team 9 months after the first earthquake. The recovery process has been frustratingly slow and many houses and buildings remain in ruins. Amita described her fears and concerns, one of her greatest worries being that the earthquakes would return again. Her father saved her life during the earthquake by carrying her to safety when their house began to shake, but he died from health complications 2 months later and her mother was left to raise Amita and her two younger brothers alone. Amita's mother, Sajita, experienced significant trauma during Nepal's civil war and continues to suffer from bouts of depression, made worse by the earthquakes. Amita and her family continue to live in a temporary shelter, with poor sanitation and little protection from the cold in winter. Accessing toilets and maintaining privacy when bathing are ongoing concerns for Amita, who described some of the security issues that adolescent girls face in the camps. Her friends confirmed that men harass them when going to the toilets or changing clothes, and Sajita worries about Amita's safety, having heard that many girls have been sexually assaulted in the camps. Amita had hoped to study nursing, but now worries that she will not be able to pursue her interests because her family's economic situation has worsened significantly. She will likely have to find work rather than continue her studies this year. Amita hopes that the family's situation will improve and that she can return to training in the future.

*Names and identifying details have been changed for protection.

War

The Situation

Nearly 250 million children live in areas impacted by armed conflict (UNICEF, 2016a). Children and adolescents affected by war may be exposed to a range of severe traumas, including physical and sexual violence, deprivation of food, water and shelter, loss of family members, forced perpetration, and the destruction of housing and community infrastructure (Amone-P'Olak & Ovuga, 2017; Betancourt, Newnham, McBain, & Brennan, 2013). Families living in a war zone are at risk of ongoing exposure to violence, which may have a cumulative effect over months or years. The scale of trauma for war-affected families is further compounded by ongoing political, economic and social insecurity, as well as a lack of services that would normally protect and support families in need. In recent years, attention has turned to a subset of children in this group—youth under the age of 18 years who have become active participants in armed forces (commonly known as *child soldiers*). Although it is difficult to be exact, ~300,000 children worldwide could be termed child soldiers at any moment in time (UNICEF, 2016a). This group represents a significant minority of children who are affected in the most extreme ways by the experience of conflict. Typically, as both victims and perpetrators of violence and abuse, child soldiers may act in a variety of different roles within an armed group—ranging from servants and cooks through to soldiers and minesweepers (Coalition to Stop the Use of Child Soldiers, 2008).

Adverse Child Outcomes

The direct and indirect adverse consequences of exposure to conflict on children's physical and emotional health have been well documented (Jordans, Tol, Komproe, & de Jong, 2009). Although this chapter focuses on mental health consequences, it is important to note the lost opportunities caused by conflict exposure,

specifically educational and economic opportunities (Blattman & Annan, 2010).

A large proportion of children exposed to war or armed conflict demonstrate symptoms of mental health difficulties (Marwa, 2013; Ozer, Irin, & Oppedal, 2013). A systematic review of just under 8000 children living in ongoing or post-conflict areas found substantially increased rates of PTSD (47%), depression (43%), and anxiety (27%) relative to the general youth population (Attanayake et al., 2009). A more recent review focusing on children living in war-affected areas in the Middle East estimated the prevalence of PTSD to be 5–8% in Israel; 23–70% in Palestine; and 10–30% in Iraq (Dimitry, 2012). A review of quantitative research examining the psychosocial adjustment of former child soldiers noted that the prevalence rates across studies reflected the irregularity of the methodologies used (Betancourt et al., 2013). Thus, in work with abducted former child soldiers in Northern Uganda, 99% were reported to meet criteria for PTSD (Amone-P'Olak, 2005; Amone-P'Olak, Garnefski, & Kraaij, 2007), compared to the 27% reported to meet criteria for PTSD in another study of former North Ugandan child soldiers (Okello, Onen, & Musisi, 2007). The interested reader is referred to Betancourt, Borisova, et al. (2013) for a thorough review of the psychosocial adjustment of former child soldiers.

And yet, returning to the earlier theme of resilience, despite the consistent finding that exposure to conflict is linked to poor outcomes for many children, both cross-sectional and longitudinal research also indicates that many conflict-exposed children develop normally, maintaining their mental health in the face of war (Diab, Peltonen, Qouta, Palosaari, & Punamäki, 2015). In one of a small number of longitudinal studies—focusing on former child soldiers in Mozambique—Boothby and colleagues concluded that the majority of these youth had grown into productive and caring adults, with few symptoms of ongoing distress (Boothby, Crawford, & Halperin, 2006). Indeed, when looking at both intervention and longitudinal research (Betancourt, Newnham, et al., 2013; Bolton et al., 2007; Jordans et al., 2010; Tol et al., 2008), most research appears to indicate a process of *natural remission* for PTSS over time even in the absence of significant sociopolitical changes having occurred. Even among former child soldiers, longitudinal research indicates that rates of PTSD tended to reduce over a 4-year follow-up period (Betancourt, Newnham, et al., 2013); however, rates of anxiety and depression were found to increase across three separate assessment waves (Betancourt, Brennan, Rubin-Smith, Fitzmaurice, & Gilman, 2010). Trajectory research focusing on PTSS in Palestinian children assessed 3, 5 and 11 months after the 2008/2009 War on Gaza has identified three groups: recovery (high level of symptoms that decrease over time; 76%); resistant (low level of symptoms that remain low; 12%); and, increasing symptoms (high and increasing symptoms; 11%; Punamäki, Palosaari, Diab, Peltonen, & Qouta, 2015).

Risk Factors

Individual Child/Youth-Level

Cumulative violence exposure is deemed to be one of the most potent risk factors in terms of conflict-exposed children's adverse outcomes (Dimitry, 2012). A review of 95 empirical studies with conflict-exposed youth found that almost all the studies that measured PTSS reported a positive association between PTSS and exposure (Barber & Schluterman, 2009). A longitudinal study of 901 Israeli and 600 Palestinian youths and their parents assessed at three 1-year intervals, found that higher rates of cumulative exposure to violence across the first two time points predicted higher levels of PTSS in youth, even when their initial levels of PTSS were controlled for (Dubow et al., 2012). Among former child soldiers, it appears that particular types of violence exposure (e.g., being sexually abused, witnessing the violent death of a family member) may be more strongly predictive of youth distress over time (Betancourt et al., 2010; Kohrt et al., 2008). Interestingly, recent research on risk is shifting the focus from conflict experiences to the post-conflict environment. Thus, in a study examining PTSS and depression among war-exposed

Sierra Leonean youth 6 years after the end of the war, the relationship between number of war exposures and PTSS was largely mediated by daily stressors (e.g., financial and housing insecurity, interpersonal conflicts) experienced in the past year; while a direct pathway between current daily stressors (but not war exposures) was found for depressive symptoms (Newnham, Pearson, Stein, & Betancourt, 2015).

Demographic variables have also been identified as risk factors. Thus, unsurprisingly, older children have been consistently reported to experience more conflict-related exposures compared to younger children (Boxer et al., 2013; Qouta, Punamäki, Miller, & El-Sarraj, 2008; Thabet, Ibraheem, Shivram, Winter, & Vostanis, 2009a), with the majority of studies finding that older children have higher rates of PTSS (Khamis, 2005; Laor et al., 2006). The impact of gender is less clear. While most studies indicate that boys experience higher levels of objective conflict-related exposure compared to girls (Dubow et al., 2012; Giacaman, Shannon, Saab, Arya, & Boyce, 2007; Thabet, Abed, & Vostanis, 2004), others suggest that war exposures are experienced at equivalent rates across genders, with girls reporting higher levels of sexual assault and death of a parent (Betancourt, Borisova, et al., 2013). War-affected girls are generally found to endorse higher levels of PTSS (Farbstein et al., 2010; Thabet, Ibraheem, Shivram, Winter, & Vostanis, 2009b) and depression (Pat-Horenczyk et al., 2007), perhaps due to the interpersonal nature of traumas more often reported by girls. In most studies, female former child soldiers report more significant psychosocial difficulties and greater challenges with reintegration compared to male former child soldiers (Betancourt, Borisova, et al., 2013). Kohrt et al. (2008) examined the interaction between gender and child soldier status (civilian versus soldier) and found that, in Nepal, girls appeared to experience greater distress compared to boys as a direct result of the soldiering experience, making them more likely to develop PTSD. Boys, on the other hand, tend to demonstrate more behavioral difficulties (Abdel Aziz, Thabet & Vostanis, 2000) and aggression (Qouta et al., 2008). In relation to former child soldiers specifically, being younger at the time of first involvement has been reported to predict increased depressive symptoms over time (Betancourt, Borisova, et al., 2010).

Finally, children's appraisals—specifically, their posttraumatic cognitions (persistent negative thoughts about themselves and/or the world; PTCs)—have been found to represent a risk factor for the development of PTSS. A recent study examining Palestinian children's PTCs found that PTCs were both predicted by and mediated the effects of war exposure, psychological maltreatment, peer unpopularity, and sibling conflict on children's self-reported PTSS over time (Palosaari, Punamäki, Peltonen, Diab, & Qouta, 2016).

Parent/Family-Level

Parent distress and mental health have been proposed to influence child mental health outcomes, with the majority of studies (both cross-sectional and longitudinal) finding an association between parental distress and children's mental health outcomes among conflict-exposed youth. Thus, maternal PTSD and maternal anxiety have been found to be associated with child PTSD and anxiety respectively (Thabet, Tawahina, El Sarraj, & Vostanis, 2008; Zeidner, Klingman, & Itskowitz, 1993), while parents' distress has been reported to both mediate and moderate the impact of war exposure on children's behavioral and emotional outcomes (Khamis, 2016). In another recent longitudinal study examining the association between parent and child mental health outcomes—in this case, among Afghan families—parent mental health was prospectively associated with a variety of child mental health outcomes (including PTSS, depression, general psychiatric difficulties, overall impairment, and prosocial strength) 1 year later (Panter-Brick et al., 2014). Indeed, these researchers noted that, when it came to predicting child PTSS, the impact of parent mental health approached the risk associated with the child having experienced one or two lifetime trauma events. When predicting child depression, the impact of parent mental health was comparable to the risk associated with being of female gender (Panter-Brick et al., 2014).

Panter-Brick et al. (2014) concluded that, in the context of conflict-exposure, there appears to be a mental health "cascade" across generations that links parent and child mental health outcomes, even when individual-level risk factors (e.g., lifetime trauma exposure) are taken into account.

In a study investigating the intergenerational effects of parents' war exposure on Palestinian children's well-being, Palosaari and colleagues concluded that fathers' (but not mothers') past war exposure constituted a risk factor for children's attachment insecurity and mental health via the mechanism of psychological maltreatment (emotional neglect, abuse, and corrupting, such as being encouraged by parents to lie or cheat) as reported by children (Palosaari, Punamäki, Qouta, & Diab, 2013). This finding supports earlier research indicating that high levels of exposure to war trauma constituted a risk factor for punitive and neglecting parenting, which was then associated with poor child mental health outcomes (Punamäki, Qouta, & El Sarraj, 1997).

More specifically, punitive parenting has been found to be associated with aggressive behavior in children in Gaza (Qouta et al., 2008) as well as less resilient attitudes among youth (Qouta, Punamäki, Montgomery, & El Sarraj, 2007). Psychological maltreatment (neglect, abuse, and corrupting) by parents has also been found to have an indirect effect (mediated by children's posttraumatic cognitions, such as "the frightening event has changed me forever") on children's PTSS (Palosaari et al., 2016). At the family level, both Afghan parents and youth identified violence as a risk factor over time for children's total difficulties score on the Strengths and Difficulties Questionnaire (Panter-Brick et al., 2014). This is consistent with other research by Panter-Brick and colleagues with Afghan families, where family-level violence (including family conflicts as well as past year reports of violence such as experiencing and/or witnessing severe beatings) was found to predict negative changes in children's mental health 1 year after initial assessment (Panter-Brick et al., 2011). Importantly, in this study, family violence negatively impacted the well-being of both children and parents. As Panter-Brick et al. (2011) note, family-level violence is a common response to the experience of living in a context of collective violence. In an earlier study with Afghan families, participants clearly linked the community-level pressures of economic stress and political insecurity with violent interpersonal relationships (Eggerman & Panter-Brick, 2010).

Community-Level

For returned former child soldiers, community stigma (e.g., rejection and social exclusion) is an important risk factor, with a longitudinal study conducted in Sierra Leone indicating that, even after taking conflict exposure into account, stigma predicted deficits in prosocial behaviors as well as elevated levels of externalizing problems and hostility over time (Betancourt, Agnew-Blais, Gilman, Williams, & Ellis, 2010; Betancourt, Brennan, et al., 2010). Importantly, for returned former child soldiers, there is an interaction between gender and community acceptance, with females experiencing higher rates of stigma compared to boys (Betancourt, Agnew-Blais, et al., 2010). Stigma is likely to play an important role in family adjustment after war, as parents simultaneously attempt to support the rehabilitation and reintegration of their children in the community, and address the stigma associated with their past (Betancourt, McBain, Newnham, & Brennan, 2015).

Protective Factors

Individual Child/Youth-Level

In their longitudinal study of Israeli and Palestinian youth and their parents, Dubow and colleagues found that youth self-esteem significantly moderated the longitudinal relationship between conflict exposure and subsequent PTSS (Dubow et al., 2012). Thus, the relationship between greater cumulative exposure to violence and higher PTSS was non-significant for youth who reported high levels of self-esteem. At the level of the individual child, higher levels of self-esteem seemed to protect youth from developing PTSS when exposed to high levels of conflict.

Possibly, higher levels of self-esteem may be associated with greater capacity to cope effectively with potentially traumatic events (Dubow et al., 2012). This finding is in keeping with earlier research conducted with Lebanese children indicating that, despite high levels of war exposure, higher levels of problem-solving skills, self-efficacy, and cognitive functioning were associated with lower relative risk of PTSD (Saigh, Yasik, Oberfield, Halamandaris, & Bremner, 2006). Having a flexible cognitive style (relating to attention, learning, and capacity to make sense of experiences) has been found to be protective in terms of Palestinian children's (Qouta, El-Sarraj, & Punamäki, 2001) and adolescents' (Punamäki & Puhakka, 1997) mental health. Low levels of negative posttraumatic cognitive appraisals have been reported to be characteristic of children who demonstrate a "resistant" PTSS trajectory (low level symptoms initially that demonstrate little change over time) (Peltonen, Qouta, Diab, & Punamäki, 2014).

Higher socioeconomic status has been found to be associated with fewer mental health symptoms, less social impairment and family problems among war-impacted youth in the Middle East (Al-Krenawi, Graham, & Kanat-Maymon, 2009). There is some evidence that religious faith and perceived spiritual support may act as a protective factor among conflict-exposed adolescents, and be associated with posttraumatic resilience in former child soldiers (Klasen et al., 2010; Schiff, 2006).

Parent/Family-Level Factors

The evidence for good parental mental health as a protective factor in terms of children's mental health outcomes is somewhat unclear, with some studies finding no moderating effect (Qouta, Punamäki, & Sarraj, 2005) and other studies indicating that good maternal mental health predicts more positive adjustment in conflict-exposed youth (Laor, Wolmer, & Cohen, 2001). Taking a longitudinal perspective, improvement in parental mental health has been associated with predicting improvement over a 4-year period in internalizing symptoms (anxiety and depression) among returned former child soldiers in Sierra Leone over and above other predictive variables (Betancourt et al., 2015). Although research examining the impact of war on parenting is lacking (Murphy, Rodrigues, Costigan, & Annan, 2017), several studies have examined the relationship between parenting style and child mental health outcomes. A supportive, non-punitive parenting style seems to be a protective factor for conflict-exposed youth (Thabet et al., 2009b). In a survey of 7000 Palestinian youth conducted 2 years after the First Intifada, higher levels of youth-perceived parental support were related to more positive adjustment while higher levels of youth-perceived parental control were associated with more negative outcomes (Barber, 1999). In other large studies of Palestinian youth, high levels of parenting style perceived as warm, non-punitive and supportive appeared to be protective for conflict-exposed Palestinian children and adolescents, where perceived parent support and acceptance appeared to buffer adolescents against the risk of developing antisocial behaviors (Barber, 2001; Punamäki, Qouta, & El-Sarraj, 2001). Supportive parenting has been found to be associated with better psychosocial outcomes in returned former Ugandan child soldiers (Derluyn, Broekaert, Schuyten, & Temmerman, 2004).

In their longitudinal study of Israeli and Palestinian youth and their parents, Dubow and colleagues found that positive parenting (measured by parent-report on an index of non-violent discipline) significantly moderated the longitudinal relationship between conflict exposure and subsequent PTSS (Dubow et al., 2012). Thus, the relationship between greater cumulative exposure to violence and higher PTSS was non-significant for youth whose parents reported high levels of positive parenting (i.e., non-physical strategies such as rewarding/praising for doing something right). The finding that positive parenting acted as a protective factor in the face of conflict exposure is consistent with cross-sectional studies (Qouta et al., 2008). In terms of more general family-related variables, qualitative research with Afghan participants has suggested that *wahdat* and *ittifaq* (family "unity and harmony") are key cultural values that emerged as strongly embedded within children's narratives

of their experiences of conflict-related adversity, risk and resilience (Eggerman & Panter-Brick, 2010). "Better home life" was associated with positive change over time in child-rated total difficulties and impairment scores on the Strengths and Difficulties Questionnaire (SDQ), whereas "family unity" was positively related to prosocial scores and negatively related to impairment scores on the SDQ (Panter-Brick et al., 2014). Having a supportive family has been identified as a buffer against PTSD among conflict-exposed youth (Cummings et al., 2011; Thabet et al., 2009b). In their longitudinal study of returned former child soldiers, Betancourt et al. (2015) reported that an increase in perceived family acceptance between baseline and follow-up was associated with a significant reduction in youth internalizing symptoms. Sibling relationships characterized by high levels of intimacy and low levels of rivalry have also been found to be protective for conflict-exposed youth (Peltonen, Qouta, El Sarraj, & Punamäki, 2010).

Community-Level

Higher levels of community social support have been found to predict better psychosocial adjustment (specifically, increased prosocial behaviors) over time in returned former child soldiers in Sierra Leone (Betancourt, Agnew-Blais, et al., 2010). Community reintegration support has also been reported to predict lower levels of depression, PTSD and functional impairment in returned Nepalese former child soldiers (Kohrt et al., 2010). Interestingly, within this study, peer social support was found to be the strongest predictor of lower levels of functional impairment and PTSD, as well as improved hope (Morley & Kohrt, 2013). Peer relationships have also been found to be associated with greater resilience among Palestinian youth, particularly boys (Peltonen et al., 2014).

Finally, longitudinal studies have noted the importance of school attendance as a resilience-enhancing factor (Ahmad, Mohamed, & Ameen, 1998). The importance of educational opportunities was highlighted in the Sierra Leone longitudinal study of returned former child soldiers, where reentering and maintaining attendance at school was linked to more prosocial behaviors and greater self-confidence (Betancourt, Brennan, et al., 2010). In an important link between family and community factors, youth with higher levels of family social support have been reported to be more likely to remain in school (Zuilkowski & Betancourt, 2014). Qualitative data echo these findings, with Afghan children articulating their perception of school as a means to maintaining family unity and reducing economic stressors (Eggerman & Panter-Brick, 2010).

Parent Interventions

In conflict settings, violence prevention and strengthening of family unity at the family-level have been identified as crucial issues for intervention (Panter-Brick et al., 2014), yet the evidence base on parenting interventions in post-conflict settings is nascent. The associations found between child outcomes and a number of parent variables (such as mental health, parenting, and family environment) underline the potential utility of parenting programs in conflict-affected communities. However, at this point, psychosocial interventions that have been evaluated have focused on working directly with children to reduce psychological symptoms (Jordans et al., 2009), or less commonly, increase resilience (Diab et al., 2015; Zuilkowski, Collet, Jambai, Akinsulure-Smith, & Betancourt, 2016). Almost no evidence exists to inform the implementation of parenting programs in war-exposed communities (Murphy et al., 2017). To the best of our knowledge, only one evaluated parenting intervention has been tailored to the needs of a war-exposed parent population. Wieling and colleagues developed, adapted and tested their intervention ("Enhancing Family Connections"; EFC) in close collaboration with local Ugandan community members (Wieling et al., 2015). EFC consists of 9 sessions, with three sessions focusing on educational content (the intergenerational transmission of violence, the impact of psychological trauma, and the relationship between trauma exposure and substance use) and six focusing on parenting strategies (enhancing posi-

tive parental involvement, giving instructions and teaching through encouragement, monitoring, effective limit setting, and staying calm while disciplining children). At post-intervention and the 5-month follow-up point, participant mothers reported a high level of satisfaction with the intervention, while quantitative measures and qualitative interviews with both mothers and their children indicated an increase in the use of encouragement and praise, and love and respect in their relationship. Use of time-out and removal of privileges were also reported to increase from preintervention, alongside a reduction in the use of physical beatings (Wieling et al., 2015). Initial findings from the feasibility study are promising, but more rigorous evaluation is required. Murphy et al. (2017) suggested a number of important recommendations in terms of the implementation of parenting programs in conflict-affected communities. These include linking parenting interventions with interventions focusing on economic outcomes where possible; targeting family-level violence; and addressing the safety issues relevant to a specific community and conflict.

Forced Displacement

The Situation

Armed conflicts and complex emergencies have resulted in more than 65 million people displaced globally (UNHCR, 2016). Any person who flees their home country due to a well-founded fear of persecution is eligible to claim refugee status in a country of safety. Those who are seeking protection but have yet to receive assessment of their claim are known as *asylum seekers*, which comprise the vast majority of people displaced across international borders. For the purposes of this chapter however, all persons seeking protection from persecution will be referred to as refugees. Refugees often originate from areas affected by armed conflict—thus, much of the content relating to war exposure above will apply to child refugees and their families. Worldwide, 28 million children (defined as under the age of 18 years) are currently refugees (UNICEF, 2016b). That figure represents 1 in 200 children, or 0.5% of all children in the world. In 2015, twice as many child refugees came under the mandate of the UNHCR compared to 2005, with almost half of children coming from Syria and Afghanistan (UNICEF, 2016b). Concerningly, the number of refugee children who are unaccompanied by a parent has also increased—with an estimated 100,000 unaccompanied children filing for asylum in 2015; three times as many as the previous year (UNICEF, 2016b).

In making sense of the research in this field, it is important to understand that the refugee process (Williams, 2010) consists of a number of distinct stages, each of which presents their own stressors and challenges. Indeed, Williams (2010) proposed a four stage ecological model of refugee parenting—with parents and children hypothesized to be impacted by multiple determinants at each stage (Lustig et al., 2004; Slobodin & de Jong, 2015): the country of origin; the pre-flight stage; departure (flight) stress—which includes periods of transition, such as refugee reception centers; and, resettlement. The family (or its absence) plays an important role at each stage for refugee youth. The adverse events and experiences that necessitated a family's flight are typically only the beginning of a journey characterized by uncertainty and upheaval. Many spend years awaiting processing of their asylum claim, or living in places of transit (Halcón et al., 2004). As alluded to earlier, the literal end point of the journey—resettlement—does not mark the end of the experience of being a refugee; rather the challenges faced are simply of a different nature (Fazel et al., 2012). In attempting to understand the refugee experience, the full spectrum of possible experiences must be considered—as opposed to focusing on the pre-flight environment (typically one of conflict), or assuming that the challenges end with resettlement (Fazel et al., 2012). It is also important to remember that there is no way to truly determine the unique contribution made to child and adolescent refugees' distress by each of the component parts of their experience or the cumulative effect of some or all of these factors (Felsman, Leong, Johnson, & Felsman, 1990).

Adverse Outcomes for Children

Overall, the majority of studies indicate elevated prevalence rates of mental health problems in refugee children, particularly anxiety, depression, and posttraumatic stress (Porter & Haslam, 2005; Tousignant et al., 1999). A reasonable amount of research examining the relationship between conflict exposure and children's mental health outcomes (see previous section on war-impacted children) exists, with cumulative exposure to violence being associated with a range of psychological problems in refugee children (Almqvist & Broberg, 1999; Ellis, MacDonald, Lincoln, & Cabral, 2008).

However, the additive potential risks posed by displacement and resettlement for refugee children have not received adequate attention (Fazel et al., 2012). In one of the few studies that have examined displacement as a risk factor, compared to non-displaced children from the same conflict-impacted areas in Croatia, displaced children experienced worse psychosocial adaptation, which did not improve with time, although symptoms of PTSS, depression and somatic complaints did reduce in both groups over a 30-month follow-up (PSIH, 2000). In another study however, the prevalence of depression was comparable in displaced compared to non-displaced children (Zivcić, 1993). The small body of research, with its inconclusive findings, makes it difficult to determine whether the experience of being displaced from one's home increases a child's risk—further research is required. Among displaced children in refugee camps in Southern Darfur, 75% were reported to meet diagnostic criteria for PTSD and 38% for depression (Morgos, Worden, & Gupta, 2008). In a sample of refugee children resettled in a high income country (Canada), 21% of youth met criteria for a psychiatric diagnosis compared with 11% of non-refugee adolescents in the community (Tousignant et al., 1999). A systematic review focusing on the prevalence of mental disorders among refugees resettled in western nations found that 11% of children in the studies examined met criteria for PTSD (Fazel, Wheeler, & Danesh, 2005).

Immigration detention, a policy of deterrence practiced in more than 60 nations, has been associated with the maintenance, worsening and independent onset of psychiatric difficulties in children and youth (Fazel, Karunakara & Newnham, 2014). Severe depression, anxiety, PTSS, social withdrawal, developmental regression, self-harm, and suicide have been reported at concerning levels among detained child and adolescent refugees (Dudley, Steel, Mares, & Newman, 2012; Lorek et al., 2009). Considering the stages that represent the experience of being a refugee, it is important to assess outcomes at different points in time, while bearing in mind that it is extremely difficult to disentangle the differential impacts of potentially traumatic experiences.

Risk Factors

Child/Youth-Level

Exposure to violence is the single risk factor with the strongest evidence base among child refugee samples. Refugee children have potentially been exposed to a wide variety of violent and other potentially traumatic events at different points along their journey; beginning with their country of origin and progressing through the flight and resettlement stages (Reed, Fazel, Jones, Panter-Brick, & Stein, 2012). The cumulative number of lifetime adverse events (Morgos et al., 2008; Thabet et al., 2004; Trentacosta, McLear, Ziadni, Lumley, & Arfken, 2016); the extent of direct exposure to threat (Allwood, Bell-Dolan, & Husain, 2002; Goldstein, Wampler, & Wise, 1997; Morgos et al., 2008), and duration of exposure (Ahmad, Sofi, Sundelin-Wahlsten, & von Knorring, 2000) all consistently increase children's risk of mental health symptoms. In line with the research focusing on conflict-exposed youth, particular types of exposures—namely those that directly disrupt or imperil the integrity of the individual and/or family safety—appear to be especially consequential, for example, witnessing a family member's death or torture (Goldstein et al., 1997). In terms of demographic factors, there is some evidence that being older (specifically, over the age of 12 years) when

exposed to forced displacement is associated with worse outcomes, particularly depression—though this needs to be considered in terms of a number of contextual variables including: normative age-related prevalence rates (with depression becoming more frequent in adolescence); the likelihood of older children having greater exposure to potentially traumatic experiences; and the tendency for many older child refugees to take on adult responsibilities, particularly when the family has been disrupted (Allwood et al., 2002; Morgos et al., 2008; Thabet et al., 2004). Being female has been identified as a risk factor for depression among refugee youth in some studies (Morgos et al., 2008; Sujoldzić, Peternel, Kulenović, & Terzić, 2006) but not others (Ellis et al., 2008), with boys found to be more likely to develop externalizing disorders (Mels, Derluyn, Broekaert, & Rosseel, 2010). Of course, this pattern of symptom development is normative for non-exposed youth populations. Unaccompanied children will often have experienced more adverse events compared to accompanied children (Bean, Derluyn, Eurelings-Bontekoe, Broekaert, & Spinhoven, 2007; Hodes, Jagdev, Chandra, & Cunniff, 2008; Mels et al., 2010) and are at increased risk of developing psychological disorders.

Parent/Family-Level

In terms of parent mental health, relatively little research has examined the association between parent and child mental health outcomes among refugee populations. However, there is some evidence that poor mental health in parents is associated with poor mental health outcomes in refugee youth (Ajduković & Ajduković, 1993). A heterogeneous clinical sample of refugee children resettled in the USA reported an increased likelihood of having an impaired caregiver compared with US-origin children (Betancourt et al., 2017). Among Guatemalan refugee children, depressive symptoms in girls were found to be closely associated with maternal well-being (Shisana & Celentano, 1985), whereas PTSD in parents did not independently predict PTSD in Kurdish Iraqi children, with the association mediated by shared exposure (Ahmad et al., 2000). Importantly, some types of parental exposures (e.g., torture or abduction) have been found to be more strongly related to children's mental health problems than children's own exposures (Daud, af Klinteberg, & Rydelius, 2008; Montgomery & Foldspang, 2006; Rousseau, Drapeau, & Rahimi, 2003). Limited evidence suggests that living in a refugee camp has been linked to greater likelihood of psychological maltreatment of youth by parents (Khamis, 2000), as well as increased rates of intrafamilial violence (Catani, Schauer, & Neuner, 2008; Panter-Brick, Eggerman, Gonzalez, & Safdar, 2009). In terms of parenting, it has been noted that parents living in refugee camp settings appropriately shift their focus to prioritize physical daily needs over psychological needs, leading to a pattern of altered parenting (McElroy, Muyinda, Atim, Spittal, & Backman, 2012). Following on from this research, a recent qualitative study examined the challenges experienced by Syrian mothers (with at least one child aged 4–10 years) living in a refugee camp (El-Khani, Ulph, Peters, & Calam, 2016). A downward spiral was identified; with camp living conditions, changes in children's behavior (more violent play and more aggressive communication) and emotions (sadness, lack of motivation) impacting mothers' sense of competence in their parenting. Mothers' actual parenting behaviors were affected in turn (more frequent uses of physical discipline strategies and aggressive communication), with some of this impact attributed by mothers to their own distress and not knowing how to respond to their children's needs. Children were perceived as reacting negatively to mothers' own distress, mothers' altered parenting, and mothers' lack of confidence in their parenting. Maternal competence decreased further while children's behavioral problems increased. This study suggests one way of understanding the high levels of child maltreatment evidenced in refugee camps (Lustig et al., 2004), as well as linking back to the prospective finding that family-level violence is a key predictor of child mental health outcomes, even in the context of ongoing military conflict (Panter-Brick et al., 2011).

Community-Level

In host countries, the arrival of refugees can lead to tensions for many reasons (Farwell, 2003), including the real or perceived threat to the availability of resources (Pedersen, 2002). This in turn can result in child refugees being exposed to harassment, as well as sexual and physical violence in the community (Betancourt et al., 2012; Dolma, Singh, Lohfeld, Orbinski, & Mills, 2006; Farwell, 2003). Recent violence from peers in the context of resettlement of low/middle income countries has been associated with anxiety, depressive and psychosomatic symptoms among refugee youth (Sujoldzić et al., 2006). Related to this, *backlash trauma* (discrimination by individuals and institutions, combined with negative media portrayals) was predictive of mental health problems in Iraqi Muslim adolescents (Kira, Lewandowski, Chiodo, & Ibrahim, 2014). Another important community-level factor is the process of *cultural negotiation* (Frounfelker, Assefa, Smith, Hussein, & Betancourt, 2017), often also known as acculturation (i.e., the process of adapting to a new culture). Parents in resettled refugee families often experience a significant sense of loss of their culture of origin (El-Khani et al., 2016; Renzaho, McCabe, & Sainsbury, 2011) in addition to uncertainty, as they navigate the expectations and norms of a new culture. Compared to their parents, children tend to acculturate quite rapidly, embracing the independence and freedom that often comes with the new culture (Renzaho & Vignjevic, 2011). This can result in what is referred to as acculturative family distancing, in which an acculturation gap develops between parents and their children, leading to tensions and conflict (Telzer, 2011). In a recent qualitative study with Somali Bantu refugee parents and youth resettled in the USA, it was concluded that the strategies of cultural negotiation used by adults and children had two key consequences: an increase in conflict within the parent–child dyad; and a strengthening of relationships between siblings, as youth look to each other for support in navigating both the cultural negotiation and the impact on this on their relationship with their parents (Frounfelker et al., 2017).

Protective Factors

Child/Youth-Level

High self-esteem has been found to be a resilience-enhancing factor among refugee youth (Daud et al., 2008). Acculturation (i.e., the ability to integrate into the host society) and language skills have also been associated with better psychosocial functioning over time among resettled refugee youth (Halcón et al., 2004). However, the importance of maintaining a sense of one's original cultural identity is also crucial. A matched sample study of youth seeking treatment for trauma-related difficulties in the USA suggested that refugee youth reported higher levels of trauma exposure, but lower rates of substance abuse and oppositional defiant disorder than US-origin youth (Betancourt et al., 2017). It may be the case that a range of unique protective factors, including cultural norms, play an important role in shielding refugee youth from behavioral and substance use issues. Similarly, an assessment of coping methods among Somali and Oromo youth resettled in the USA suggested that most engaged in a range of healthy coping behaviors to deal with sadness (Halcón et al., 2004). Despite the high levels of coping evident among refugee children and youth, little attention has been paid to the specific protective factors that contribute to pathways of resilience in these populations. Further research that examines the factors associated with resilience among refugee children and adolescents will strengthen the field.

Parent/Family-Level

Good parental mental health—particularly in mothers—has been found to be a significant protective factor for refugee youth (Almqvist & Broberg, 1999; Hjern, Angel, & Jeppson, 1998). Youth perceptions of high parental support and family cohesion are associated with less distress in refugee children (Berthold, 1999; Kovacev & Shute, 2004; Sujoldzić et al., 2006; Trentacosta et al., 2016). Interestingly, in the study by Trentacosta et al. (2016) of Iraqi refugees resettled in the USA, supportive parental relationships only buffered the development of depressive symptoms when cumulative trauma exposure

was low. Higher levels of family connectedness have been associated with lower rates of depression among displaced Bosnian adolescents (Sujoldzić et al., 2006). In relation to family communication about adverse experiences, a study of Bosnian refugees resettled in Sweden indicated that lack of discussion was protective in relation to children's mental health (Angel, Hjern, & Ingleby, 2001). Family composition has been found to be protective in some studies, with boys living with both parents post-resettlement and boys who experienced fewer changes in family structure found to endorse significantly lower rates of psychological symptoms compared to boys living in other types of family structures (Tousignant et al., 1999).

Community-Level

Low levels of peer violence and discrimination have been associated with higher self-esteem among resettled Bosnian adolescents (Sujoldzić et al., 2006). Feeling supported by peers in the context of resettlement has been linked to improved psychosocial functioning (Kovacev & Shute, 2004). Among resettled refugee youth, a sense of safety at school has been linked to lower risk of PTSD (Geltman et al., 2005); while an increased sense of connection to school has been found to protect against depression (Kia-Keating & Ellis, 2007; Rousseau, Drapeau, & Platt, 2004; Sujoldzić et al., 2006), anxiety (Sujoldzić et al., 2006) and PTSS (Trentacosta et al., 2016), as well as being associated with higher youth self-esteem (Rousseau et al., 2004).

Parent Interventions

For refugee families living in a new society, parenting represents one of the most challenging issues to be negotiated (Renzaho, Green, Mellor, & Swinburn, 2011). Interventions that help refugee parents parent effectively given the context in which they find themselves, have the potential to significantly reduce risk factors and enhance resilience-enhancing factors throughout the journey to resettlement and beyond, and have been recommended as global mental health priorities (Williams, 2012). By targeting parenting factors specifically, it may be possible to influence the relationship between the impact of exposure to violence and displacement on children's mental health outcomes (Diab et al., 2015; Tol et al., 2011). Unfortunately, there is very little research examining the parenting needs of refugee families (Reed et al., 2012). Given calls for parent education training in the early identification and management of children's mental health issues to be offered in post-war settings (Panter-Brick et al., 2014; Williams, 2010), the recent qualitative study conducted by El-Khani et al. (2016) represents an important step in the right direction, focusing as it does on the challenges of parenting in a refugee camp. To the best of our knowledge, one evaluation of a parenting program tailored for refugee parents has been published. Conducted in Australia with resettled sub-Saharan African refugees (Renzaho & Vignjevic, 2011), the intervention (the African Migrant Parenting Program) consisted of eight sessions (~2 h duration), which were delivered in a group format. Content focused on the development of culturally competent parenting and educational material. Thirty-nine families completed pre- and post-treatment assessments, with results indicating that the program was highly acceptable to families. From pre- to post-treatment, significant positive change was found for: parental empathy towards children's needs, parental expectations, understanding of parent–child family roles, and awareness and knowledge of alternative parenting strategies to corporal punishment. No change was observed on parents' restriction of children's autonomy and power, causing the researchers to suggest that participation in the program had not impacted parents' attitudes regarding children's independence or power within the family (Renzaho & Vignjevic, 2011). As the authors note, this study is limited by a lack of follow-up beyond post-treatment, as well as a small sample size. However, it represents an excellent beginning.

Limitations of Research Conducted in Humanitarian Contexts

Across the three humanitarian crisis contexts examined in this chapter, common methodological limitations to the research examining child outcomes, risk and protective factors, and the role of parents and the family environment exist and should be kept in mind. To begin with, research in these fields tends to focus on individual-level, as opposed to family- or community-level data—such that the individual youth is typically conceptualized both as the unit of analysis and as the target of intervention (Betancourt, McBain, Newnham, & Brennan, 2013; Catani, Jacob, Schauer, Kohila, & Neuner, 2008; Catani, Schauer, & Neuner, 2008; El-Khani et al., 2016; Fazel et al., 2012; Gewirtz, Forgatch, & Wieling, 2008; Panter-Brick et al., 2011). There is a problematic reliance on self- and parent-report (Cobham et al., 2016); as well as an exclusive focus on event or experience-related trauma and PTSS or PTSD, as opposed to a broader range of risk and outcome variables, including the post-emergency environment (Catani, Jacob, et al., 2008; Catani, Schauer, & Neuner, 2008; Miller & Rasmussen, 2010; Panter-Brick et al., 2011). The majority of empirical studies conducted in these humanitarian contexts is cross-sectional in nature (making it impossible to infer causality), with relatively few longitudinal studies or randomized trials conducted (Betancourt, Borisova, et al., 2013). Work in this area has also been characterized by a focus on the cumulative impact of exposure as opposed to examining associations between different types of potentially traumatic exposures and mental health outcomes (Reed et al., 2012). Finally, very little attention has been paid to cognitive, neurological, and epigenetic markers of stress in youth and parent populations exposed to disasters, conflict, and forced displacement (Nickerson et al., 2017; Ramo-Fernández, Schneider, Wilker, & Kolassa, 2015).

Having acknowledged these limitations, it is also important to note that conducting research with refugee youth and families and/or those who have been impacted by natural disasters or war, is inherently challenging and researchers in these fields are to be commended for the important insights their work has provided.

Conclusions

Humanitarian crises present a cascade of threats to vulnerable families. Beyond the direct threat of trauma; conflict and disaster often result in widespread economic insecurity, destruction of societal infrastructure, and heightened rates of exploitation and community violence (Miller & Rasmussen, 2010). Each of these risks has a direct effect on children, and compounds stressors for parents. Yet whether exposed to a natural disaster, armed conflict, or the range of experiences involved in forced displacement, the majority of children demonstrate resilience over time in the face of adversity. Across the three humanitarian crisis contexts, many of the same risk and protective factors for child mental health emerge. Important risk factors across all three contexts include exposure to trauma for children and parents, parental mental health, changes in parenting behaviors (which range from inattentive to overprotective), hardships and financial stress, domestic and community violence, and a lack of accessible services. Common protective factors include stable supportive parental relationships, strong family connectedness, and sustainable resources available to support families. Although these factors have been described separately throughout the chapter, in reality, the pathways to children's risk and resilience are highly interrelated; and children's needs in the three crisis contexts reviewed must be understood in the context of an integrated ecological framework. As highlighted by the World Health Organisation framework (WHO, 2008), children's risks cannot simply be added up in order to predict their outcomes. However, what is clearly needed is a strengthened evidence base for interventions to support parents and children across the range of humanitarian crisis settings. While a small number of parenting programs delivered in post-disaster, post-conflict, and resettlement settings have demonstrated promising first results,

rigorous evaluations are lacking. Drawing from the broader evidence base of parenting research from high-resource nations, and a growing evidence base emerging from crisis settings, will support the further development of culturally appropriate and sustainable interventions. As child and adolescent mental health becomes a growing focus of public health programming and policy, family-strengthening interventions will play an important role in addressing the significant mental health gap in humanitarian contexts.

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Part II

The Effects of Parenting on Children's Development

Parenting and Human Brain Development

Michael I. Posner and Mary K. Rothbart

Theoretical Background

Parents influence the child's brain both through the child's genetic inheritance and their interactions with the child. Parental influences include physical care, direct and indirect tuition, reward and punishment, emotional support, modeling of behavior, stimulation, and more. How might these many areas of influence be represented in the child's brain? Hebb (1949) introduced the idea that brain cells activated in close temporal proximity become connected into networks he called cell assemblies. Neuroimaging has been used to activate brain networks underlying many common functions (Posner & Rothbart, 2007). In this chapter, we use the construct of the neural network to discuss general postnatal changes in the brain during the child's development. We apply networks to two areas of skill development, language and attention, both critical for the child's development in other areas.

It is increasingly possible to identify brain networks involved in human development, including development of those skills that allow the child to better understand and adapt to their physical and social worlds. We have learned a great deal about how the brain changes with development, and we report here on methods and important findings on brain development. Do these advances in brain study have direct implications for what parents should do and how policy makers should be spending their money? Advances in the study of the human brain allow greater understanding of the developing child. At present, however, brain findings have established only weak connections to complex human behavior. To offer advice, it is necessary to extrapolate from brain findings to behavioral findings, and we attempt in this chapter to make clear when such extrapolations are involved.

A previous review of parenting research, based largely on studies of developmental pathology, concluded that parent actions influence brain development, but called for more research linking the behavior of typical children to the brain (Belsky & de Haan, 2011). In this review, we concentrate on methods that trace normal development of brain networks. We limit our review to the brain of the developing child, leaving aside the substantial new research on adaptations of the caregiver's brain to parenthood (for reviews see Abraham, Hendler, Zagoory-Sharon, & Feldman, 2016; Kim, Strathearn, & Swain, 2016).

Our emphasis in this chapter is on methods that can illuminate brain networks involved in language and attention. The need to understand language and its development has long been

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recognized, and an extensive literature is available on children's order of acquisition of language-related skills (Dehaene-Lambertz, Hertz-Pannier, & Dubois, 2006; Kuhl, 2010). This demonstrates that language development is not simply a process taught by parents or their surrogates. Rather, the acquisition of language demonstrates a clear interaction between genetic effects and the environment into which the infant is born. Because of more recent studies in brain development, we have learned much more about the details of this process, giving us a better understanding of how language develops.

We also examine the development of attention and self-regulation in children. As in language, brain networks of attention are influenced by genetic factors in interaction with experience. Some of the individual differences in the efficiency of attention networks have been traced to gene × environment interactions that involve parenting in conjunction with child temperament. Individual differences in the efficiency of executive attention are related to parents' reports of their children's ability to regulate their behavior (known as *effortful control* (EC); Rothbart, 2011; Rothbart & Rueda, 2005). Self-regulation and EC, as measured in childhood, have been found to have extensive consequences for successful outcomes of adults (Moffitt et al., 2011). Parents and caregivers can benefit from learning about brain development. They can take into account findings such as the effect of parent language in shaping the child's understanding of speech, the importance of infant orienting to later development of self control and the importance of individual differences in infant and child temperament.

Methods of Examining Brain Changes

To begin this chapter we review methods for examining brain changes during development. These include early anatomical studies of the brains of infants and children studied after death, and newer methods for examining structural and functional change using brain imaging.

Anatomy

Methods for examining brain changes during development began with studies of the brains of infants and children who died early in life, followed by newer methods that examine images of the living brain. In its growth, the human brain roughly quadruples in weight between birth and 6 years of age, by then reaching 90% of its adult volume (Brown & Jernigan, 2012). From 1939 to 1967, Conel examined infant and child brains from autopsies. Over the decades, he was able to examine under a microscope changes in number of synapses, their density and the increased complexity of dendritic trees. In all areas of the cortex, synaptic density increased after birth and then declined, reaching adult levels first in the primary sensory cortex and much later in frontal areas (Huttenlocher & Dabholkar, 1997).

Structural Images

When magnetic imaging is used to view the structure of the human brain, there is first an increase in cortical thickness and surface area that reflects an abundance of potential connections in early life, which then decrease with age as inactive synapses are reduced toward adult levels. (Wierenga et al., 2014). However, even larger changes in brain size are due to increases in myelinated fibers (white matter), which increase linearly from infancy to adulthood (Zilles, 2005). The axons of long projections are myelinated earlier than those connecting the two hemispheres, while myelin in the frontal cortex and other association areas takes the longest time to develop and shows the largest individual differences during development (see Brown & Jernigan, 2012, for additional information on structural changes in development). Myelination of nerve fibers continues throughout childhood and early adult life.

Structural findings point to the importance of connectivity between neural areas during development. Functional imaging of adults using positron emission tomography (PET) and functional magnetic resonance imaging (fMRI) have

consistently shown that most common human tasks involve a number of brain regions, with these often including both the cortex and subcortical areas (Posner & Rothbart, 2007). Because widely separated brain areas are connected in carrying out even very simple cognitive tasks, such as shifting attention between areas of the visual field, the role of white matter connections is critical in the efficiency and timing of task performance.

Task Related Functional Imaging

Functional imaging in cognitive research began by subtracting images of the brain obtained during an experimental task from those in a closely related control task. While subtraction provides evidence on the brain areas involved in a task, methods such as Electrical and Magnetic Encephalography and Dynamic Causal Modeling can indicate when and in what order these brain areas are activated (Posner, Sheese, Odludas, & Tang, 2006). Functional imaging based on correlations of MRI activation across brain areas can help examine communication between these areas (Posner et al., 2006). Most tasks involve a network of brain areas, which must be orchestrated during performance. In many tasks, young children activate more brain areas during a task and often show more extensive activation within each area than young adults (Brown & Jernigan, 2012).

Resting State Imaging

While task related functional magnetic imaging (fMRI) can trace changes with development, the ages studied have been limited by the ability of children to carry out task instructions. However, it is now possible to trace the changes in brain connectivity that occur during early development by examining brain activity while the person is at rest (rsMRI; Raichle, 2009).

Resting state methods can be applied at any age because they do not require the use of a task. Many brain networks involved in waking activity work together even at rest. Among these are networks that are related to attention (Dosenbach et al., 2007; Fair et al., 2009). For example, resting state studies have shown that frontal midline areas involved in attention are present during the first few months of life (Gao et al., 2013), although their connectivity with other brain structures is sparse. A significant increase in connectivity is evident by 2 years of age (Gao et al., 2009) and connectivity continues to develop slowly across the childhood years (Fair et al., 2009). During infancy and early childhood, most brain networks involve short connections between adjacent brain areas, but long connections important for self-regulation develop slowly over childhood (Fair et al., 2009; Gao et al., 2009). Although some of these results may be due to movement of young children during the scan, behavioral data also indicate that many long connections develop in later childhood and beyond. For example, there is a large improvement in reaction time (RT) between 7-year-olds and adults when performing tasks involving long connections between sensory and motor areas (Voelker, Rothbart, & Posner, 2016).

In contrast, the ability to resolve conflict, which is necessary in daily life to maintain a coherent behavior designed to reach goals, and which involves the executive attention network, shows little or no improvement beyond 7 years (Rueda et al., 2004). These findings suggest that control structures related to executive attention may be present in infancy, but they do not have the connectivity required to exert full control over voluntary behavior until later in development. We discuss executive control more fully under the section on development of attention.

Individual Differences

Our understanding of brain networks common to all humans makes it possible to view individual differences as variations in the efficiency of these networks. Network efficiency is influenced by variation in genes and by the gene × environment interactions that shape the child's temperament.

Temperament

The development of the individual child depends upon their temperament and its influence on the child's interaction with their environment (Rothbart, 2011). Temperament refers to the basic dimensions of reactivity to the internal and external environment and regulation of emotions, thoughts, and actions that differ among children. Parents often do not become believers in the role of temperament until after the birth of their second child (Putnam, Sanson, & Rothbart, 2002). It then becomes clear that the same techniques of child rearing that worked well with one infant may not be effective with the new baby. Temperament involves genetic factors but is not limited to them. Intermediate between the DNA inherited by the child and the effects of parenting are the environmental effects that influence the expression of DNA, called *epigenetics*. There is some evidence that methylation of DNA may affect such dimensions of temperament as negative affect and surgency (Fuemmeler et al., 2016), but additional studies are needed in this relatively new field.

Dimensions of temperament such as surgency (activity level and positive affect) and negative affect (fear, frustration, and distress), together with orienting and soothability can be studied in the laboratory and in caregiver reports based on observation of their infants (Putnam et al., 2002; Rothbart, 2011). Later, effortful control (EC), which measures the ability of children to regulate their own behavior can be reliably reported by parents. Effortful control has also been shown to relate to development of the brain's executive attention network (Rothbart & Rueda, 2005). In infancy, self-regulation depends more upon alerting and orienting networks, which by then are well developed. These networks sustain the waking state and allow the infant to be soothed through distraction.

We will be examining how genes interact with the environment during infancy and early development. However, early temperament ratings are often more predictive of later behavior than are direct predictions of behavior from genes. This is probably because temperament summarizes the influence of a large number of genes, each one with a small effect, and because temperament measures include effects of experience as well as genes. Moreover, experience itself cannot be simply inferred from a description of the environmental stimulus, because the same stimulus can lead to quite different experiences depending on the child's temperament (Rothbart, 2011).

Genes and Environment

Imaging studies have revealed the importance of connectivity between brain areas. In fact, efficiency of connections between neural areas in newborn infants predicts later cognitive function. In a large longitudinal study, Lee et al. (2017) found that diffusion tensor imaging (DTI) of white matter connectivity at birth predicted better performance on cognitive tests at age 2. This finding emphasizes the importance of genetic and prenatal factors in laying down the basic connective structure on which much of performance is based. Although many genes are common to everyone, differences in attention and cognition are partly dependent upon variations within the genome. This has been shown clearly in studies of attention networks (Fan, Fossella, Summer, Wu, & Posner, 2003). Of course, which genetic variations are inherited depends upon the parents, but not upon the actions of parents.

In theory, it is possible to manipulate the environment to provide either an enriched or an impoverished environment. Ethical issues obviously make it difficult to conduct experimental studies with humans, although natural variations in environments can provide quasi-experimental studies. Animal research has provided evidence that cortical thickness can be changed by placing rodents in environments of increased complexity (Diamond, Krech, & Rosenzweig, 1964). These findings stimulated efforts to intervene to improve child development which we discuss later in the section on interventions.

Development of Language and Attention

In this section, we review studies of brain development that can be linked to some of the most important tasks undertaken by parents and children starting in infancy.

Language

The study of language acquisition makes major contributions to our understanding of human brain development. There are several reasons for this. Language is a species-specific characteristic of all human cultures, whereas the specific language learned is a clear contribution of the caregivers. Moreover, studies of adult human language use have benefitted from imaging studies of the human brain, so that some of the networks involved are known.

The overall level of a child's language skill has a powerful impact on the ability to form relationships with others and to succeed in a wide range of cognitive tasks. Improvement in our understanding of how to optimize language development and to treat and rehabilitate disorders of language development will have profound consequences for both a basic understanding of human development and for human society.

Everyone recognizes the influence of the parents on the specific language the child develops but often do not recognize how early that influence is shown. If given an opportunity, 2-month-old infants display a clear preference for the language spoken by the parents over others, and they also prefer the mother's voice to other voices speaking the same language (Dehaene-Lambertz & Houston, 1998). Another clear behavioral demonstration of parental influence is the importance of child-directed speech in vocabulary development (Montag, Jones, & Smith, 2015).

What has become clear in the last 20 years is how parenting helps shape the brain system to allow for specific recognition of the phonemes of one's native language. The phoneme is the fundamental constituent of all the world's languages that allows discrimination among words in the language. The infant's ability to recognize phonemes is demonstrated by presenting a single phoneme (e.g., b) several times in a row, until the infant shows reduced orienting to its presentation, and then changing to another closely related phoneme (e.g., p) to see if the infant shows an increased response. If the changed sound is within the same phonemic boundary (e.g., different forms of b) there is little or no increase in orienting, but orienting is clearly increased if a phonemic boundary is crossed to p, even when in both cases the physical change in the signal is equal.

Phonemes

For some time we have understood that language acquisition proceeds, roughly speaking, through stages covering the period from birth to about age 5. During this time children move from perceiving basic differences in the sound and rhythmic aspects of human language to controlling the detailed grammatical contrasts in their native language. Recent research has provided surprising and important new insights, particularly into what young infants bring to this task and how rapidly early native language learning begins.

Between 6 and 12 months, infants' perception of the distinction between native and nonnative phonemes increases (Werker & Tees, 1984). While nonnative perception declines, native speech perception shows a significant improvement. For example, Japanese infants' discrimination of the English r-l distinction declines between 8 and 10 months of age, and at the same time American infants' discrimination of the same sounds improves (Kuhl et al., 2008). These discriminations predict later language skills, but in opposite directions. Improved native phoneme discrimination predicts better later language skills, while relatively better nonnative discrimination is associated with poorer later language.

One way of thinking about these changes has been developed by Kuhl (2010). She sees native language improvement as the result of specific developments in the neural areas processing speech, whereas nonnative language improvement reflects the basic auditory ability to discriminate phonemes such as is found in nonhuman animals. During early phonetic development, the

speech patterns directed toward infants by caregivers tend to exaggerate the features that separate phonemes in the native language. Of course, nonnative phonemes do not have the advantage of such speech. Thus, speech directed toward the infant is crucial to the elaboration of the neural systems related to speech recognition and to the infant's production of speech during the latter part of the second year.

The importance of social interaction in the learning of phonemes is supported by the finding that nonnative phonemes (e.g., Mandarin phonemes for native English speakers) can be maintained by active tutoring of the infant, but the tutoring must involve a person and not merely a computerized image (Kuhl, Tsao, & Liu, 2003; see also Box 1). The extent of learning of Spanish phonemes for English speakers exposed to bilingual speech was predicted by the degree of orienting toward the tutor, suggesting that orienting is one aspect of the advantage of actual people over electromagnetic displays (Conboy, Brooks, Meltzoff, & Kuhl, 2015). Another link to orienting is that infants of <10 months or more than 2 years of age look primarily at the eyes when viewing pictures of faces, but during the period when phonemic learning takes place the infants look more frequently at the mouth (Lewkowicz & Hansen-Tift, 2012; see also Box 1).

Improvement in the perception of native phonemes has also been found to be temporally related to changes in white matter tracts that connect nodes of the speech perception network. Between the middle of the first year of life and 3 years of age, there is maturation of axons entering the deeper cortical layers from the subcortical white matter. These axons provide the first highly processed auditory input from the brainstem to higher auditory cortical areas (Moore & Guan, 2001). The temporal coincidence between this change and infants' phonetic learning indicates an important brain pathway to language. Later we review more specific white matter changes that occur prior to learning to read, and show how they predict later performance.

Building Words and Sentences

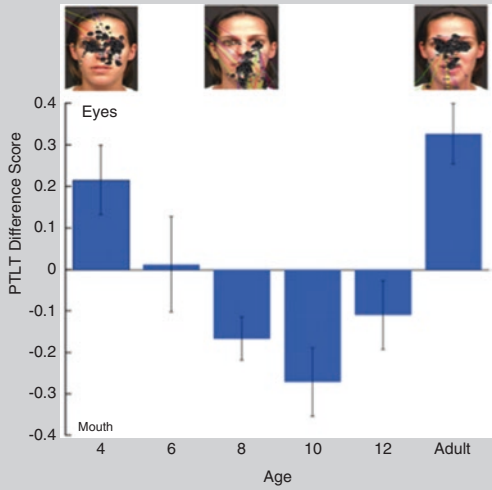
Studies of the neurobiology of language in speech and in the ability to learn to read have long been dominated by the classical view that emphasized the role of three well-circumscribed cerebral regions within the left hemisphere: Broca's area in the inferior frontal lobe, for planning and executing speech; Wernicke's area at the junction between the superior temporal and the parietal lobes, for the analysis and identification of speech; and the angular gyrus, for orthographic to phonological decoding during reading (Geschwin, 1965). However, even the earliest studies of imaging found activity in other areas, both cortical and subcortical. Among them is the anterior cingulate, a part of the executive attention network, which becomes active when participants obtain a use for a noun (Petersen, Fox, Posner, Mintun, & Raichle, 1987), and which is consistently activated by the resolution of conflict between activated items.

Sentences read to newborn infants while they are at rest in an MRI scanner activate the same posterior (Wernicke's) and anterior (Broca's) brain areas found to be active when adults process language (Dehaene-Lambertz et al., 2006). Of course, the infants do not really understand the sentences. The left hemisphere asymmetry found in most adults does not appear to develop until the second year of life (Emerson, Gao, & Lin, 2016). Over the first 5 years of life there is a steady improvement in the ability to use and understand words. Parents may guide this ability through the vocabulary and speech patterns they use with their children. One important example is joint attention in which the child tends to learn the word indicating the object of their parent's attention (Baldwin, 1995). While joint attention skill is correlated with vocabulary acquisition, it is not necessary for acquisition and some children learn vocabulary in spite of having difficulties with joint attention (Akhtar & Gernsbacher, 2007).

In the acquisition of English and similar languages, children of 18–24 months begin to form early sentences by combining a noun and verb or two nouns, using the basic word order of the adult language, and omitting function words (the, is) and inflections (plural and past tense) (Brown, 1973). Children can know that some unstressed elements, like function words, should be included in adult sentences, even when they do not produce these elements in their own speech.

It is estimated that children of professional class parents are exposed to 26 million words by age 3, while children from welfare families have barely half that exposure (Hart & Risley, 2003) and the words used by parents are important to the development of the child's vocabulary. There have also been efforts to use electronic technology to increase word exposure, but judging from the findings with phonemes (see Box 1) these may not be effective.

Box 1 Infants from 6 to 12 Months Look at Pictures Differently than Younger Infants or Adults



Infants below 7 months of age and adults look primarily at the eyes in a picture of the face, while between 7 and 12 months, when phonemes are being learned, the infants look at the mouth (Lewkowicz & Hansen-Tift, 2012). This remarkable adaptation of the orienting network occurs during the time when the phonemic system of the native language is being learned.

It is not clear whether this subtle shift in infant orienting is consciously apparent to parents, but most parents even for their first child shift their language to what has been called *motherese* (Fernald, 1991), and the language has the effect of directing the child's attention to transitions that distinguish phonemes in their native language.

At 10 months it was found that US infants who were tutored in Mandarin were able to improve the representation of Mandarin phonemes so their performance on them resembled those of their native language (Kuhl, Taso & Liu, 2003). When efforts were made to improve the same Mandarin phonemes by presenting the tutor on a computer screen no significant phonemic learning was found (Kuhl et al., 2003).

These studies indicate the remarkable synergy between caregiver and child in the important social act of the infant's acquisition of their primary language. This occurs mainly when parents are unaware of their infant's language learning since they most have not yet begun to speak.

Bilingualism

For much of the world's population, knowledge of two or more languages starts early in life. In comparison with monolingual populations, the use of two languages often leads to reduced vocabulary and greater effort while achieving mastery of the primary language (Costa & Sebastian-Galles, 2017).

Bilingualism has also been related to executive attention. We have previously described the involvement of the executive attention network in the brain's processing of language, and there is evidence that this network shows greater efficiency in bilinguals than in monolinguals. For a given level of language performance, there is

reduced brain activation in bilinguals who have learned two or more languages at the same time of life. Reduced activation indicates that for bilinguals less effort is needed to resolve conflict. It has also been argued that the improved efficiency of the executive attention network leads to improved general cognition by bilinguals. According to this view (Bialystok, 2017), bilinguals have multiple word meanings activated from their languages and must exercise control to maintain the use of one language. Switching between languages also requires control operations like resolving conflict that involve executive attention. The exercise of these control operations, particularly early in life, may lead to improved ability for control during mental arithmetic, problem solving and other forms of thought. There is still a great deal of controversy about whether bilinguals do display better cognitive processes in tasks involving conflict resolution (Bialystok, Craik, & Luk, 2012). Nonetheless, Costa and Sebastian-Galles (2017) argue that the brain network underlying executive attention is improved in bilinguals, and Bialystok (2017) concludes that executive attention is the most likely mechanism for the improved ability to resolve conflict in bilinguals.

Advances in neuroimaging techniques have added to our understanding of the advantages and disadvantages of learning multiple languages. For bilinguals who start early in childhood, the two or more languages are activated and stored together in the brain. This requires the person to resolve conflict in understanding and using words, and to be adept in switching between the two languages (Bialystok, 2017). Languages learned later in life, for example in high school, are not stored together and there is less automatic interference when retrieving items.

Reading

One of the best predictors of success in acquiring literacy is the number of words to which the child has been exposed by 3 years of age (Hart & Risley, 2003). It is also possible to learn more about the potential reading skill of the child by recording electrical activity from the scalp in response to spoken phonemes during infancy. The better the brain's representation of phonemes, the easier it will be to acquire the written language (Molfese, 2000).

How could this be? We have reviewed above the importance of experience in the very early development of the phoneme system. Much the same is true of the ability to understand individual words. Experience with aural speech helps the infant and child to develop a strong representation of aural language. Exposure to high levels of background noise can interfere with the successful shaping of the phonemic system (Cohen, Glass, & Singer, 1973). Good representation of phonemes and words are important because one aspect of acquiring the ability to read (literacy) is being able to refer written words to speech sounds.

Sounding out individual letters and blending them into whole words during reading is called decoding. If children have a word in their aural vocabulary, they will then be able to interpret the word meaning just as they would for the spoken word. Decoding skills are an important step in the acquisition of literacy, and imaging studies have shown that children who have difficulty learning to read show poor activation of the phonological codes from print. A remediation program (McCandliss, Sandak, Beck, & Perfetti, 2003) that has been successful in improving children's decoding uses a computer to introduce words with a consistent sound pattern. Over 20 sessions, new phonemes are introduced and the child practices decoding them. By scanning the brains of children before and after this training, the program was found to be successful in teaching decoding and also in producing activation of the phonological code in poor readers, who previously did not successfully activate the sound based code during reading. This program's use of words that differed in a single phoneme (e.g., *bat* versus *pat*) helped the child learn the importance of individual sounds in creating words. Parents may also use this method for teaching their own children decoding skills, and the Dr. Seuss books show one example of the use of phoneme discrimination skills in reading.

Nevertheless, those who have learned only decoding skills are not necessarily fluent readers and often do not choose to read. Fluent reading depends upon the development of a visually based word form system. This system has been localized to the fusiform gyrus of the left occipital lobe (Molko et al., 2002).

Even in 4–6-month-old infants there is evidence of strong organization of a face recognition system, which in adults occupies the fusiform gyrus of the right occipital lobe (Deen et al., 2017), in a location similar to the word form, but in the opposite hemisphere. There is evidence that the neural pathways into the visual word form area are present well before literacy begins (Saygin et al., 2016). Moreover, the efficiency of these early pathways predict how well the child will be able to read visual words several years later, after literacy is achieved.

The process of developing the visual word form system is accompanied by the face recognition becoming more strongly lateralized to areas of the right hemisphere (Dehaene, Cohen, Morais, & Kolinsky, 2015). Indeed, the higher the level of reading skill, the stronger the lateralization of the face system. Because of this influence of word fluency on the lateralization of the face recognition system, too early acquisition of literacy could have a detrimental effect on aspects of face recognition (Dehaene et al., 2015). The acquisition of literacy, unlike bilingualism, does not appear to influence the executive attention system described in the next section of this chapter (Dehaene et al., 2015).

An important way to improve children's printed vocabulary is for the parent to engage in reading with the child. There is substantial evidence from both high and low income countries that interactive reading with the child improves vocabulary, literacy acquisition and directed attention (Engle et al., 2007; Montag et al., 2015; Vally, Murray, Tomlinson, & Cooper, 2015).

Attention and Self-Regulation

The importance of parenting in developing brain networks related to attention and self-regulation is perhaps less obvious than for language, but attention and self-regulation are certainly of no less importance and they are critical to language acquisition. Evidence that self-regulation involves a high level executive attention network has led us to group the areas of attention and self-regulation together. Adult studies have identified three brain networks, which involve different functions of attention. These are the alerting, orienting and executive control networks (Petersen & Posner, 2012). In anatomically oriented functional imaging studies, the orienting network is often called the frontal parietal (FP) network, while the executive network is called the cingulo-opercular network (CO; Dosenbach et al., 2007). The networks, their anatomy, time course, and neuromodulators involved are illustrated in Fig. 1. There are other valuable frameworks for the classification of attention, for example, differentiating bottom-up from top-down control (Amso & Scerif, 2015). We believe, however, that it is important to distinguish between the orienting and executive network, both of which can have top down components, in order to grasp the transformation in attention that takes place between infancy and early childhood.

Several of the networks involved in attention can be examined using the Attention Network Test (ANT), developed to study individual differences in the efficiency of the alerting, orienting, and executive brain networks (Fan, McCandliss, Sommer, Raz, & Posner, 2002; Rueda et al., 2004). In addition to adult research, the ANT can be used to study attention in children of about 4 years and above (Posner, Rothbart, Sheese, & Voelker, 2014).

The ANT uses differences in reaction time (RT) between task conditions to measure the efficiency of each network. Each trial begins with a cue (or a blank interval in the no-cue condition) that informs the participant that a target will be occurring soon, or where it will occur, or both. The target always occurs either above or below fixation, and consists of a central arrow, surrounded by flanking arrows. The flankers point either in the same direction as the target arrow (congruent) or in the opposite direction (incongruent). Subtracting RTs of congruent from incongruent target trials provides a measure of the time required to resolve conflict and assesses

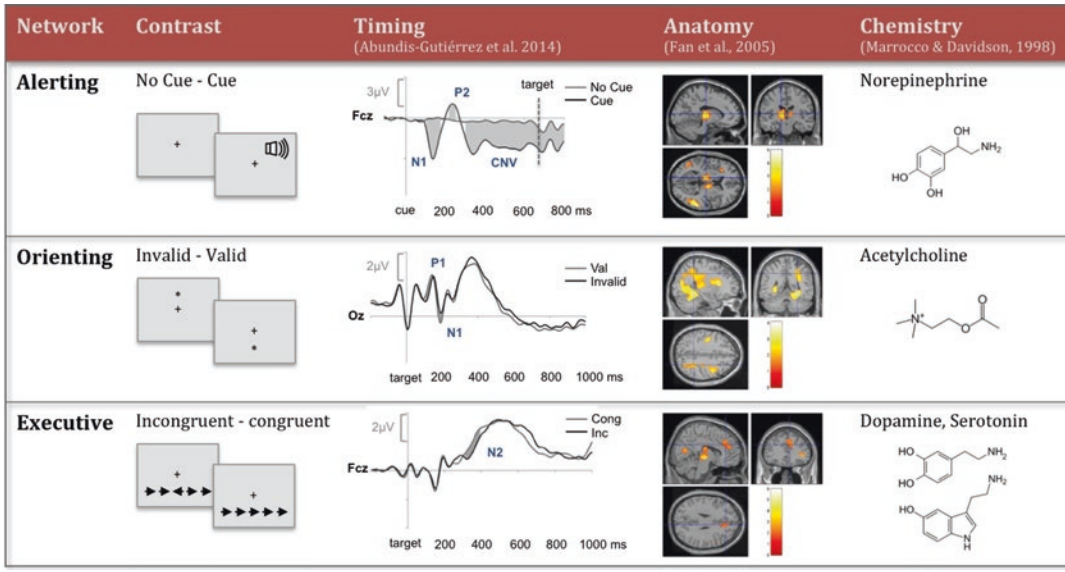


Fig. 1 Anatomy, timing, and chemistry of attention networks. The attention network test (ANT) is illustrated in this figure. The test measures the efficiency of brain networks in children and adults. The alerting, orienting and executive scores are related to the time course of brain activity by EEG (column 2), to the location of activation by fMRI (column 3) and to chemical modulators (column 4). This figure is reprinted with permission from Rueda, Pozuelos, and Combita (2015).

the efficiency of the executive attention network. Subtracting RTs obtained in the double-cue condition (where the cue serves as a warning but does not provide information about the target location) from RTs in the no-cue condition, gives a measure of alerting due to the presence of a warning signal. Subtracting RTs to targets at the cued location (spatial cue condition) from trials using only a central cue, gives a measure of orienting, because the spatial cue, but not the central cue, provides valid information on where a target will occur. The ANT thus uses reaction time differences to measure individual efficiency of the alerting, orienting and executive networks (Fan et al., 2002). In subsequent work, ANT reaction times have been shown to be somewhat reliable (Macleod et al., 2010), and have been used to trace the development of attention networks from 4 years to adulthood.

Below we discuss the development of the attention networks in infancy and childhood. Attention in infancy is less developed than later in life and the functions of alerting, orienting and executive control are less independent during infancy. We first examine alerting and orienting, and then consider executive attention in relation to the development of self-regulation. The method for measuring these variables must be different in infancy than later in life, when voluntary responses can be directed by the experimenter. Efforts have also been made to design tasks that can be performed by infants and that tap into the same networks of brain areas shown in Fig. 1.

Alerting

The early life of the infant is very much concerned with changes in state. Sleep dominates at birth and the waking state is relatively rare. The newborn infant spends nearly three quarters of the time sleeping (Colombo & Horowitz, 1987), and many of the changes in the alert state depend upon external input. Arousal of the central nervous system involves input from brain stem systems that modulate activation of the cortex. As in adults, primary among these is the locus coeruleus, the source of the brain's neuromodulator norepinephrine. It has been shown that the influ-

ence of warning signals operates via this brain system, since drugs that block norepinephrine also prevent the changes in the alert state that lead to faster reaction time after a warning signal (Marrocco & Davidson, 1998). It is likely that the endogenous changes in alertness during waking that take place without external input also involve this system.

There is a dramatic change in the percentage of the infant's time in the waking state over the first 3 months of life. By the 12th postnatal week, the infant has become able to maintain the alert state during much of the daytime hours. This ability still depends heavily upon external stimulation, much of it provided by the caregiver.

Within the waking state, the level of alertness varies over time. The ability of a person to sustain attention is frequently measured by examining variations in performance on a task over a relatively extended period of time, such as the continuous performance task (CPT). In the CPT a person must respond to occasional targets while ignoring more frequent non-targets. Variations in the level of alertness can be observed by examining the percentage of correct and/or omitted responses to targets or through measures of perceptual sensitivity (d') over time. With young children, the percentage of children able to complete the task can also indicate maturational differences in the ability to sustain attention. In a study conducted with preschoolers, only 30–50% of 3- to 4-year-olds were able to complete the task, whereas the percentage rose to 70% for 4–4½-year-olds and close to 100% above age 4½ (Levy, 1980).

Even though the largest development of vigilance seems to occur during the preschool period, adults continue to show greater ability to sustain performance than children through middle and late childhood, especially under more difficult task conditions. They do not reach the adult level until ~13 years of age (Curtindale, Laurie-Rose, Bennett-Murphy, & Hull, 2007). This development may have important implications for parents and others who expect a child to be able to pay attention over extended periods even when the brain's networks do not yet support it. The slow development of the alerting and executive network may caution parents about unrealistic expectations for their child's control of attention.

Preparation obtained from warning cues (phasic alertness) can be measured by comparing the speed and accuracy of response to targets with and without warning signals (Posner, 2008). Presentation of warning cues prior to targets allows the person to get ready to respond by increasing their state of alertness. This commonly results in faster responses, although it may also cause declines in the accuracy of the response, particularly at short intervals between warning cue and target (Posner, 1978). The warning signal interrupts the resting state and moves the person toward the alert state (Raichle, 2009).

One way to examine brain changes following a warning is by registering patterns of brain-generated electrical activation (EEG) through electrodes placed on the scalp while warning cues are processed. Typically, several hundred milliseconds after a cue predicting the upcoming occurrence of a target, there is a negative variation of brain activity that is sustained up until the target appears (Walter 1964). This electrophysiological index is called the contingent negative variation (CNV), and it appears to be related to a source of activation in the anterior cingulate cortex and adjacent mid-prefrontal cortex (Segalowitz & Davies, 2004). The CNV and other slow waves have been related to changes from the resting state to the attentive state using fMRI (Raichle, 2009). The amplitude of the CNV increases with age, especially during middle childhood (Jonkman, Lansbergen, & Stauder, 2003). The early components of the CNV arise in the frontal cortex, suggesting that the CNV is related to maturation of the frontal aspects of the alerting network.

Deficits in the alerting network have been identified as a cause of Attention Deficit Disorder (Halperin & Schultz, 2006). This is one reason for the frequent warning to parents to ensure good sleep patterns in their children, since sleep deprivation impairs the maintenance of the alert state. Frequent breaks during tasks may also be useful in helping to maintain the alert state in young children.

Orienting

Orienting to sensory information involves a brain network that includes the dorsal and ventral parietal lobe, frontal eye fields, and subcortical areas, including the pulvinar and superior colliculus (Corbetta & Shulman, 2002; Petersen & Posner, 2012). While orienting is most often studied using visual events, the source of orienting seems to involve the same brain network irrespective of sensory modality. However, the site at which attention influences the input differs depending upon whether the input is visual, auditory or tactile.

For visual events, the most frequent method of studying orienting in infancy involves the tracking of saccadic eye movements. As in adults, there is a close relation, but not identity, between the direction of infant's gaze and the direction of the infants' covert orienting. Eye movements can be driven by external input from birth (Richards & Hunter, 1998); however, the system continues to improve over many years in making precise movements directly to the target. Infant eye movements often fall short of the target, requiring a series of short movements before reaching the fovea where vision is most acute (Clohessy, Posner, & Rothbart, 2001). Although not as easy to track, a shift of attention via the orienting network without eye movements (covert orienting) likely follows a similar trajectory. Studies have examined the covert system by use of brief cues that do not produce an eye movement followed by targets that do, showing that the speed of the eye movement to the target is enhanced by the cue and this enhancement becomes greater over the first year of life (Butcher, 2000). In more complex situations, for example, when there are competing targets, improvement may continue for longer periods (Enns & Brodeur, 1989).

For newborn infants, control of orienting is initially largely in the hands of the caregiver. By 4 months, however, infants have gained considerable control in the ability to disengage their gaze from one visual location and move it to another, and greater orienting skill in the laboratory is associated with lower temperamental negative emotion and greater soothability as reported by parents (Johnson, Posner, & Rothbart, 1991).

Orienting to sensory input is a major mechanism for regulation of distress, as parents have learned in presenting distractors. Infants also often have a hard time disengaging from high spatial frequency targets and may become distressed before they are able to move away from the target. Caregivers may then attempt to soothe their infants by bringing their attention to novel objects. As infants orient, they are often quieted, and their distress appears to diminish. In one study (Harman, Rothbart, & Posner, 1997), infants were first shown a sound and light display and some became mildly distressed, but when oriented to an interesting event, their signs of distress disappeared. As soon as orienting to the novel object stopped, the infants' distress returned to almost exactly the levels shown prior to presentation of the soothing object. An internal system, which was termed the *distress keeper*, appears to hold a computation of the initial level of distress, so that it returns if the infant's orientation to the novel event is lost. Interestingly, infants were quieted by distraction for as long as 1 min, without changing the level of increased distress reached once orienting to the distracting stimulus ended (Harman et al., 1997).

Infants develop the ability to orient attention to external stimulation early in life, yet aspects of the attention system that increase the precision and voluntary control of orienting continue to develop throughout childhood and adolescence (Rueda et al., 2004). Most infant studies examine control of eye movements. By the time children can follow instructions and respond to stimulation by pressing keys, both overt and covert orienting can be more easily measured. The cuing task has been widely used to study the development of visual orienting over the lifespan, and several studies have examined the development of orienting during childhood. Despite a progressive increase in orienting speed to valid cues during childhood, data generally show no age differences in the benefit provided by the cue between 5 and 6 years of age and adulthood (Enns & Brodeur, 1989). There is an age-related

decrease in the time to disengage from a false cue and shift to the target (the cost of orienting; Enns & Brodeur, 1989; Schul, Townsend, & Stiles, 2003; Wainwright & Bryson, 2002). Aspects of orienting related to control of disengagement and voluntary orientation, which in adults depend on cortical regions of the parietal lobe, improve with age during childhood.

Resting state brain imaging data can be used to measure functional connectivity by calculating correlations between areas active during imaging at rest. These studies have indicated that the orienting system shows greater connectivity during infancy than do brain areas associated with the executive attention network (Gao et al., 2009). Connections change over the lifespan. Infants show mostly local connections and children aged 9 years also show many shorter connections than do adults. Adults show more segregation of the orienting and executive attention networks and longer connections for both (Dosenbach et al., 2007; Fair et al., 2007, 2008). While there is evidence that younger participants move more and this could reduce the ability to image long connections (Power, Barnes, Snyder, Schlaggar, & Petersen, 2012), in our view it seems unlikely that this artefact will change the conclusions discussed above.

An important landmark for parents is the occurrence of joint attention (Mundy et al., 2007), when the developing child begins to pay attention to what the caregiver is attending to. Usually achieved during the first 2 years of life, this allows the parent to provide labels for the object to which they attend, serving to expand the child's vocabulary. Unlike the acquisition of phonemes described previously, the child at this age does not orient to the parent's mouth, but rather the parent and child orient to a common object of attention. As discussed previously, since the executive network is becoming increasingly connected during the preschool years, it is likely to be more involved in this form of word learning.

Joint attention is one example in which the presentation of novel objects aids the child in learning words. An imaging study (Eggebrecht et al., 2017) scanned 37 children at both 12 and 24 months during the child's effort to initiate acts of joint attention. The connectivity found between the visual system and the frontoparietal orienting system during initiation of joint attention increased between 12 and 24 months. There was no significant involvement of the cingulo-parietal (executive attention) network at this age. However, if learning a new association between a visual object and its name is an outcome of joint attention, as suggested by Smith and Yu (2013), we would expect at later ages executive attention (i.e., the cingulo-opercular network) would also become involved (Petersen et al., 1987).

Development of Executive Control

We have identified a transition between the brain networks responsible for control in infancy and those at 3–4 years and later. At 7 months, control, including the regulation of distress (Rothbart, 2011), mainly involves the orienting network, but by 4 years the executive network becomes dominant in self-regulation. We do not believe that control through orienting ends with the preschool transition. We view adults as having dual control. Looking away from disturbing or highly arousing events is clearly a major coping strategy in adults (Rothbart & Sheese, 2007), and orienting is often a critical element in training attentional control as in meditation. However, the growing influence of executive control allows the person's internally controlled goals to become increasingly dominant.

In adults, the executive attention network involves the anterior cingulate gyrus and the anterior insula among other areas (executive attention is also called the cingulo-opercular network in fMRI studies; Petersen & Posner, 2012). The executive network is important in the resolution of conflict and thus supports the maintenance of goal directed behavior. These areas of the human brain have a unique projection cell. This cell, the Von Economo neuron (Allman, Watson, Tetreault, & Hakeem, 2005), is thought to be located only in the anterior cingulate and anterior insula. This neuron is not present in macaque

monkeys and expands greatly in frequency between great apes and humans. The two brain areas in which Von Economo neurons are found are also in close communication, even during the resting state (Dosenbach et al., 2007). Moreover, there is some evidence that the frequency of the Von Economo neurons increases between infancy and later childhood (Allman et al., 2005). There are other important differences in the evolution of connectivity between nonhuman primates and humans. Anatomical studies show a great expansion of white matter, which has increased more in recent evolution than has the neocortex itself (Zilles, 2005). In our view, the Von Economo neuron and the rapid and efficient connectivity it provides, is a major reason why self-regulation in adult humans can be so much stronger than in other organisms. We also think the relatively slow development of long-term connections to distant brain areas allows the executive network to provide increasing control at later ages.

Effortful control is a high level factor derived from parent reports on children's temperament (Rothbart & Rueda, 2005). This factor is defined as the ability to withhold a dominant response in order to carry out a nondominant one. Parents observing their children's specific behavior in daily life situations (e.g., putting away toys on request) can readily respond to questions that relate to this factor. Effortful control (EC) can be measured in children 2 years of age and older, although aspects of orienting and emotion can be measured from early infancy (Rothbart, 2011). Below 2 years of age, temperament observations include scales like orienting, fear, anger, soothability, and positive affect (Rothbart, 2011). Older children can perform tasks that involve voluntary responding, such as pressing keys to visual input (Posner et al., 2014). In multiple studies, higher EC in questionnaire measures is positively correlated with more efficient performance in resolving conflict in laboratory tasks (executive attention; Rothbart & Rueda, 2005).

The problems in measuring control by the executive attention network during infancy had led us to believe that the executive network was not present until about age 3–4 years. While it is clear that some voluntary control is exercised in infancy, for example, 4-month-old infants can make antisacades (Johnson, Posner, & Rothbart, 1994), it is possible to attribute that control to the orienting network. However, we were able to obtain direct evidence of executive attention in infancy from a study of 7-month-old infants viewing visual displays (Berger, Tzur, & Posner, 2006; Wynn, 1992). Infants orient longer when a display is in error (Wynn, 1992), and this behavior was associated with activity in a set of EEG electrodes at the frontal midline that localize to the anterior cingulate, an important node of the executive network. The typical regulation of behavior found in adults, that is, to slow down following an error, seemed not to emerge until about age 3 years (Jones, Rothbart, & Posner, 2003).

We have followed the emergence of executive attention from infancy to later childhood by using anticipatory looking in a visual sequence task (Clohessy et al., 2001; Haith, Hazan, & Goodman, 1988). In this task, visual stimuli are presented in front of the infant in a fixed and predictable sequence of locations. The infant's eyes are drawn reflexively to the stimuli because they are designed to be attractive and interesting. After a few trials, some infants will begin to anticipate the location of the next target by moving their eyes prior to the target presentation. Anticipatory looking occurs with infants as young as 3½–4 months (Clohessy et al., 2001; Haith et al., 1988). However, a sequence can also involve conflict when the correct move depends on the present location of the infant's fixation. For example, consider the sequence 1, 2, 1, 3. When fixated at position 1 there is a strong conflict between position 2 and 3 requiring a memory of where one was before moving to 1. The ability to correctly anticipate during conflict does not occur until about 18–24 months of age (Clohessy et al., 2001).

Correct anticipation in conflict trials, however, did not allow a clear determination of whether the orienting or the executive network was controlling the responses, even when they involved anticipations. However, in a later study of 18–24-month-olds, the error related negativity (ERN) following an incorrect response was found to be related to children's performance in the

sequence learning task, and both the ERN and sequence learning predicted children's performance on an executive attention task at age 2 years and questionnaire measures of effortful control at age 3 years (Barbero, 2016).

At 3 years of age we used the Spatial Conflict Task (Gerardi-Caulton, 2000) which induces conflict between the identity and the location of an object. On some trials, the response key that matched the target identity was on the same side of the screen (compatible) and some on the opposite side (incompatible). At 3 years, the ability to respond correctly when there was conflict in the sequential looking task was related to the ability to resolve conflict in the Spatial Conflict task (Rothbart, Ellis, Rueda, & Posner, 2003). Recall that we also found at age 3–4 years that errors made in a conflict task began to produce slowing on the following trial. These findings converge to demonstrate that conflict is resolved by the slow development of the executive attention network during early life.

An important fMRI study (Fjell et al., 2012) involved 750 participants from 4 to 21 years of age and used a flanker task identical to the executive attention measure of the ANT, in which a visual target is surrounded by either congruent or incongruent flanker stimuli. The participants needed to resolve conflict between the target and flankers in the incongruent condition, and the ability to resolve such conflict is a measure of the efficiency of executive attention. Up until 7 years of age, the size of the right anterior cingulate was the best predictor of children's ability to resolve conflict, as measured by reaction time differences between congruent and incongruent flankers. In the same study, diffusion tensor imaging (DTI) suggested that overall reaction time (RT) is most related to the efficiency of white matter connections. This study supports the anatomy results described previously in illustrating the importance of white matter connectivity between the anterior cingulate and other brain areas as a key component of self-regulation.

Using a child friendly version of the ANT, the development of executive attention has also been traced into the primary school period (Rueda et al., 2004), using RT to incongruent flankers to measure children's ability to resolve conflict. Overall, children's reaction times were much longer than adults, but considerable development in the speed of resolving conflict was observed from age 4 to about 7 years of age. The ability to resolve conflict on the flanker task, as measured by increases in RT and errors with incongruent compared to congruent flankers, remained about the same from age 7 to adulthood. When the difficulty of the conflict task is increased by other demands, however, such as switching rules or holding more information in working memory, further development of conflict resolution is found between late childhood and adulthood (Davidson, Amso, Anderson, & Diamond, 2006).

The findings to date suggest that orienting is playing some of the regulatory roles in early infancy that will later be exercised by the executive network. Parenting may also play an important role in the early development of the executive attention network, perhaps partly through the presentation of novel objects that have been shown in adults to activate the executive network (Shulman et al., 2009). Parent emotional availability may also be important in the early development of executive attention. One study of 5-year-olds, using a go-nogo RT task, a measure of delay of gratification, and a task requiring following complex rules, found that children whose parents showed high emotional availability had better scores in the last two tasks. The children also showed a more efficient network related to the go-nogo task, although in this task there was no significant difference in performance (Shneider-Hassloff et al., 2016).

Attention and the Control of Emotion

The ventral portion of the anterior cingulate (ACC) and adjacent orbital frontal cortex connects mainly to limbic regions and its function, as would be expected from its connections, is related to the control of emotions (Bush, Luu, & Posner, 2000; Etkin, Egner, Peraza, Kandel, & Hirsch, 2006). The more dorsal part of the cingulate connects more strongly to cortical areas in the frontal and parietal lobes, and thus to cognitive control. There

is evidence of increased connectivity between the dorsal ACC and auditory areas when attending to speech, whereas switching to visual input is reflected in increased connectivity between the ACC and occipital lobe (Crottaz-Herbette & Menon, 2006). The developmental data cited in the last section (Perlman & Pelphrey, 2001) and some new adult findings (Jahn, Nee, Alexander, & Brown, 2016) support separate functions for the ventral and dorsal ACC with both increasing their control strongly between 5 and 8 years of age. There is further evidence of substantial overlap in the ventral ACC between negative emotion and cognitive control, suggesting these two functions are not always separate (Shackman et al., 2011).

Parent reports of their 7-month-old infants' positive affect are related to reports of infants' duration of orienting and also predict their later ability to resolve conflict at age 7 (Posner et al., 2014). Research also suggests that even at 9–10 months, some aspects of sustained orienting can involve the executive system. For example, Kochanska, Murray, and Harlan (2000) found that children's focused attention observed in the laboratory at 9 months predicted measures of their EC in preschool.

Studies of resting state MRI at birth suggest early development of a node in the mid-prefrontal cortex adjacent to emotional control parts of the ACC (Gao et al., 2009). These findings provide some support for the idea that emotional control develops earlier than cognitive control, although there is strong overlap in their later development. While the data are not completely clear on this point, it is of obvious importance for parents to foster the development of emotional control during infancy through soothing and other methods.

Executive Control During Adolescence

One striking feature of adolescent behavior is the tendency toward high levels of risk taking such as drug and alcohol abuse, traffic accidents, and unprotected sex (Eaton et al., 2006). These behaviors appear to depend in part upon the relative speed of maturation of frontal control systems as opposed to striatal reward systems. According to this view, the activation of the reward systems can overwhelm the ability of cognitive and emotional controls in this age group.

One illustration of this idea is found in a study of children, teenagers, and adults in a go-nogo task involving the presentation of happy, sad or neutral faces (Casey, Galvan, & Somerville, 2016; Somerville, Hare, & Casey, 2011). While the three ages had similar correct responses, the teenagers made more false alarms, that is, they more frequently pressed the key when a non-target was presented, than younger or older ages. A brain scan conducted during this task showed greater activity in teens than other ages in the ventral striatum, an area of the brain related to reward processing. The right ventral frontal area was mainly activated in no-go trials, and was thought to be involved in the actual inhibition of a response; activation in this area declined linearly with age and was positively correlated with false alarms. The authors interpret these findings as suggesting a stronger influence of reward stimuli on the teenage brain than found at other ages. However, there is later evidence that during the teenage years there is a change from control by the ventral (emotional) to more dorsal (cognitive) midline areas, suggesting an increase in cognitive control (Silvers et al., 2017).

A different methodological approach is to examine resting state MRI across ages. Although there are many methodological issues in comparing different ages, including possible changes in amount of movement in the scanner, it appears that ventral striatal reward areas show greater activity during the adolescent years than for children and adults. The ventral striatum is one of the few brain areas in which the task related activation discussed in the previous paragraph converges with the resting state data (Stevens, 2016).

While there are inconsistencies between many studies of brain changes in adolescence (Stevens, 2016), the data so far suggests that risk taking may be due to a stronger striatal reward activity than at other ages. It will be important for future studies to employ longitudinal studies to relate earlier EC to the ability to manage the transition to adolescence.

Genes and Parenting

In this chapter, we have examined how brain networks develop in the life of the infant and child. This analysis has focused on behaviors involved in attending, understanding speech, and reading. While these networks are common to all humans, they also differ in efficiency. Part of this difference depends on genetic variations known to exist among individuals, and part upon differences in cultural or individual experience. One approach to research in this area is to outline interactions between genes and parenting, since parents are most frequently the primary social contact for infants and young children.

The Attention Network Test (see Fig. 1) has been used to discover genetic variations that influence various attentional networks (see Table 1). Because each network is primarily associated with one or two neuromodulators it is possible to test whether genetic polymorphisms linked to their function influence the speed of responses associated with that network. This provides much more than the usual association of genes with a task because each network is specially related to a set of genetic variations; Table 1 shows the results of these studies with adults, which provided our choice of the genes to study in infant and child development. The association of the executive attention system with dopamine, for example, suggests that genes related to dopamine transmission might be important in the development of attention networks.

One of these genes is the dopamine 4 receptor gene (**DRD4**). The 7-repeat allele of the DRD4 gene has been linked to ADHD and to the temperamental dimension of risk taking (Swanson et al., 2000). There has been considerable evidence that the environment, in the form of mother's sensitive parenting, can have a strong influence on risk taking when the 7-repeat allele is present but not when it is absent (Bakermans-Kranenburg & van Ijzendoorn, 2006; van Ijzendoorn & Bakermans-Kranenburg, 2006). The same group (Bakermans-Kranenburg, van Ijzendoorn, Pijlman, Mesman, & Juffer, 2008) also performed a parent training intervention. The intervention sought improvement in parental sensitivity to their children by increasing and improving interactions between parent and child. It was found that training decreased children's inappropriate risk taking, but only for children with the DRD4 7-repeat allele. This finding is important because assignment to the training group was random, ensuring that the result was not due parental variables other than the training.

In a longitudinal laboratory study (Sheese, Voelker, Rothbart, & Posner, 2007), raters observed caregiver–child interactions and rated

Table 1 Brain attention networks, anatomy, dominant modulators, and genetic alleles

Network	Modulator	Genes
Alerting	Norepinephrine	ADRA2A, NET
Locus coeruleus		
Right frontal cortex		
Right parietal cortex		
Orienting	Acetycholine	APOE
Superior parietal lobe		
Temporal parietal junction		
Superior colliculus		
Pulvinar		
Executive	Dopamine	DRD4, DAT1, COMT MAOA, DBH
Anterior cingulate		
Anterior insula		
Mid prefrontal cortex		
Striatum		
	Serotonin	TPH2, 5HTT

Adapted from Green et al. (2008)

parents on five dimensions of parent quality according to a schedule developed by National Institute of Mental Health (NIMH): support, autonomy, stimulation, lack of hostility, and confidence in the child. Although all of the parents were likely concerned and caring, they did differ in their scores. We divided the combined scores at the median into two groups. One of the groups was considered to show a higher quality of parenting, and the other a lower quality.

We found a strong interaction between genes and parenting. For children without the 7-repeat polymorphism, variations in parenting were unrelated to the children's scores on impulsivity and risk taking. For children carrying the 7-repeat gene variant, however, variations in parenting quality mattered. Children with this allele and high quality parenting showed normal levels of risk taking, but those with lower quality parenting showed very high values for risk taking (Sheese et al., 2007).

How could variation in genetic alleles lead to enhanced influence of cultural factors like parenting? The anterior cingulate receives input on both reward value and pain or punishment, and this information is clearly important in regulating thoughts and feelings. Dopamine is the most important neuromodulator in these reward and punishment pathways. Thus, changes in the availability of dopamine could enhance the influence of signals from parents related to reward and punishment.

We also found that the **catechol-*O*-methyl transferase** gene showed an interaction between temperament and parenting quality. However, unlike the DRD4, it operated through attention even at the age of 2 years. The relation of the COMT gene to attention may help to explain the contribution of this gene to both stability and flexibility in the behavior of 7-month-old-infants (Markant, Cicchetti, Hetzel, & Thomas, 2014). Those infants with the Val allele of COMT were faster to reach for novel toys during the motor approach task and received higher scores on the temperament measure on approach to novelty. Those with the Met allele of COMT showed enhanced dishabituation to the novel stimulus during the habituation task and received higher scores on the temperament measures of sustained attention and behavioral regulation.

It is important to consider the multiple mechanisms by which genes may influence behavior. One method of doing so would be to examine how genes influence children's brain networks that have been shown to be related to parenting variables, such as maternal sensitivity (Swingler, Perry, Calkins, & Bell, 2014). Clearly one important mechanism lies in the executive attention network we have been discussing in this chapter, but other pathways may also influence behavior. Although genes clearly have important effects on child behavior, it is important to recognize that many genes, often with small individual effects, are involved. These small effects and the presence of gene by environment (GxE) interactions make predictions for genes to later behavior very difficult.

GxE influences are currently being studied across a broad array of genetic variants and environmental events. A review reporting failure of replication for some the early findings included a plea that there be more theory driven research in this area (Weeland, Overbeek, de Castrow & Mathys, 2015). The attention based approach described here is theory driven, and in interpreting the meaning of GxE interactions it is important to consider temperament.

Behavioral research on temperament and its relation to children's outcomes has been reviewed by Rothbart and Bates (2006) and Rothbart (2011). In these reviews, early distress proneness was found to predict later problem behaviors, with irritable distress (anger) predicting both internalizing and externalizing problems and fearful distress predicting only internalizing problems. Interactions of temperamental distress proneness with environmental measures have also been found. Distress prone children show more negative effects of low quality parenting, poverty and adversity than children who are not distress prone.

Temperamental surgency (active, sensation seeking and approach tendencies) predicts externalizing problems, and more surgent children have more positive outcomes than less surgent children raised in institutions. EC, linked to exec-

utive attention, seems to generally predict positive outcomes. EC is an important moderator of negative outcomes, with EC predicting lower negative outcomes of poor environments or low quality parenting.

Interventions

In this section, we consider two general types of interventions that may assist in the development of attention and perhaps other cognitive functions. One form of intervention is called network training because it involves training in a particular cognitive task or computerized game. A second form of training, called state training, involves achieving a brain state that will foster attention and self-regulation. State training includes aerobic exercise (Hillman, Erickson, & Kramer, 2008) and mindfulness meditation (Tang & Posner, 2009). Interventions often require the involvement of parents, and in some cases the parent is trained to carry out the intervention (Neville et al., 2013).

Many studies of training executive attention have been carried out in children (Diamond & Lee, 2011; Rueda, Checa, & Combita, 2012; Rueda, Rothbart, McCandliss, Saccamanno, & Posner, 2005), using computerized exercises designed to improve conflict resolution (Rueda et al., 2005, 2012), or through more general school curricula designed to exercise aspects of executive functions (Diamond & Lee, 2011). These studies have often demonstrated improvement in executive attention tasks (Diamond & Lee, 2011) as well as transfer to cognitive tests, such as IQ (Rueda et al., 2005, 2012). While there is evidence that self-control scores in childhood can predict adult performance (Moffitt et al., 2011), there are no studies showing that direct training of the executive network in children can improve adult outcomes. Although most of the work on training using video games has been done with adults and most of the work on school curricula has been done with children, there is little evidence that training is limited to any one age.

The issue of generalization of network training has been much disputed (Posner, Rothbart, & Tang, 2015). Successful generalization of network training methods has been reported more consistently for very young participants and for the elderly (Posner et al., 2015; Rueda et al., 2012), with less evidence for generalization among young adults. In addition, children raised in poverty or low socioeconomic status (SES) have more frequently been found to improve with training (Lipina & Posner, 2012; Neville et al., 2013). Although there is some evidence that participants with poorer initial scores show more improvement from attention training (Rueda et al., 2005), the extent and generality of these finding is not yet clear.

Meditation is a state training method that works to resist mind wandering and produce an attention focus. Five different styles of meditation have been involved in over 400 clinical trials (Ospina et al., 2008), but one style of meditation, mindfulness meditation, has shown effectiveness in improving attention, mood, and stress (Tang et al., 2007) and dominates current studies. Mindfulness meditation involves a set of mental practices designed to achieve control over the direction of attention. This is done by either focusing on a specific content (e.g., ones' breathing or a word or mantra) or by achieving a relaxed state in which attention is brought back from wandering, but is not focused on particular content. Recent meta-analyses on the effects of meditation with adults (Sedlmeier et al., 2012), have reported functional changes in brain activation and structural changes in brain grey and white matter after training (Cahn & Polich, 2008; Fox et al., 2014; Vago & Silbersweig, 2012). Meditation training has been done with young children (Tang, Posner, & Rothbart, 2014), but brain studies have not been carried out in children. In adults, the meditative state is often accompanied by changes in measures related to autonomic activity, which can be used as a biomarker for monitoring meditative states (Cahn & Polich, 2008; Vago & Silbersweig, 2012). The central nervous system also undergoes changes following meditation training. Consistent structural changes reported in a meta-analysis of meditation studies (Fox et al., 2014) have been found in the ACC and insula parts of the executive

attention network (Petersen & Posner, 2012). Recently longitudinal studies of adults over periods of a week to several months have compared mindfulness meditation training to relaxation training (Tang et al., 2007, 2010). These studies allow random assignment of participants to conditions and can attribute cause to the training. They have found evidence of white matter changes surrounding the ACC, along with improved executive attention and lowered stress in the training group (Tang et al., 2007).

Limitations and the Future

The studies cited here most often include only a brief and blurry snapshot of the complex changes that occur over development. Our picture of the human brain is as yet very incomplete and subject to many methodological difficulties. Two major methods for examining development by use of MRI are resting state (rsMRI) and task specific (fMRI). The findings from these two methods have not yet been integrated to achieve a more complete view of how the brain changes in development, and neither method has been well integrated with genetic studies. Nevertheless, they provide tools for studies of the human brain and mind during development. These tools may allow a deeper understanding of how the developing brain supports changes in language and attention that occur early in life. Future research should allow us to use these tools to understand how developmental changes in functional activation and connectivity relate to specific behavioral markers at the same age. A number of research questions can also be addressed: How do changes in brain activation relate to differences found in functional connectivity and in the volume of white and grey matter? Is there a fixed order of these changes, or does their speed and order depend on whether they result chiefly from development or from practice on a task? Better coordination of human and nonhuman animal work may also allow us to determine the relationship of changes found with noninvasive imaging to those seen in studies of the microanatomy and circuitry of brain areas in animal research.

A few years ago, neuroscience viewed human brain plasticity as questionable. Now grey and white matter changes are known to occur with experience and with new learning, but we are unsure about what kind of brain changes produce many of the obvious behavioral changes found in infancy and childhood. Of particular difficulty is knowing what aspects of change in the brain are related to which behavioral consequence, especially when the differences are based on adversity, SES or poverty.

Longitudinal studies could allow us to better trace out this relationship. To do so may require the use of methods that remain relatively stable across ages. Resting fMRI allows testing different ages without the need to develop comparable tasks for different ages (Fair et al., 2009). The discovery that the EEG signal for error detection involves similar brain areas at 7 months as it does for adults provides another means of examining an event that may be comparable across differences in age. The greater use of analytic behavioral observations (e.g., anticipatory eye movements, the attention network test) and parent observation of temperament may further foster the mapping of changes in mental operations and behavior to brain changes. The growing knowledge of genetic and epigenetic methods have only just begun to influence research in human development. Genetic variation has been related to individual differences in behavior (Posner et al., 2014). Moreover, it seems likely that the genes related to individual differences in the three networks are also involved in building the common networks underlying attention in all people. Thus, studies designed to relate the expression of these genes to key aspects of behavior would aid us in understanding how genetic variation influences the individual neural networks that underlie developmental differences.

While we know that some genetic variants interact with environmental experience in producing outcomes, we do not yet know the mechanisms involved, since genetic variations are expressed at numerous places in the brain and often in a number of places in the body. As the mechanisms by which genes can be altered by the

environment are enlarged in the field of epigenetics we may learn more about how training has its influence on development.

Conclusions

Parents play a key role in the development of their child's brain before and after birth. Best known is the contribution that parental genes make to their infant's temperament and behavior. However, after birth, parents are still influencing their child's brain through the environment they provide.

The language by which children communicate and shape their own verbal thoughts is provided by the language they hear from their caregivers. As we have seen in this chapter, during infancy the phonemic base of the native language is solidified in a way that can be measured from scalp electrodes and in turn shapes later speech and the acquisition of literacy. This is likely achieved by improved communication among neurons that encode the various sounds representing phonemes in the native language (Kuhl, 2010). At the same time nonnative phonemes become weaker as their representations are not subject to such improvement.

The conversion of self-regulation from an orienting (frontal–parietal) to an executive (cingular–opercular) network may be influenced by events such as the presentation of novel objects during early infancy (Shulman et al., 2009) and the somewhat later development of joint attention (Mundy et al., 2007). These are among the ways in which parents may be able to influence long range connections between neuronal areas that will eventually allow the executive network to control behavior in the service of the current goals of their child. The sensitivity of parents to the emotional needs of their children interacts with the child's genetic and temperamental endowment, and together they influence the child's behavior.

There is much we do not know. However, a better understanding of human brain development and individual differences may help parents to provide an environment that takes advantage of the child's native endowment and helps to compensate in cases where it might be lacking. The brain is a somewhat plastic instrument, which through interaction with the environment allows the child's capacities to be supported and strengthened, and their promise fulfilled.

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Effects of Parenting on Young Children's Language and Communication

Judith J. Carta

Introduction

Learning to communicate is one of the most important and complex tasks that young children face. Effective communication requires the coordination of social, cognitive, linguistic, and motor skills. To be an effective communicator, a child must, over the course of several years, master several aspects of language; not only the sounds (phonetics) and words (semantics), but also the grammar (syntax), and use (pragmatics) of language. How well children meet these challenges often depends on their opportunities to interact with proficient speakers.

The landmark study of Hart and Risley (1995) provided compelling evidence that children's early language-learning opportunities could be vastly different—and these differences in their early environments could result in dramatic differences in their language development. Hart and Risley (1992) set out to measure how children's early home language experiences could account for discrepancies in children's vocabulary growth that they had previously observed in other groups of preschool-aged children. Over 2½ years, they observed three groups of children monthly between 6 and 36 months and collected over 1200 h of audiotape and contextual observations of parent–child interactions. Over that time, they documented language growth trajectories that varied immensely across infants and toddlers who experienced different levels of language exposure in their homes—differences not associated with race, but rather with families' socioeconomic status. Children from the most advantaged homes heard on average, 2100 words per hour, while children from the poorest heard closer to 600 words per hour and the language they heard was more likely to be directives or prohibitions (Hart & Risley, 1995).

The children with the largest vocabularies at 36 months had parents who talked more often, and did so using more positive and complex language, giving children more exposure to different words and ideas. By the time the children entered preschool, some children would have heard upward of 45 million words, while children from the poorest households, closer to ten million. This represented a gap of over 30 million words in experience with language between the poorest and most affluent children (Hart & Risley, 1995, 2003).

These findings are dramatic and are consistent with results of more recent studies (Cristofaro & Tamis-LeMonda, 2012 Hoff, 2003, 2006b). Moreover, these relationships between early experience and later language outcomes hold true even *within* low-income families wherein the amount of language directed to children predicts later lan-

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guage output (Vernon-Feagans et al., 2008). What is especially problematic is that these disparities in early communication development during infancy grow even larger over time. Many studies have reported that differences in these developmental areas that first appear at 9 months of age grow demonstrably larger by 24 months (e.g., Fernald, Marchman, & Weisleder, 2013; Halle et al., 2009). Furthermore, these disparities often continue to widen as children begin formal schooling. When our own research group followed children in the Hart and Risley study into early elementary grades, the early income group disparities predicted continuing gaps in academic performance through the third grade (Walker, Greenwood, Hart, & Carta, 1994). Similarly, Marchman and Fernald (2008) found that the amount of language children heard in early infancy was strongly related to children's linguistic and cognitive skills at 8 years of age. These findings were equally true for children who had Spanish as their primary language (Hurtado, Marchman, & Fernald, 2008).

Of critical importance is the fact that these early language skills build the foundation for reading. These early language skills in children lead to vocabulary acquisition and grammatical development (Hoff, 2006a); and to improvements in their abilities to detect separable sounds that promote phonological awareness (Munson, Kurtz, & Windsor, 2005). Each of these language systems is critical to later reading success (Dickinson, Golinkoff, & Hirsh-Pasek, 2010; National Early Literacy Panel, 2008). These building blocks of early reading in kindergarten are strong predictors of fourth grade reading ability (see also Tabors, Porche, & Ross, 2003).

The good news, however, is that the trajectory of children's language growth is malleable and research has pointed to interventions to improve children's language learning environments and thereby reduce the word gap. Many intervention studies that have coached parents of infants in ways that support language development have been successful in changing children's language trajectories (Roberts & Kaiser, 2011). A number of these studies have demonstrated that the quality and quantity of parent–child interactions were the active ingredients for interventions aimed at improving outcomes.

This chapter attempts to outline the story of how parents influence children's early language and communicative development. After providing a sketch of the theoretical background for the way that parents shape young children's development in the earliest year, we will outline the evidence for the effects of parents and parenting in these areas. The chapter will describe the research base on this topic and examine both the strengths and limitations of the research in this area. Finally, the chapter will outline needed research in this area and describe the implications for policy and practice based on the existing research.

Theoretical Background of Parents' Role in Promoting Children's Language

Language scholars have long been interested in understanding how children's social experiences help explain the differences in children's early language learning. Vygotsky (1962) and Bruner (1983) provided the theoretical grounding for these ideas and suggested that children learn within a sociocultural context in which parents and other adults provide scaffolding or support to young children to achieve higher levels of thinking. According to this framework, children who experience responsive and cognitively stimulating early home environments are more likely to be advantaged in the learning process—especially in the area of language. When these moment-by-moment parent–child interactions are projected over time, they can have a positive or negative impact on a child's communication trajectory (Bronfenbrenner, 1994; Sameroff, 2000; Snow, Burns, & Griffin, 1998). Frequent positive interactions can facilitate communicative development; conversely, caregiving with relatively limited exposure to words and interactions may have a deleterious effect on children's vocabulary development (Hart & Risley, 1995; Hoff, 2003; Pan, Rowe, Singer, & Snow, 2005).

Bronfenbrenner's ecological systems theory (1979) provides a broader context for understanding the multiple expansive sources of influence around the parent–child dyad in shaping early learning from the microsystem level to

the macrosystem level. While the most obvious influences on children and parents are those most proximal influences at the microsystem level (i.e., the moment-by-moment interactions between parent and child); these aspects are influenced by multiple levels of environments or ecological systems that affect the parent–child dyad. Building outward from the microsystem are the mesosystem (i.e., the connections between the microsystems such as the interactions between home and childcare or between a child's peer group and family); the exosystem level that includes the other individuals and places that the child may not interact with often herself but may still influence the child and the parent, such as the family's neighborhood, the extended family or the parents' workplaces. For example, if a child's family lives in a crime-ridden neighborhood, this may negatively influence the child if her parents feel that it is unsafe to walk or play outdoors. Bronfenbrenner's final level is the macrosystem, which is the most distal yet the largest set of influences on a child's development. The macrosystem includes things such as cultural values, the general economy, the availability of health care, and wars. Each of these factors can also affect a child either positively or negatively.

An important feature of this ecological systems theory is the manner in which some relatively less explored influences such as the demands of parents' employment or relations among the child's different microsystems such as the availability of quality childcare can affect the daily interactions with children that ultimately affect their language acquisition or development and learning in other areas (National Institute of Child Health and Human Development [NICHD] Early Child Care Research Network, 2000; Odom, Vernon-Feagans, & Crouter, 2013). When this ecological framework is applied to language-promoting interventions, the critical issue is that these strategies for improving a child's language will have a greater likelihood for success when they involve more than a single level of the child's environment (e.g., Greenwood et al., 2017). For example, the effectiveness and sustainability of a parent-implemented intervention to support a child's language may depend on interventions that reduce a parent's depression, or address a family's food insecurity or health care needs. Research is needed to identify how best to configure intervention strategies to address the multiple sources of influence across the different ecological systems.

How Parents Mediate the Child's Language Learning Environment

The wide variation in children's language-learning environments comes from a variety of sources. These variations include the quantity and quality of child-directed speech (Hoff, 2006b; Rowe, 2012), the materials families provide in the environment to enrich the child's learning experiences such as books, toys or music; and the language or languages to which the child is exposed. For example, the way in which parents establish the context for supporting a child's language learning is heavily influenced by cultural norms that drive what parents do. So, a family's culture will influence children's language learning environments such as whether parents talk with and actively engage preverbal infants, whether family members believe that young children should have conversations with parents and elders, and the value they place on early education (Rowe, 2008; Schieffelin & Ochs, 1986). Parents' views of the nature of early childhood and how early child rearing practices affect children will also drive significant contextual factors for language outcomes such as how and where language interactions occur for a child (such as whether or not they occur during everyday routines, or whether the children attend enriching childcare).

Evidence for the Role of Parenting on Children's Communicative Development

A large body of research documents that parents contribute to children's language and communicative development in three important ways: (1) in the *quality of their engagement* with their child

(e.g., the sensitivity/responsiveness and cognitive stimulation); (2) in their provision of routine learning activities like shared book reading or storytelling; and (3) in the manner and degree to which they provide an environment that is stimulating for learning and development (Rodriguez et al., 2009).

The most extensive body of evidence points to the *quality of parent–caregiver interactions* as a critical factor in children's early language and learning. Among the specific language-facilitating behaviors known to set the stage for enhanced child language interactions are turn-taking, responding to children's bids for joint attention, following the child's lead or focus of attention, modeling language, responding to children's vocalizations, and expanding children's utterances by modeling more complex language. These individual adult behaviors comprise two broad classes of language-promoting activities: contingent responsivity and linguistic modeling (Tamis-LeMonda & Bornstein, 2002; Tamis-LeMonda, Bornstein, & Baumwell, 2001; Schreibman et al., 2015). Tamis-LeMonda et al. (2001) found, for example, that maternal responsiveness to their child's vocalizations at 13 months predicted the age at which their children reached important expressive language milestones (such as when the size of their vocabularies had reached 50 words). Children benefit from exposure to adult speech that is varied and rich in information about objects and events in the environment (Evans, Maxwell, & Hart, 1999; Hart & Risley, 1995; Hoff & Naigles, 2002; Weizman & Snow, 2001). Additionally, children who have parents who contingently respond to verbal and exploratory initiatives (through verbal descriptions and questions) are more likely to have advanced receptive and productive language, phonological awareness, and story comprehension skills (Silven, Niemi, & Voeten, 2002; Tamis-LeMonda et al., 2001). This style of responsive parenting can promote typical developmental trajectories for children from low-income backgrounds as well as those with biological risks such as low birthweight (Landry, Smith, Miller-Loncar, & Swank, 1997; Landry, Smith, Swank, Assel, & Vellet, 2001). This behavioral evidence for the role of responsivity is reinforced by biobehavioral markers in which links have been shown between high levels of early responsiveness in parents and increased hippocampal volumes in preschool-aged children (Luby et al., 2012).

Another strong body of literature points to evidence that parents wield strong influence on children's language development and learning through the regular provision and consistent participation in routine *learning activities* such as shared book reading and storytelling (Colmar, 2011; Lonigan & Whitehurst, 1998; Raikes et al., 2006; Snow & Dickinson, 1990). Routine activities such as these provide young children with a means of conceptualizing others' actions, and language that allows them to begin to anticipate and predict what will come next in a sequence of events, the motivation underlying others' behavior and a means of drawing inferences from events in a story (Nelson, 1986). Shared book reading and the sharing of oral stories promote children's growth in vocabulary, knowledge of print, and phonemic skills (Dickinson & Tabors, 1991; Raikes et al., 2006; Wagner, Torgesen, & Rashotte, 1994).

One final area in which parents have been shown to influence young children's early learning and language growth, is through the *provision of learning materials* such as toys and books (Senechal, LeFevre, Thomas, & Daley, 1998). When a parent engages a child in an interaction around toys (such as when a parent pretends to talk on a pretend phone), she provides a platform for communication around a shared topic. Research has shown that parents' use of symbolic or pretend play toys is related to growth in children's receptive language and positive approaches to learning (Tomopoulos et al., 2006).

Factors Predicting Positive Parenting

Researchers agree that the characteristics of both parents and children influence parenting. Parent characteristics such as parent age, education, knowledge of child development, income, and race/ethnicity have all been shown to relate to the

three aspects of parenting discussed above. For example, parent age is related to a number of parenting behaviors, with teen mothers engaging in lower levels of verbal stimulation and involvement, higher levels of intrusiveness, and less varied and complex maternal speech than older mothers (Keown, Woodward, & Field, 2001; Whiteside-Mansell, Pope, & Bradley, 1996). Mothers with less education read to their children less frequently (Raikes et al., 2006; Scarborough & Dobrich, 1994) and are less skilled themselves in language and literacy (Rowe, Pan, & Ayoub, 2005). Mothers' education, language, and literacy levels in turn influence the quality and quantity of their verbal interactions with their children (Hoff, 2003). In addition, mothers with more limited education tend to have smaller vocabularies and consequently, use more limited vocabularies, ask fewer questions, and use more commands when communicating with their children than more educated mothers (Hoff-Ginsberg, 1991; Rowe et al., 2005).

One other factor known to influence parenting behavior is parents' beliefs about whether their children's abilities are fixed or malleable and whether they can be improved with exposure to positive environments (Moorman & Pomerantz, 2010; Pomerantz & Dong, 2006). For example, one study found that the more parents see their preschool children's skills as influenced by the environment, the greater was parents' likelihood of asking children questions during their interactions (Donahue, Pearl, & Herzog, 1997). Studies suggest that parents from lower income backgrounds believe they have less control over their children's developmental outcomes than do parents with higher incomes (Elder, Eccles, Ardelt, & Lord, 1995; Luster & Kain, 1987). This finding suggests that programs seeking to influence parents' interactions with their children should provide parents with a greater understanding about child development and the effects that parents have on their children and their development.

Finally, parents from low socioeconomic (SES) backgrounds are more likely than high-SES parents to experience high levels of depression and stress (Berger, Paxson, & Waldfogel, 2009). A consistent finding in the literature is that mothers with high levels of depression talk less to their children and are less responsive to infant vocalizations (Lovejoy, Graczyk, O'Hare, & Neuman, 2000; Rowe et al., 2005). Thus, interventionists should consider the role of these parental characteristics in the design of parent training strategies to maximize their uptake and effectiveness.

Child characteristics such as birth order or gender (two of many examples) have also been associated with early language and learning outcomes. For example, firstborn children typically have larger vocabularies than later-born children (Hoff-Ginsberg, 1998) and mothers typically engage in more language interactions with their first-born than with their later-born children (Bornstein, 2002). Similarly, girls on average have stronger vocabulary development in the early years (Pan et al., 2005) and families are more likely to engage young girls in more literacy activities than boys (Hoff-Ginsberg, 1998).

Strength and Limitations of the Evidence Base

The evidence from descriptive studies summarized above documents the important role parents play in promoting children's early language and how they shape children's trajectories for later school readiness and academic performance. This research substantiates that parents promote children's learning in general and language learning in particular in three ways: (1) by providing language learning activities (such as daily book reading); (2) through contingent responsivity to their children; and (3) through the learning materials that they make available, like toys and books. Moreover, much research documents that parents with greater education and higher incomes are more likely to provide enriched learning experiences with their additional resources.

While evidence demonstrating the link between parents' behavior and children's early language development is rich, research describing the most effective ways in which parents can support their children's early learning and lan-

guage development is still somewhat limited. More research is needed from experimental intervention studies that demonstrate how teaching parents to be more responsive promotes higher levels of learning. More research is also needed to describe how the multiple levels of ecological influence affect children's development in language and how children's characteristics influence parenting behavior. Fortunately, the evidence base describing the important role that parents play in promoting their children's outcomes in this area comes from an expanding set of intervention studies (e.g., Dunst & Kassow, 2008: van Zeijl et al., 2006).

Evidence Based on Parenting Intervention Studies

The knowledge drawn from descriptive studies about the ways in which parents' behavior sets the stage for children's language interaction is the foundation for parent-implemented language intervention. The underlying premise of most parent-based language interventions is that increasing or improving parent strategies known to support language development in naturally occurring routines will accelerate children's language learning. In many studies of parent-implemented interventions, parents learn to embed opportunities for supporting children's new language skills within familiar routines and in functional contexts (Schreibman et al., 2015). Two frequently employed naturalistic contexts for these interventions are shared book reading (e.g., Lonigan & Whitehurst, 1998), or home routines (e.g., Roberts & Kaiser, 2011; Siller, Hutman, & Sigman, 2013).

A growing body of research indicates that parents can be taught to engage in highly responsive child-focused interactions of the type known to promote children's learning in language and cognitive development. Several interventions have been developed to help parents learn to incorporate responsivity within their everyday interactions with their child. *It Takes Two to Talk* (Girolametto, Weitzman, McCauley, & Fey, 2006) and *Promoting Communication Strategies* (Walker, Bigelow, & Harjusola-Webb, 2008) are both manualized intervention strategies that build the capacity of parents and caregivers to use language-promoting strategies across daily routines (Walker et al., 2008). One example of this type of intervention research by Kashinath, Woods, and Goldstein (2006) helped parents learn specific language promoting strategies during everyday routines selected by the parents such as dressing or mealtime. Results from this intervention study showed that parents could learn different aspects of responsivity such as contingent imitation of the child's communication or waiting for the child to talk. When parents increased their use of these strategies, their children showed gains in targeted language skills.

A number of meta-analyses and research syntheses have examined the effectiveness of parent responsiveness interventions for promoting children's language. One example by Bakermans-Kranenburg, van Ijzendoorn, and Juffer (2003) found that these responsiveness interventions improved maternal sensitivity. More specifically, when they examined length or dosage of these responsivity interventions, they found that most effective responsiveness intervention approaches began when the child was ~6 months of age and lasted fewer than 16 sessions. Researchers hypothesized that significant effects were more likely when interventions were long enough to produce sustained changes in the ways mothers interacted with their children, but not so long as they became a burden to families.

Another review of effects of parent training was carried out by Roberts and Kaiser (2011). Three commonly used parent strategies were included in this analysis: parent responsiveness, parent use of language models, and adults' rate of communication. When parents' use of these specific language intervention strategies for children with language delays was compared to parents in control groups, parent training was found to have a positive impact. In general, parent training was found to have a positive impact on parent–child interaction style in terms of responsiveness, use of language models, and rate of communication. Parents who received parent training were significantly more responsive than parents who were not trained. In addition, parent-implemented language interventions produced significantly larger

child outcomes compared to control groups on six of seven language outcomes. In addition, child outcomes from parent-implemented interventions were larger compared to those obtained in therapist-implemented intervention groups.

A more recent meta-analysis examined the effectiveness of parent-implemented language intervention for "late talkers" compared to intervention carried out by clinicians (DeVeney & Hagaman, 2016). While both types of intervention were effective for improving language outcomes in this population, parent-implemented interventions resulted in stronger language outcomes than clinician-directed treatment. Clearly, a growing body of evidence supporting the role that parents play in promoting young children's language is moving the field forward in devising successful solutions to reducing the learning gap between children from diverse income levels.

Limitations in the Parenting Intervention Literature

The emerging literature on parent-implemented language interventions also reveals several weaknesses across the studies. For example, the majority of studies fail to specify the training procedures employed by parents so it is difficult to identify specifically how changes in parent behavior result in improved child outcomes. In addition, the majority of studies fail to report fidelity of implementation of the intervention (e.g., Roberts & Kaiser, 2011). A critical direction for future research is the specific description and direct measurement of parent training procedures to allow for the examination of the link between parental behavior and child outcomes.

A second major limitation of current research on parent language interventions is the dearth of longitudinal studies and as a result, the lack of knowledge of long-term impacts. In the Roberts and Kaiser meta-analysis, only four of the 18 studies followed children over time—and these followed children for only 6 months (e.g., Baxendale & Hesketh, 2003; Buschmann, Jooss, Rupp, Feldhusen, Pietz, & Philippi, 2008). While in most studies, effect sizes either maintained or increased at follow-up, research-based evidence is extremely limited about whether parents continue to implement the language-promoting strategies when their active involvement in intervention studies ends or whether children accrue long-term benefits from parent language training.

One other important feature of the existing literature on parent-implemented language interventions is that the vast majority of these studies have been carried out with children with specific speech and language delays. These strategies, however, are more recently being applied to more typically developing children with parents from low socioeconomic backgrounds (e.g., Suskind et al., 2016). More research in this area is critically needed to advance practice and policy on parenting interventions (Box 1).

Box 1 Are We Discriminating Against Parents by Focusing on the "Word Gap"?

While in the USA there has been a growing emphasis on the importance of helping parents understand the concept of the "word gap" and the important role that caring adults play in providing children with a supportive language learning environment (Lahey, 2014), this message has been the subject of considerable criticism. Some scholars (e.g., Dudley-Marling & Lucas, 2009) have criticized the emphasis on a "gap" between lower and higher income parenting saying that this approach perpetuates a deficit perspective that reflects stereotypes and pathologizes the culture of poverty. They contend that the word gap is not really caused by parents, the victims of poverty, but results from an inequitable society. They argue that we should not allow cultural stereotypes to determine what research matters to establish public policy. They contend that when we identify a word gap of impoverished parents in terms of the quantity of words they use compared to middle-class or affluent parents, we are still blaming those low-income parents and not the social inequity driving poverty. They further argue that providing parents with training about how to give

(continued)

Box 1 (continued)

children more or higher quality vocabulary teaching ignores addressing the roots of social and educational inequity. They believe that the "word gap" parenting interventions we propose are overly simplistic, focusing on increasing quantity and quality of words and interactions instead of more complex interventions that provide multiple sources of support to poor families.

Those of us who continue to deliver interventions based on the "word gap" do not disagree that the causes of the gap are numerous, complex, and intergenerational. We agree that families in poverty often need multiple interventions to address a variety of needs. Yet we also believe that criticisms of the word gap are erroneous in their assumptions that getting parents to interact and talk to each other will *not* help reduce some of the intractable problems of poverty. The evidence is clear that parent–child interaction in the early years not only builds children's communication abilities, it also facilitates social and emotional connection, teaches reciprocity and helps build the child's abilities to form secure relationships. When families increase the quantity and quality of their interactions, they do more than exchange words; they have a stronger foundation for exchanging feelings, thoughts, and family values. Moreover, when parents learn how to talk and play with their baby, they report greater levels of self-efficacy, and often are found to have reduced levels of stress and increased levels of support (Warren, 2015). Word gap interventions are known to reduce parents' levels of stress and increase parents' feelings of empowerment. In short, the "word gap" is an actionable concept that can be used to empower parents about small but powerful things they can do in their daily lives to support their child's development in spite of the adversities they face.

Future Directions for Research

The limitations of past language intervention research provide a guidepost for where future research is needed to shore up our understanding of how best to design interventions that can strengthen parents' role in promoting children's early learning. First, while the language intervention research with parents as implementers is strong, there is a dearth of randomized trials demonstrating that parents from low socioeconomic backgrounds will learn and sustain the types of parenting interactions known to influence children's language trajectories. We need to know whether parents continue to interact with their children in ways that promote language outcomes in the months and years following their involvement with interventions. We also need to know whether these interventions have long-term impacts on children's communication as well as on later school performance and broader life outcomes such as finishing high school, and better health outcomes. More long-term randomized trials are needed of parent-focused interventions within specific populations such as families with risk factors such depression and stress known to co-occur with poverty. Future studies need to examine whether language-promoting interventions are more or less effective for parents with specific risk factors. Examination of moderating risk factors will provide the information necessary for greater levels of individualization of parenting interventions.

A second gap in this literature is in research on families who are nonnative speakers. Almost all the current research on parenting interventions has been carried out on families who are monolingual English speakers. More research is needed to demonstrate how parents who are nonnative English speakers in English-speaking countries can support their children's acquisition of their heritage language as well as English. Development of interventions with language-minority parents should incorporate significant formative input from the target population to ensure that the intervention is responsive to their cultural and linguistic values as well as their indi-

vidual preferences about the language or languages that they hope their children will acquire.

Another important gap in this literature on parenting interventions is on research demonstrating how much intervention is necessary to produce sustainable long-term outcomes. Studies are needed to determine the length of an intervention needed to produce sustainable change in parents' language behavior and enough change in low-income children's language to close the gap in expressive language skills of high- and low-SES children at the point of kindergarten entry. More information is needed describing how dosage or intensity of intervention may need to be increased for parents with specific characteristics (such as depression or stress) or children who show more significant delays at the start of intervention. Finally, one additional important unanswered question in this field of research is: "What is the most optimal time to carry out language promoting interventions with parents and children?" Programs with limited resources need to know whether children's language trajectories will be most improved if intervention begins in the first few years of life or later, after the child has begun to communicate with single words or short phrases. All of these questions will help determine the most cost-efficient ways to implement interventions aimed at reducing the language gap experienced by low-income children. In sum, more research is needed that will demonstrate how best to design interventions to enhance parent knowledge of language-promoting strategies, create sustained change in parent behaviors, and ultimately impact child language in families from low-SES backgrounds and language minority families.

Implications for Policy and Practice in Parenting Interventions

While there is ample research to show that interventions can be delivered to help parents become effective promoters of young children's language and learning, one of the biggest challenges is how to scale up evidence-based practices so that population-level impacts can be achieved. In the USA, federally funded programs have been in place for more than two decades to promote the early development of children from birth to age 3 through Early Head Start. While the results of this program have been encouraging in terms of children's language and cognitive outcomes, the program is reaching only about 3% of the at-risk children and families who are eligible for the program. Finding a way to reach more children and families with information about how to support children's early language and learning has recently captured the attention of policymakers seeking to make population-level impacts on the quality of early language experience provided for young children. Recently, new approaches have been called for that will blend elements of a public health prevention initiative using a multitiered set of interventions that incorporate population, community, and individual levels (Greenwood et al., 2017; Suskind et al., 2013).

At the broadest, population level, the public health approach focuses on building the capacity of multisector partnerships to facilitate assessment and action aimed at implementing changes within communities to support improvements in targeted population-level health and behavioral outcomes (Fawcett, Schultz, Watson-Thompson, Fox, & Bremby, 2010). Similar multilevel approaches have been used in communities to target adolescent substance abuse (Paine-Andrews et al., 1997) and teen pregnancy (Paine-Andrews et al., 2002). The theory of change for this conceptualization is ecological, positing that by providing interventions at the population, community, and child levels, changes will be carried out in policies, programs, and practices across and within settings where children and families live, learn, and play (Fawcett, Collie-Akers, Schultz, & Cupertino, 2013). The theory aligns with current conceptualizations in prevention science that aim to: (a) change environmental structures that influence the behavior of individuals; and (b) capitalize on the synergy or compounding effects of multilevel intervention rather than relying on any one intervention in isolation (Biglan, 2018; Biglan, Flay, Embry, & Sandler, 2012; Charlebois et al., 2012).

At the broadest population level, prevention interventions aimed at promoting early language among families will have universal scope and potential for nation-wide reach. Types of these wide-reaching interventions include (a) multimedia public awareness campaigns that employ television, radio, Internet, billboards; and (b) programs that have universal reach such as pediatric primary care. An example of a successful public awareness campaign that achieved population-level changes in parent behavior is the Safe to Sleep campaign mounted by the Center for Disease Control in the USA to encourage parents to place their babies on their back to sleep as a means of reducing Sudden Infant Death Syndrome (Eunice Kennedy Shriver National Institute of Child Health and Human Development, n.d.). Currently, public awareness campaigns have been mounted across the USA and within many cities about the importance of parent talk (e.g., Too Small to Fail, n.d.; Talk, Read, Play, n.d.; Vroom, n.d.). Each of them combine multiple media to convey targeted and innovative messaging to help parents understand their role in providing a rich language learning environment for their child and provide motivation and simple ideas for taking action.

A second type of population-level approach to language promotion is using pediatric primary care. Using an infrastructure that already has universal reach to parents offers an advantage for parenting interventions that are attempting to achieve wide scalability. When parents use public health and private pediatric services to receive well-child checkups, they may be especially open to receiving advice for promoting children's language and cognitive development. Using these routine pediatric visits in the earliest months of a child's life have proven to be ideal times for providing information to parents about child development. Reach Out and Read (Reach Out and Read, n.d.) is a national program that uses the pediatric well-child visit as a time that health care providers impart information to parents about ways they can engage their children in early literacy activities. This low-cost evidence-based intervention reaches more than 4.5 million children in the USA each year. In similar fashion, the Talk With Me Baby program (Talk With Me, n.d.) provides professional development to public health nurses in Georgia to coach expectant parents and parents of infants and toddlers to deliver *language nutrition* to their children. Nurses see parents and their children at every well-child visit and help parents learn that just like children need a nutritious diet to grow and become stronger, just as children need *language nutrition* or ongoing language interactions with their parent to help build children's brains.

Intervention on the word gap at the community level, concentrates on neighborhood-based organizations or local civic groups to support and educate parents. In many communities in the USA, multiple agencies have joined together to work toward the common goal of providing children with richer early language experiences. Too Small to Fail, an initiative spearheaded by the Clinton Foundation and The Opportunity Institute helps communities organize action campaigns to enlist multiple agencies promote the importance of early brain and language development. Tulsa, Oklahoma, for example, has created partnerships among the medical community, faith-based groups, and early educators to convey to parents the common message to families to talk, read, and sing with their young children from birth.

Language-promoting interventions at the community level are often implemented to parents in groups. Oftentimes in these situations, parents receive a combination of mentoring and peer support. Lena Start, a program from the LENA foundation, is an example of community-based intervention. In this program, groups of parents learn simple strategies to increase talk with their infants. Parents are provided with the LENA, *a wearable talk pedometer* and receive training from mentors using scripted instruction and videos and feedback on their interactions provided by the LENA device. Public libraries have proven to be excellent locations for community-based interventions because they already attract families to literacy-based activities. In these settings, librarians learn how to encourage high-quality language interactions in playgroups and they can promote their children's language in everyday activities.

Finally, at the most intensive level, individual interventions aimed at enhancing the quality of children's language experience as described earlier in this chapter, have been developed and are being scaled across communities. These interventions are typically based on the transactional model that posits that children's early communication development is facilitated by bidirectional, reciprocal, and cumulating personal histories of interactions between a child and his/her environment (Bronfenbrenner, 1994; Sameroff, 2000). *Milieu and Pre-Linguistic Milieu Teaching Approaches* are naturalistic conversation-based models of language interventions that emphasize using the child's interest to encourage language use either in daily routines (Kaiser, Hancock, & Nieffield, 2000) or in shared book reading contexts (Lonigan & Whitehurst, 1998). These strategies improve the language environment by enhancing adult responsiveness to children to increase child communication (Roberts & Kaiser, 2011; Trent-Stainbrook, Kaiser, & Frey, 2007; Warren & Brady, 2007). As an example, *Promoting Communication Strategies PC TALK intervention* is a manualized set of intervention strategies that builds the capacity of parents and caregivers to use language-promoting strategies across daily routines (Walker et al., 2008). In general, these interventions, validated through randomized trials, usually involve a trained interventionist working one-to-one with a parent in multiple sessions providing opportunities to practice language-promoting strategies and receive performance-based feedback. Other examples of evidence-based interventions using this approach include Thirty Million Words (TMW; Suskind et al., 2013, Suskind et al., 2016); and BELLE Video Interaction Project (VIP; Mendelsohn et al., 2007). While each of these interventions share similar parent interaction strategies aimed at enhancing parents' responsiveness during daily routines, they each have unique elements. TMW, for example, uses the LENA recording device to provide parents with quantitative feedback from weekly LENA recordings on critical aspects of their interactions.

The BELLE/VIP program employs pediatric prevention as the platform for providing individual language interaction training to parents. In this intervention, families meet one-to-one with a child development specialist who provides relationship-based intervention focused on positive interactions, verbal engagement, cognitive stimulation, and emergent literacy within play and shared reading interactions. A unique aspect of this intervention is the use of video that captures parents practicing their newly learned interaction skills. These videos then are the basis of feedback and coaching by the child development specialist. This intervention has been validated by several studies documenting its impact on increased parent–child interactions and time parents engaged in shared-reading activities (Cates, Weisleder, & Mendelsohn, 2016; Mendelsohn et al., 2011).

Conclusions

This chapter makes clear that parents play a profound role in helping their children become effective communicators. Because language is so critical in providing children with a basis not only for cognitive development and school achievement but also for later social-emotional and important life skills, the research in this area has proven to be vital for driving policy and practice aimed at informing parents about what and how they can influence their child's development in this area. While the empirically based information about parents' role in providing children with a rich language learning environment is large and growing, the impact of this research to address the discrepancies across families from diverse income levels has yet to be felt at the population level across many countries. Communities of practitioners in multiple sectors await practical solutions that can address this issue in effective and creative ways informed by a new generation of research and development.

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The Effects of Parenting on Emotion and Self-Regulation

Sabine Baker

Introduction

The development of effective self-regulation capabilities is fundamental to every individual's functioning. In its broadest sense, self-regulation represents the ability to volitionally plan and, as necessary, modulate one's behavior(s) to an adaptive end. In other words, self-regulation encompasses the coping skills we use to manage all kinds of life events (McClelland, Ponitz, Messersmith, & Tominey, 2010). The development of self-regulatory skills during early childhood is often considered an early indicator for later life success. Throughout the lifespan, self-regulation helps us select, monitor, and optimize the goals that will be most beneficial to us, and minimize negative consequences associated with pursuing those goals. As we strive to achieve those goals, we are frequently confronted with potentially emotion-arousing situations. Emotions provide us with invaluable information about ourselves, our environment, and our relationship with the environment (Zeman, Cassano, Perry-Parrish, & Stegall, 2006). Our ability to identify, understand, and integrate emotional information while simultaneously managing our behavior to accomplish our goals is the essence of emotion regulation (Thompson, 1994).

We are not born with the ability to self-regulate. The capacity to regulate our actions, cognitions and emotions develops during childhood and adolescence, and parents play a prominent role in this development. Parental characteristics (e.g., parental self-regulation, temperament, mental health status), parenting variables (e.g., parental involvement, parenting styles, parental sensitivity, coparenting), the parent–child relationship (e.g., attachment security), as well as the family structure and home environment, all influence the progression of child self-regulatory abilities.

This chapter specifically considers the ways in which parenting facilitates self-regulation in children. How exactly does the way a child is parented influence their development of self-regulation and emotion regulation? Is there something parents should do to ensure optimal development? This chapter aims to address these questions.

The chapter begins by briefly discussing some definitions and operationalizations of the multidimensional construct of self-regulation, and highlighting important conceptual issues. Then a brief overview of the normative development of self-regulation (SR) and emotion regulation (ER) during childhood is given, and some classic theoretical models are reviewed. This is followed by the main focus of the chapter, examining the

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role that parenting plays in influencing the development of SR and ER. The aim of this chapter is not to provide a comprehensive review of the evidence base. Rather, it showcases some exemplar empirical studies from different domains and refers the reader to systematic reviews when appropriate. In addition to parenting, some further influences on the development of self-regulation are considered, for example the parents' own self-regulatory skills. Furthermore, the chapter highlights some intervention approaches to enhance the development of self-regulation in children. The chapter concludes with discussing limitations of the current evidence base and future research directions, as well as considering implications for policy and practice.

This chapter focuses on the development of SR and ER in children, while occasionally including research and theory on adolescents. While it should be acknowledged that SR and ER of parents also plays an important role, it is beyond the scope of the chapter to cover self-regulation in adults in detail. I will however briefly discuss parental SR and ER in the context of how they impact on a parent's ability to parent their children.

Theoretical Background: Conceptual Definitions

What is Self-Regulation?

Self-regulation—"*the primarily volitional cognitive and behavioral processes through which an individual maintains levels of emotional, motivational, and cognitive arousal that are conducive to positive adjustment and adaptation, as reflected in positive social relationships, productivity, achievement, and a positive sense of self*" (Blair & Diamond, 2008; p. 900).

As can be anticipated from this definition, self-regulation is a multidimensional construct. As a superordinate construct, self-regulation includes narrower constructs such as the regulation of emotions, behaviors and cognitions (McClelland et al., 2010). Because of this multidimensionality, there is not one contained literature on self-regulation. In the past, these constructs have often been treated as separate domains. The term *self-regulation* frequently only encompasses the self-regulation of action, and is distinguished from emotion regulation. More recently there have been calls to integrate the literature under the larger umbrella term of self-regulation, which includes the self-regulation of emotion, action and cognition, as these concepts are connected and intertwined, even if some of the underlying processes may be different (Nigg, 2017).

Self-regulation covers a broad range of processes and components including executive functioning, emotion-, mood-, and affect-regulation, temperament, effortful control, reactive control, behavioral inhibition, impulse control and impulsivity, cognitive control, working memory, delay of gratification, willpower, and more.

Although over the past decades an abundance of research has been carried out on the topic of self-regulation in children, the field has been hindered by a lack of conceptual clarity, as well as debate over the underlying components. This is due in part to the relevance of self-regulation for researchers from multiple fields, for example social, cognitive, clinical, developmental and personality psychology, psychiatry, sociology, neuroscience, and medicine. For example, research in the cognitive domain often highlights executive function and its components of attention, cognitive flexibility, working memory, and inhibitory control (e.g., Blair, Raver, Berry, & Family Life Project, 2014). Developmental investigators frequently study self-regulation using measures of effortful control (e.g., Graziano, Keane, & Calkins, 2010). Researchers in the affective domain focus on emotion regulation, which is considered in the context of social interactions (with parents, peers, or teachers; e.g., Riva Crugnola et al., 2016). Personality researchers often concentrate on the interplay of a child's temperament with the development of self-regulation (e.g., Fields, Cole, & Maggi, 2017). Criminology research examines the link between self-regulation, or 'self-control', and deviance (e.g., Meldrum, Trucco, Cope, Zucker, & Heitzeg, 2018).

Guided by the different domains, a number of definitions and models have emerged. Nigg (2017) offers a comprehensive overview of the range of concepts and tries to disentangle the overlap between them. He attempts to incorporate related concepts into a hierarchy and provides a framework to simplify and integrate hereto-separate literatures in order to unify knowledge relevant to developmental psychopathology.

Given the range of constructs, it is beyond the scope of this chapter to cover each concept in depth. The chapter aims to give an overview of the most important concepts and includes examples from each domain, however, the review will not be exhaustive. Despite the considerable overlap between SR and ER theories and empirical studies, this chapter mostly discusses the two concepts separately, in line with the majority of past research.

What Is Emotion Regulation?

The terms emotion regulation, emotional regulation or emotion self-regulation are all terms used to describe the affective and motivational aspects of self-regulation. I will continue to use the term emotion regulation (ER) throughout the chapter.

Emotion regulation consists of internal and external processes involved in initiating, maintaining, and modulating the occurrence, duration, and intensity of internal states of feeling and emotion-related physiological processes. It includes a mix of deliberate and more automatic processes, on a continuum from conscious, effortful and controlled regulation to unconscious, effortless and automatic regulation (Morris, Criss, Silk, & Houltberg, 2017; Thompson, 1994). In other words, ER describes an individual's ability to *redirect* the spontaneous flow of their emotions, to respond to environmental stimuli with a range of emotions in a controlled manner.

The regulation of emotion involves the management and organization of diverse systems and components, including internal systems (i.e., neurophysiological, cognitive, and subjective evaluations, e.g., attention shifting, cognitive reframing), behavioral components (i.e., facial and behavioral actions), and external components (i.e., cultural values, social significance, personal goals; Kopp, 1982; Thompson, 1994). Because children, and to some extent adolescents, do not have the capacity to regulate their emotions by themselves (yet), they often depend on external resources, such as their parents, for help.

The Nature and Significance of Self-Regulation and Emotion Regulation

Importance of Self-Regulation

The practical significance of self-regulation in everybody's life is profound. According to Baumeister (2004) "nearly every major personal and social problem affecting large numbers of modern citizens involves some kind of failure of self-regulation, albeit in the context of broader social influences" (p. 3). For example, poor self-regulation in some form is related to ADHD and internalizing and externalizing psychopathology (Eisenberg et al., 2009), addiction (Zucker, Heitzeg, & Nigg, 2011), depression and risk for bipolar disorder (Tseng et al., 2015; Wang, Chassin, Eisenberg, & Spinrad, 2015), obsessive compulsive disorder (Fineberg et al., 2014), eating disorders, some personality disorders (Nigg, Silk, Stavro, & Miller, 2005) and others.

Self-regulation is a critical area of development throughout the lifespan, but particularly in the early years, as delayed or impaired self-regulatory capacities have crucial flow-on effects. For example, children with lower self-control (less persistence, more impulsivity, and poorer attention regulation) at ages 3–11 have been shown to have worse physical health, less wealth, and commit more crimes 30 years later than those with higher self-control, controlling for IQ, gender, social class, and mistakes made during adolescence (e.g., teen pregnancy; Moffitt et al., 2011).

The ability to modulate arousal and behavior in the context of environmental demands is thought to develop through critical periods from early life to adulthood, in a nonlinear fashion via

a hierarchical, cascading process. The individual self-regulatory processes across physiological, attentional, emotional, behavioral, and cognitive domains continuously build upon one another, such that earlier developing mechanisms provide the basis for more advanced self-regulatory processes that account for the more sophisticated behavior that evolves as children mature (Masten & Cicchetti, 2010).

Starting at birth, regulatory capacities lay the foundation for the ability to control emotions, cognition, and behavior (Calkins, 2007). During infancy, many aspects of regulation are still the responsibility of the caregiver (e.g., calming a distressed infant), however, babies as young as a few weeks old start to develop the capacity to calm themselves, for example by sucking their fists. During toddlerhood, emerging self-regulation capacity allows children to start following simple instructions ('Don't touch the hot stove!'). In young children, self-regulation is a critical component of social development (e.g., turn taking) and school readiness (e.g., paying attention and concentrating on one task). Different aspects of self-regulation are predictive of academic success throughout childhood, adolescence and even adulthood. Self-regulation skills enable children to focus their attention and engage in the learning content while ignoring distractions and filtering irrelevant stimuli (McClelland et al., 2007). Children's self-regulation skills are concurrently predictive of math and reading scores in early childhood and predict academic achievement in later grades (Harmeyer, Ispa, Palermo, & Carlo, 2016; McClelland, Acock, & Morrison, 2006).

Importance of Emotion Regulation

Children's ability to effectively regulate their emotions is a crucial skill and a significant developmental milestone (Calkins, Smith, Gill, & Johnson, 1998). Emotion regulation is essential for maintaining successful relationships with peers and family, academic success, and mental health. Children and adolescents who regulate their emotions well, have been found to be more socially competent, higher in empathy and prosocial behavior, lower in adjustment difficulties and behavior problems, and more likely to achieve desirable academic outcomes in later childhood (Eisenberg, Spinrad, & Eggum, 2010; McClelland & Cameron, 2012; Trentacosta & Shaw, 2009; Williams & Berthelsen, 2017). In contrast, less effective emotion regulation strategies, such as denial of negative emotion and rumination, have been linked to more depressive symptoms and externalizing behavior problems.

Children with poor emotion regulation skills, which result in heightened physiological reactivity, unmodulated emotion, and poor impulse control, face significant negative ramifications. They are more likely to display defiant or aggressive behaviors towards others as compared to children who have developed appropriate emotion regulation (Calkins et al., 1998; Perry, Calkins, Dollar, Keane, & Shanahan, 2018; Schatz, Smith, Borkowski, Whitman, & Keogh, 2008; White, Jarrett, & Ollendick, 2012). They are also likely to experience difficulties forming meaningful relationships with others (Stack, Serbin, Enns, Ruttle, & Barrieau, 2010).

The Emergence of Self-Regulation and Emotion Regulation During Childhood

The capability of controlling or directing one's attention, thoughts, emotions, and actions develops rapidly in early childhood, with some heterogeneity in the developmental trajectories (Montroy, Bowles, Skibbe, McClelland, & Morrison, 2016).

Empirical evidence supports the idea that both biological and innate dispositions contribute to the development of SR (Fox & Calkins, 2003). Factors like the child's temperament, their cognitive skills, and the underlying neural and physiological systems relevant for control, contribute to normative development.

The understanding of the genetic, biological and neural bases of self-regulation is constantly expanding and research continues to examine the physiological processes that underlie the devel-

opment of early regulatory behaviors. For example, heart-rate variability has been shown to reflect self-regulatory capacity and has therefore been suggested as a bio-marker for self-regulation (Holzman & Bridgett, 2017).

Work in the area of developmental neuroscience has identified specific brain regions that may play a functional role in the processing and regulation of emotion, cognition, and behavior, for example the Anterior Cingulate Cortex (ACC; Rothbart, Sheese, Rueda, & Posner, 2011). Studies have begun to reveal important physiological changes during childhood that are relevant for the development of regulatory capabilities. Of particular importance seems to be the maturation of the frontal cortex and the parasympathetic nervous system (Calkins, 2007; Fox, 1994; Porges, Doussard-Roosevelt, & Maiti, 1994; Woltering & Shi, 2016).

Clearly, though, self-regulatory processes begin to develop in the context of dyadic interactions (Sroufe, 1997), and the child's environment and the caregiving they experience play an integral role. This chapter focuses on the contribution of the parent, specifically parenting, on the development of SR and ER.

Development of Self-Regulation

Kopp (1982) provides a great model of the development of self-regulation. As children grow older, their behavior moves from being externally regulated to internal (self-) regulation (see Box 1 for an illustration). As mentioned before, this is accompanied by the development of functioning in a variety of other domains, including motor, language and cognition, attention, and social development, and takes place in response to parental socialization (Calkins et al., 1998; Kochanska, Coy, & Murray, 2001).

According to Kopp's model, during the first 2–3 months of life the infant modulates arousal states predominantly by innate physiological mechanisms and reflex movements (e.g., non-nutritive sucking). During infancy, the child's success at regulation is primarily dependent on the caregiver who is responsible for meeting the

Box 1 From External (Interpersonal) Regulation to Self- (Intrapersonal) Regulation: An Example

A family with three young children has established a regular routine for their afternoon nap time. After lunch, the mother puts the 18-month-old Oscar down for a sleep, and 4-year-old Henry gets to choose a game to play with her. The 3-month-old baby is usually in a baby carrier or asleep in the cot.

Today, Henry is looking forward to setting up his brand-new train set in the living room. While Mom takes Oscar to his room, Henry opens the box and starts to connect the track pieces. However, instead of lying down in the cot to go to sleep, Oscar starts to cry and protest. The noise startles the infant, who also starts to cry. The mother quickly leaves the room, rocks the baby gently, and makes soothing noises while patting her, until the baby is calm again.

After waiting for a little while to see if Oscar will settle down by himself, Mom goes to get him up and brings him to the living room. Oscar promptly stops crying, smiles at his mother, and reaches out to pull the track pieces apart. The mild request to leave it alone only seems to encourage him even more. Henry gets visibly upset that his special play time is now interrupted, and as Oscar grabs the train, Henry wants to jump up and rip it out of his hands. However, his mother's quick admonishment leads Henry to pause, and to think about it. He passes his brother a toy car with flashing lights and gently slips the train out of Oscar's hands. The trick works, and Henry is delighted that he can continue to play with the train track without interruption.

This example describes the difference in children's ability to regulate their actions and emotions, depending on their age:

The relatively passive reactive infant relies almost completely on her mother for regulation. Her main means to have her

(continued)

Box 1 (continued)
needs met is clear emotional expression (in this example crying). It is her mother's voice and tactile stimulation that soothes her, lowers her heart rate, and calms her down.

Oscar, as most toddlers do, also has difficulties regulating his emotions and behaviors on his own and requires the help of a caregiver. He is not yet capable of self-initiating regulatory behavior, but has learned how to enlist his mother's help. In this example, Oscar shows his distress through crying and protesting in the cot, which signals to his mother that she needs to respond and take care of him. When he sees the train set, he has difficulty restraining himself from touching it, even though he understands the instruction not to.

In contrast, 4-year-old Henry already exhibits the ability to regulate his actions autonomously. Although Henry gets very angry at his brother when he threatens to destroy his train tracks, he is capable of inhibiting his initial emotional reaction of wanting to grab the toy back. With a little prompting by his mother he is able to calmly consider more appropriate actions. Snatching the toy back from Oscar would only make him cry again, and might even get Henry into trouble with his mother for being rough. In order to reach his goal of being able to continue his game, he needs to regulate his emotions quickly and adapt his planned behavior. In this example, the mother still needs to help Henry by interrupting his initial emotional reaction. Although Henry has used the strategy of distracting Oscar successfully in the past, he is unable to think of it in the heat of the moment.

infant's needs (e.g., food, comfort). Caregivers' interactions help the infant to focus on salient features of their surrounding environment when awake; consistent routines provide the structure and support for the infant to develop control over sleep and wakefulness.

From about 3 months to the end of the first year of life the child learns to engage in voluntary motor behavior, and modulate this behavior in response to circumstances (e.g., turning away from a source of negative arousal). During this time, children organize their object and social world and start to become aware of their own actions, such as reaching for a toy or playing. These responses are usually tied to immediate interactions or characteristics of the situations, such as engaging in a fun social interaction with the caregiver. However, they do not involve conscious reflection or an awareness of the meaning of the situation, hence Kopp labels this phase 'modulation' and not 'control'. The caregiver's role here is to be responsive and provide interesting stimuli.

The period between 12 and 18 months of age is accompanied by striking changes to cognitive and locomotor abilities. For example, children develop an improved memory, along with the ability to imitate social behaviors, and explore the environment autonomously by walking. These increased skills foster the development of self-initiated monitoring of their own behavior and consequences, and inhibition of behavior that has previously been prohibited. Children become capable of control, which encompasses awareness of social demands and the ability to comply with parental requests. Compliance reflects the child's ability to initiate, stop or change their behavior in response to adult requests, and is often conceptualized and studied as an early form of self-regulation. Children become increasingly aware of the expectations of their caregivers and the social environment, and start to internalize societal values and norms.

By 24 months, most children have developed self-control. This includes the ability to regulate and inhibit behavior in the absence of external monitors, so children can behave according to the parents' requests even when parents are not there. However, the child still has limited flexibility in adapting their behavior to meet new situational demands. Children also start to become capable of the delay of gratification. During this period

children develop a clearer sense of self and often seek autonomy ('*I* do it'). At 36 months, children begin to be capable of self-regulation, or behavior that is totally modulated by the child and adaptive to changing situational demands.

Kopp's model of development does not continue beyond early childhood. However, there is reason to believe that SR capabilities continue to refine during childhood and adolescence. Neuroimaging studies indicate that SR reaches maturity in the mid-20s (Bridgett, Burt, Edwards, & Deater-Deckard, 2015).

Development of Emotion Regulation

Emotions have the function of regulating actions in a way that serves the individual's motives. This action-regulating function changes throughout the first years of life, and the ability to regulate emotions evolves (Cole, Dennis, Smith-Simon, & Cohen, 2009).

As previously discussed, infants are still unable to perform the required actions necessary to satisfy their motives, so during infancy, the action-regulating function occurs *inter*personally, in the interaction between infant and caregiver (Holodynski, 2009). Infants rely on adults to help regulate their display of emotions, for example by using soothing behaviors and minimizing exposure to emotionally eliciting events. Sensitive caregivers aim to react immediately to the emotional reactions (e.g., crying) of their infants and try to satisfy their needs promptly and appropriately. Parents often do everything they can to elicit positive reactions and minimize negative ones in their babies. They additionally try to maintain an optimal level of arousal in the infant (i.e., one that is stimulating but is not overly arousing) at which learning can easily occur, for example through activation or calming. This may be particularly important for highly reactive infants. Normally developing infants start to engage in social referencing, by which infants use their parents' emotional expressions to guide their reactions to uncertain, new situations (Klinnert, Campos, Sorce, Emde, & Svejda, 1983).

Over the course of the second year of life the child develops increasingly autonomous regulation—particularly by actively demanding the caregiver's support in regulation. Over time, emotions begin to serve an *intra*personal regulation function; they direct the child's behavior towards his or her own motives.

The ability to use language enhances the toddler's ability to self-regulate as they can express their concerns to a parent who can help regulate their emotions, or they can talk themselves through emotionally challenging situations. As children become increasingly able to perform motive-serving actions alone, they develop the ability to regulate autonomously, actively control their emotions and adopt social norms.

For young children, emotions are directly linked to situations and events. They believe that an emotion is directly triggered by circumstances, and *feeling* an emotion and *expressing* it are inseparable. Young children do not yet possess the strategies to regulate their emotions effectively. They only start to become aware of strategies with which they can influence their feelings from about 3 years onwards (Cole et al., 2009). Young children must also learn that their motives cannot always be satisfied immediately and that this can be dependent on the environment.

Between 4 and 6 years of age, children start to understand that emotions can be triggered by a person's expectations or wishes in a situation, and that one's expressed emotion does not necessarily need to match one's subjective emotional experience. The increasing internalization of emotional expression and the understanding that feeling and expressing an emotion can be dissociated volitionally, leads to the possibility of amplification of facial expression (e.g., exaggerating pain after a fall to get sympathy), minimization of emotion (e.g., looking mildly angry when actually feeling furious), substitution of expression (e.g., looking happy and thankful when feeling disappointed about an unwanted gift), and neutralization of emotional expression (e.g., putting on a 'poker face'; Holodynski, 2004).

During middle childhood and adolescence children show an increase in effortful control and a decrease in impulsivity, but they differ in their

rate of change (King, Lengua, & Monahan, 2013). They develop an increasingly larger repertoire of behavioral strategies to manage their emotions specific to the demands of the social context and in adherence to cultural rules. Adolescents become more aware of the interpersonal consequences of certain emotional behaviors, which influences their display of emotions towards parents and peers.

Research indicates that emotion regulation processes continue to change and develop throughout the adult years, for example influenced by a change in contextual factors and increased experience regarding the benefits of different emotion regulation strategies (John & Gross, 2004). However, as the influence of parenting is greatest on infants and young children, the next section focuses on the younger age group.

Evidence for Effects of Parents and Parenting on Specific Areas of Child Development

As mentioned before, this section does not attempt to be an exhaustive review of the literature on the link between parenting and the development of SR and ER in children. Rather, it aims to provide illustrative examples to showcase the different areas of influence of the effects of parenting.

Let's first take a look at the motivational framework for understanding the development of self-regulation. Why do children move towards autonomous self-regulation at all? This development is believed to be driven by the need for autonomy, competence and relatedness. Children naturally and spontaneously take on regulations, values and behaviors of their environment and internalize them over time. According to self-determination theory (Ryan & Deci, 2000), there are a number of factors that facilitate this intrinsic motivation: those that foster a sense of autonomy rather than controlling behavior, those that support a sense of competence, and those that promote a sense of relatedness. If children are to internalize rules and move towards autonomy, their environment must clearly specify guidelines, expectations and rules so children can learn to follow them. Children need to learn how their actions are connected to consequences in order to be motivated to act. Finally, children are most likely to internalize and follow rules if their environment provides a sense of warmth, security, caring and relatedness, so the child *wants* to take on the values and behaviors modelled by those around them (Grolnick & Farkas, 2002).

Effects of Parenting on Children's Self-regulation

Consistent with theoretical work, empirical work has demonstrated that parenting behavior is an important social process that can support or hinder children's SR. Caregivers that are sensitive to child cues and needs, and assist children in achieving desired objectives, provide models of appropriate self-regulatory strategies for adapting children's thoughts, emotions, and behaviors to meet situational demands.

Positive, warm and responsive parenting is believed to promote the development of children's self-regulatory capacities (e.g., Colman, Hardy, Albert, Raffaelli, & Crockett, 2006; Williams & Berthelsen, 2017). One hypothesis about how caregiving practices influence the development of SR in childhood is through the emerging attachment relationship (for a review see Zimmer-Gembeck et al., 2017). For example, Birmingham, Bub, and Vaughn (2017) investigated the role of attachment in the link between parenting in infancy and self-regulation in preschool. They found that maternal sensitivity and home quality, aggregated across 6–15 months, each uniquely predicted SR in preschool age children, even after adjusting for the correlation between the two parenting domains. Further, these early parenting variables were each indirectly associated with SR through children's attachment history. That is, higher levels of maternal sensitivity and home quality (e.g., stimulating environment) during infancy predicted secure attachment history, which, along with

parenting, predicted more advanced SR skills at 54 months.

There is ample research indicating that parent–child relationships, which are characterized by responsiveness, positivity, and synchronicity have beneficial effects for attachment security, adaptive emotion regulation and social competence. On the contrary, negative, harsh, and insensitive parenting may stifle the development of self-regulatory skills and can have detrimental effects (Calkins et al., 1998; Eisenberg et al., 2005; Kim & Kochanska, 2012). Power assertive and physically punitive practices (e.g., force, threats, deprivation of privileges) reduce both the opportunity and motivation to engage in effective co-regulatory experiences between child and parent. When parental expectations are conveyed in a negative and threatening manner, the child is likely to become over-aroused or angry. The focus shifts from the content of the message the parent is trying to convey to the child's reaction to the mode of delivery. This diminishes the likelihood that the child will want to comply with the parental request (Colman et al., 2006). Physically punitive and power assertive parenting practices have been linked to higher rates of child defiance, externalizing behavior, and internalizing problems (Crockenberg & Litman, 1990).

Empirical studies often operationalize self-regulation as a narrow construct, which enables better measurement (see Box 2) and more focused interpretation of outcomes. For example, parenting has been reported to be related to the following specific aspects of SR:

Executive functions are defined as a set of higher order cognitive processes that underlie flexible goal-directed behaviors, like inhibitory control, working memory, planning, and attention shifting cognitive abilities. They help children understand, monitor, and control their own reactions to the environment, as well as problem-solve regarding desired future outcomes. Fay-Stammbach, Hawes, and Meredith (2014) proposed four dimensions of parenting that can enhance children's executive functions and attentional control: (1) sensitivity/responsiveness (e.g., positive affect, warmth), (2) scaffolding

Box 2 Assessment of Executive Functions in Children

In addition to questionnaire-based assessment, which is mostly completed by caregivers and teachers, performance-based tasks have long been the dominant approach for measuring executive functioning in children. Please see Carlson (2005) and Chan, Shum, Toulopoulou, and Chen (2008) for a comprehensive summary of widely used tasks.

A classic task that is regularly employed in empirical studies is the *Head-Toes-Knees-Shoulders task* (Ponitz et al., 2008; Ponitz, McClelland, Matthews, & Morrison, 2009). This measure of inhibitory control, working memory and attention focusing is a structured observation that requires children to perform the opposite of a dominant response to four different oral commands. When the experimenter instructs the children to touch their head, they are supposed to do the opposite and touch their toes, and vice versa. If children pass the head/toes part of the task, they complete an advanced trial where the knees and shoulders commands are added. To succeed, children must (a) focus on instructions and commands, (b) use working memory to remember and execute new rules while processing commands, and (c) inhibit the automatic response of following the experimenter.

More recently, executive function measures have been developed that can be completed on a computer or tablet. For example, the Minnesota Executive Function Scale (MEFS™ App; Carlson & Zelazo, 2014) is an adaptive virtual card-sorting app that assesses working memory, inhibitory control, and cognitive flexibility. It captures the development of executive functions from age 2 through the lifespan and can be used to assess training effects.

(e.g., verbal or physical guidance), (3) stimulation (providing opportunities to develop cognitive skills, e.g., through reading), and (4) control (e.g., authoritative discipline).

Wood, Bruner, and Ross (1976) coined the term *scaffolding* to refer to the interactive process of modulating the difficulty of the task for the child by sensitively tailoring the level of parent involvement. When a child is beginning to learn a new task, the parent initially provides assistance, which can be gradually withdrawn as the child develops the ability to take on more responsibility, and eventually masters the task independently. While parents provide support as needed, they do not intrude when not needed.

Findings from longitudinal research across infancy and early childhood consistently show associations between high levels of parental sensitivity, maternal scaffolding, and support for autonomy, and the development of executive functions (Bernier, Carlson, & Whipple, 2010; Blair et al., 2014; Hammond, Muller, Carpendale, Bibok, & Liebermann-Finestone, 2012; Mermelshtine, 2017).

Parental stimulation and an enriched home environment have been associated with increased inhibitory control and cognitive flexibility (Clark et al., 2013), and better attentional control (Mezzacappa, Buckner, & Earls, 2011).

Results regarding the role of parental control are inconsistent. For example, while lower levels of parental control were related positively to children's executive functions 2 years later in one study (Bindman, Hindman, Bowles, & Morrison, 2013), self-reported parental disciplinary practices were unrelated to executive functioning in another (Weber, 2012). Inconsistencies regarding the role of control could possibly be explained by a distinction between positive and negative control (Karreman, van Tuijl, van Aken, & Dekovic, 2006). Positive control includes directive parenting behavior that is characterized by specific attempts at teaching, encouraging and guiding the child's behavior. Negative, power assertive control includes anger, harshness, criticism, and intrusive behavior including physical intervention. The former aspect of control may be positively associated with SR development, whereas the latter aspect may hinder SR development.

Effortful control and executive functions have considerable conceptual, neurobiological, and developmental similarities. For a detailed discussion of the commonalities and differences see Bridgett, Oddi, Laake, Murdock, and Bachmann (2013) or Zhou, Chen, and Main (2012). Effortful control is often seen as an aspect of temperament, which is believed to play a fundamental role in the regulation of emotion (Rothbart, 2007). Effortful control can be defined as the ability to inhibit or suppress a dominant response in order to perform a subdominant, less salient response, and to uncover errors. For example, a child requires effortful control to pack up their toys at bedtime, instead of playing with them. Conceptually, effortful control broadly encompasses the abilities to focus attention and to activate and inhibit behavior when necessary. Effortful control represents a child's cognitive control over emotional arousability and reactivity (Crockenberg & Leerkes, 2006), as well as the modulation of positive affect.

Empirical studies demonstrate that maternal warmth, sensitivity, responsiveness, scaffolding, child routines, and consistent limit setting and non-punitive discipline predict increases in effortful control (Bater & Jordan, 2017; Olson, Bates, & Bayles, 1990; Spinrad et al., 2007). For example, Lengua, Honorado, and Bush (2007) found that toddler effortful control was predicted by maternal appropriate limit setting and scaffolding during parent–toddler interaction tasks, after controlling for prior toddler effortful control. Furthermore, Eisenberg et al. (2005) found that observed parental warmth and positive expressivity in mid-elementary school predicted children's effortful control 2 years later, which in turn predicted low externalizing problems in adolescence.

Parenting is also related to children's impulsivity and their ability to delay gratification (King et al., 2013; Olson et al., 1990). For example, Silverman and Ragusa (1990) showed that power-based control efforts, including strictness and intrusiveness, were related to lower ability to delay gratification or greater impulsivity, whereas encouragement of independence was related to better delay performance.

Compliance and Behavior Problems are also influenced by parenting. Warm and non-intrusive

parenting is associated with increased internalization of rules (Kochanska et al., 2001; Razza, Martin, & Brooks-Gunn, 2011), and fewer behavioral problems (Miner & Clarke-Stewart, 2008; Razza et al., 2011). Compliance with parents' requests is a prototypic form of early self-regulation that is often assessed in empirical studies, because it relies on the child's capacity to initiate, cease, or modulate their behavior according to their caregivers' standards. Positive control (limit setting, guidance and instructional behavior, directiveness with low power assertion) and responsiveness (warmth, acceptance, approval, affection, synchrony between parent and child, contingent behavior, sensitivity, and involvement) are typically associated with higher levels of compliance in children (Calkins et al., 1998; Crockenberg & Litman, 1990; Karreman et al., 2006; Kochanska & Aksan, 1995). However, compliance does not always indicate good self-regulation, as children can comply with parental requests because of external pressure or fear of the negative repercussions of noncompliance, without committing to and fully endorsing the requested behavior.

Vazsonyi and Huang (2010) followed the development of over 1000 children from preschool (4.5 years) into fifth grade (10.5 years) to examine the development of self-control (e.g., shortsightedness, impulsiveness, inability to delay gratification) and its relationship to deviance. They found that there was positive growth in self-control over this 6-year period. This positive trajectory was predicted by parenting. The shape of the trajectory, particularly for youth who reported more positive relationships with their parents, was exponential, suggesting that positive parenting has a dramatic, nonlinear impact on self-control trajectories. An affectively positive parent–child relationship at 4.5 years also explained variability in self-control at initial status, indicating that positive parenting may explain why children differ on measures of self-control when they enter preschool. They also found that deviance declined over time and that self-control predicted nearly half of the variability in deviance changes over time.

To summarize, the majority of studies emphasize the importance of warm, responsive parenting to facilitate the development of self-regulatory capabilities in early childhood. However, the literature is also inconsistent on the impact of responsiveness. For example, a meta-analysis of 41 studies by Karreman et al. (2006) found no significant correlation between responsiveness and SR. It is possible that the absence of critical parenting is actually the most important influence on children's self-regulatory behavior, and not a particularly high level of warmth and responsiveness (Mathis & Bierman, 2015).

Effects of Parenting on Children's Emotion Regulation

One of the most influential forces in the development of emotion regulation is children's parents. Whether intended or not, parents provide children with rich sources of information about the emotional world. Children learn about the emotional significance of events by observing their parents' reactions (e.g., social referencing). For example, a young child will look to their parents to gauge if an approaching stranger presents a threat. Parents provide a detailed model of how to express and display emotions verbally and behaviorally. In addition, parents also teach children how to cope with certain emotions.

In 2007, Morris, Silk, Steinberg, Myers, and Robinson used an empirical literature review to develop a tripartite model of the impact of parents and the family more broadly on children's emotion regulation and adjustment. According to the model, parents influence children's ER through three mechanisms: (1) *children's observation of parents' emotion regulation* (e.g., modelling, social referencing, emotion contagion), (2) *parenting practices specifically related to emotion and emotion management* (e.g., emotion coaching, reactions to emotions), and (3) *the emotional climate of the family* (e.g., attachment, parenting style, emotional expressivity, marital relationship). The variables that influence children's healthy emotional development are believed to be dynamic and interact with each other.

Empirical studies support the relationships proposed in the model. Similar to research on the broader construct of self-regulation, there is much research emphasizing that ER specifically

is facilitated by involved, responsive parenting. Responsiveness in this regard means that parents are available to help their child when emotional distress becomes too high and unmanageable. Keeping affect within tolerable limits allows the child to take steps towards regulating their emotions independently. For instance, responsiveness and positive control are related to more adaptive emotion regulation in preschoolers (Calkins et al., 1998; Kochanska & Aksan, 1995).

ER is also facilitated by parenting styles that tolerate and support emotional expression and allow the child opportunities to autonomously regulate their emotions. Not surprisingly, parents who are generally accepting of their child's emotional behaviors have well-regulated children. Parents can facilitate successful ER by supporting and coaching their children in emotion regulation strategies, for example problem-solving, discussing and labelling emotions, comforting children, cognitive reframing, and refocusing attention away from what is causing negative emotion (Criss, Morris, Ponce-Garcia, Cui, & Silk, 2016; Eisenberg, Cumberland, & Spinrad, 1998; Morris et al., 2011). On the other hand, parents who minimize or dismiss emotions or punish their child's display of emotions have children who are less likely to discuss their emotions or ask for adult help to alleviate negative emotional states (Fabes, Leonard, Kupanoff, & Martin, 2001).

Studies consistently demonstrate that emotional support is associated with more effective ER. For example, in a study of children from military families, maternal support was associated with fewer conduct problems and emotional symptoms (e.g., symptoms of depression or anxiety; Morris & Age, 2009). On the contrary, children of overly harsh, controlling or permissive parents may experience more difficulties regulating their emotions. Parenting that is overly directive and critical may evoke frequent negative affect and physiological stress responses from children, which strains their capacity to practice and develop emotional regulation skills (Blair & Diamond, 2008). For example, psychological control (the use of psychological and emotional manipulation including guilt induction, love withdrawal, and the invalidation of feelings) has been shown to be negatively associated with adolescent adjustment, particularly among adolescents who have difficulty regulating emotions. In a study among adolescents from predominantly disadvantaged backgrounds, parents' psychological control was associated with greater internalizing and externalizing problems through its effects on adolescents' anger regulation, regardless of age and gender (Cui, Morris, Criss, Houltberg, & Silk, 2014). For a summary of parenting strategies that may facilitate self-regulation and emotion regulation, please see Box 3.

Box 3 Parenting strategies that facilitate self-regulation

In order to facilitate the development of SR and ER capabilities, parents can:

- Strive to recognize children's emotional cues and respond supportively. This includes trying to anticipate challenging times when children might struggle to regulate their emotions or behavior (e.g., transition times).
- Attend and respond to child-initiated interactions.
- Guide children to express emotions in socially acceptable ways (verbally, not physically):
  - Help them to recognize and name emotions.
  - Model appropriate emotional responses.
  - Discuss emotions in everyday life.
- Coach children in specific emotion regulation strategies:
  - Use problem-solving rather than punishment to deal with children's emotional behavior. Prompt, model and reinforce children's own problem-solving efforts.
  - Help children to take a step back during problem-solving and reflect on the problem at hand by asking questions.
  - Help children to refocus attention away from an emotional stimulus.

(continued)

Box 3 (continued)

- Help children to reinterpret the meaning of an event in order to change its emotional impact.

- Use story time and play to support children's expressive language development.
- Allow plenty of interactions with peers to foster social interactions and emotional development like turn-taking, expressing opinions, and developing empathy towards others.
- Encourage social pretend play for the early development of executive functions (e.g., inhibiting acting out of character, remembering their own and other's roles, adjusting flexibly as their friends improvise).
- Use positive control:
  - Be directive, use teaching, encouraging and guiding the child's behavior with only mild to moderate power assertion.
  - Set clear rules and limits that help children to learn what is expected regarding emotional expression and guide them to express emotions in socially acceptable ways (e.g., "It's ok to be angry, but hitting is not allowed").
- Avoid negative power assertive control (anger, harshness, criticism, intrusiveness, physical intervention).
- Be responsive:
  - Use positive affect, acceptance, sensitivity, warmth.
- Use scaffolding and break difficult tasks into steps to teach children new skills and promote autonomy.
- Prompt children to monitor and evaluate their own behavior and accomplishments.
- Provide structure and routine activities in children's daily lives, as they provide predictability and boundaries that allow children to know what to expect.

Since the development of the Morris, Silk, Steinberg, Myers, and Robinson (2007) model, the field has acknowledged the role of additional factors that are likely to influence children's ER, such as parental characteristics and parents' self-regulation, and neighborhood violence (Bridgett et al., 2015; Criss et al., 2016). The following section briefly outlines some of these additional influences.

Additional Influences on the Development of SR and ER

While this chapter focuses on the impact that certain parenting styles and practices have on the development of children's self-regulatory capacities, it is useful to briefly consider other influences on the development of SR and ER.

Parents do not parent in a vacuum. Their parenting is influenced by the parents' own SR and ER skills, their temperament, their biology and genetics, their mental health, their culture and other factors. For example, in order to be effective caregivers, parents must flexibly use their own self-regulatory skills to inhibit impulsive decision making, regulate their own emotions and behavior, and create a supportive child rearing environment. Sanders and Mazzucchelli (2013) argue that a parent's capacity to flexibly adapt their own behavior in accordance to the current needs of their children is fundamental to the maintenance of positive, nurturing, non-abusive parenting practices that promote good outcomes in children. Parents need good self-regulatory skills to continuously evaluate how they are performing against their self-determined parenting goals, monitor if they are effectively promoting the behaviors they aim to encourage in their children and implement a plan for change when necessary. Parents' ability to manage their daily parenting responsibilities is influenced by their self-efficacy—the confidence in their capacity to solve problems and change their child's and their own behavior. Positive expectations are associated with parents' attempts to change behavior, their persistence, and their ability to recover from setbacks and disappointments (Bandura, 1986).

Bridgett et al. (2015) postulate a model for the intergenerational transmission of SR. Their review of the literature presents strong evidence that parenting behavior is a key mechanism in the intergenerational transmission of SR, albeit not the only one. Most studies included in the review demonstrated associations between parent behavioral SR, ER, or impulsivity and parenting behavior, and parenting behavior mediated associations between parent and child SR. For example, mothers with lower working memory react more negatively to challenging child behavior than mothers with better working memory (e.g., Deater-Deckard, Sewell, Petrill, & Thompson, 2010).

Another important factor that influences children's SR is the interparental relationship. High levels of marital conflict can disrupt a child's emotional security (Davies & Cummings, 1994) and contribute to unregulated emotion and behavior. Moreover, marital conflict contributes to children's poor SR via children's arousal regulation mechanisms.

In addition to parenting and interparental relationship functioning, parents' own SR influences key aspects of the child's environment and rearing context (e.g., home chaos, family socioeconomic status, parental education, and cumulative risk), which in turn may influence the development of children's SR capabilities.

Evidence is also accumulating that suggests the intergenerational transmission of SR begins in the prenatal environment. Mothers with poorer SR skills may expose their fetus to heightened maternal cortisol during pregnancy, which can affect the offspring's HPA axis and neurobiological mechanisms of SR (Graignic-Philippe, Dayan, Chokron, Jacquet, & Tordjman, 2014).

Bridgett et al. (2015) also point to the impact of genetics in the intergenerational transmission of SR, particularly dopamine and serotonin polymorphisms. The brief summary of the factors that are included in Bridgett's model aims to highlight that parenting is only one of several factors that influence the development of children's SR capacity. It is beyond the scope of this chapter to provide greater detail on how the before mentioned aspects are hypothesized to interact.

The literature on parenting and child development also assumes reciprocity of parent–child influences. The child's behavior, temperament, genetics and relationship with their parents can greatly influence the caregivers' parenting practices (e.g., Eisenberg, Taylor, Widaman, & Spinrad, 2015; Kochanska & Aksan, 1995; Lee, Zhou, Eisenberg, & Wang, 2013). For example, children with an easy temperament who quickly learn to self-initiate behavior and take responsibility for their actions elicit less control from their parents and are more likely to have pleasant and satisfying interactions with their parents. On the contrary, children with deficits in self-regulation abilities may evoke more dysfunctional parenting as frustrated parents increasingly try to unsuccessfully cope with their child (Scaramella & Leve, 2004). Several relations between parenting strategies and children's self-regulation appear to be moderated by age (e.g., Belsky, Pasco Fearon, & Bell, 2007; Spruijt, Dekker, Ziermans, & Swaab, 2018). For example, up to toddlerhood parental directiveness seems to have a positive effect on cognitive development and social functioning, but this effect may reverse after 4 years of age, in line with children's diminished need for structure (Landry, Smith, Swank, & Miller-Loncar, 2000).

In addition, there seems to be a differential susceptibility to environmental risks and assets (Belsky, 2013). Empirical studies indicate that children who are high in negative reactivity are more affected by overall parenting behaviors than children who are less reactive (e.g., Kim & Kochanska, 2012). For example, a study by Razza et al. (2011) suggested that although anger in infancy can increase children's vulnerability to internalizing and externalizing behavior problems, it can also be a motivating factor for self-regulation in the presence of maternal warmth.

Finally, culture can be an important part of the context that influences children's self-regulation (Jaramillo, Rendon, Munoz, Weis, & Trommsdorff, 2017; LeCuyer & Zhang, 2015). As Baumeister (2004) points out: "Self-regulation is one of the most important factors in making it possible for human beings to live as they do. All cultures require self-regulation and punish its

failure, even though they may differ as to what impulses must be regulated and when (or which) lapses may be permitted" (p. 3–4).

Different cultures may value different ideals and behaviors. Norms for emotional expressivity and the regulation of emotion may differ, especially between collectivistic, Eastern cultures and Western cultures. For example, current evidence suggests that children from several Asian countries outperform children from Western countries on aspects of self-regulation (Ellefson, Ng, Wang, & Hughes, 2017). Another example is the difference in emotional regulation in cultures that place a high value on interdependence, obedience, and respect for elders (e.g., East-Asian and some African societies), and cultures that value individuation and independence. In the former, the suppression of negative emotions is often promoted from infancy, whereas in the latter parental responsiveness to infants' individual signals, and the promotion of self-expression are the cultural norm. Differences in maternal responses to infant distress in these cultures have been shown to mediate differences in child ER that are, in turn, related to differences in child aggression (Bozicevic et al., 2016).

Different parents have different goals in regard to the extent to which emotions need to be regulated, and what kind of emotion expression is socially acceptable. For example, in some families particularly negative emotions are not expressed and are seen as 'bad' and something that needs to be controlled and inhibited. These parents are more likely to teach their children to minimize, ignore, deny, or prevent the experience and expression of emotions like anger and sadness. Other families seem to emphasize and value an emotional connectedness and encourage family members to openly express any emotion they might encounter. These parents are more likely to teach their children socially desirable ways to expressing their emotions. The extent to which the display of certain emotions is encouraged and deemed acceptable is often influenced by the parents' own upbringing and cultural background.

Interventions to Enhance Self-regulation in Children

Although intervention research in this area is still relatively scarce, there is some evidence that self-regulation can be promoted through intervention (e.g., Graziano & Hart, 2016; Kaunhoven & Dorjee, 2017; Pears, Kim, Healey, Yoerger, & Fisher, 2015; Shuai et al., 2017). Diamond and Lee (2011) summarize a number of specific activities that have been shown to improve children's executive functions: (1) computerized training, such as CogMed, a computerized working memory training, (2) non-computerized games, (3) aerobic exercise and sports, (4) martial arts (Tae-Kwon-Do), (5) yoga, (6) mindfulness, and (7) school curricula (e.g., Tools of the Mind, a curriculum for preschool and kindergarten; Bodrova & Leong, 1996).

One disadvantage of computerized and non-computerized training and games is that benefits usually don't transfer to other, non-trained areas. Programs that address a greater number of components may have wider gains, for instance, training that is included in the preschool and school curriculum. For example, researchers have examined effects of the Promoting Alternative Thinking Strategies (PATHS) Curriculum, a program delivered by teachers. It aims to foster social competence and adjustment and has been used with preschoolers and school-aged children. Positive results have been found on measures of executive functioning (inhibitory control and verbal fluency), externalizing and internalizing behavior, emotion knowledge, and social competence (Domitrovich, Cortes, & Greenberg, 2007; Fishbein et al., 2016; Riggs, Greenberg, Kusche, & Pentz, 2006).

School-based interventions like PATHS have been shown to foster at least some gains in executive function, emotion identification/regulation, and/or adjustment. However, improvements are often small or only in some of the intended areas. Also, the curriculum often needs to run for an extended amount of time (years). The most effective way to improve executive functions and academic achievement according to Diamond and

Lee (2011) may be to not only focus narrowly on executive functions, but to also address children's emotional, social and physical development.

As discussed earlier, perhaps the most important influence on children's emotional and social development, particularly early in life, are parents. Much of this chapter has been devoted to outlining the pervasive role parenting has on the development of SR and ER. It is a logical extension then to hypothesize that parenting interventions can influence children's SR and ER.

The development of parental SR has been identified as a critical dimension in effective parenting interventions (Sanders, 2008), although it is still largely unknown if changes in SR indeed form the basis for effective interventions, and what the underlying mechanisms are. Likewise, it is theoretically assumed that parenting interventions that enhance parental SR, parenting practices and the parent–child relationship also have positive effects on children's SR. However, the application of these ideas in interventions and the concurrent measurement of related outcomes has been limited and still presents a challenge.

One example of an attachment-based parenting program that has positive effects on children's SR is the Attachment and Biobehavioral Catch-up (ABC) parenting intervention. The program's efficacy has been assessed in randomized controlled trials with both foster and high-risk birth parents, and has been found to effectively promote the development of young children's secure/organized attachment to caregivers (Bernard et al., 2012), to enhance their physiological regulation (Dozier, Peloso, Lewis, Laurenceau, & Levine, 2008) and to support normative development of executive function and theory of mind capabilities by preschool age (Lewis-Morrarty, Dozier, Bernard, Terracciano, & Moore, 2012).

Another example is the prevention and early intervention program Tuning in to Kids. This program specifically targets parents' emotion coaching practices and has been shown to improve parents' own emotion awareness and regulation, parental emotion coaching (use of emotion labels and discussion), as well as child emotional knowledge and child behavior (Havighurst, Wilson, Harley, Prior, & Kehoe, 2010).

Current Limitations and Future Research Directions

There is strong consensus across the literature that parents can and do influence the development of SR and ER in their children. Cross-sectional, longitudinal, and intervention studies across a number of different fields have built an extensive evidence base that supports the impact of parents. However, there are also some limitations and gaps in the current research.

The majority of early research on the relations between parenting and children's self-regulation development was correlational, and therefore causation or direction of effect could not be determined with certainty. Increasing attention to longitudinal and intervention studies have since established that parenting is causally linked to SR and ER. However, it is likely that parenting and child regulation reciprocally influence each other over time (Scaramella & Leve, 2004). As mentioned earlier, parenting could be a precursor, contributor, or consequence of children's SR capabilities, or all three depending on the timing. Future research should employ longitudinal studies capable of describing the reciprocal nature of the influence between parenting, children's SR, and their adjustment and functioning, and how these relationships may change over time. Parenting practices may play a much more prominent role in early childhood, but their influence may diminish as children mature and are exposed to other influences (e.g., their peers).

To date, intervention studies are sparse. There is some research indicating that SR capabilities can be improved through training, and some computerized training and games, as well as home- and school-based programs. However, more controlled studies are needed to examine the impact of interventions, what type of intervention is best suited, and when is the best time point to intervene.

Because of the pervasive role that parents play in a child's development, parenting interventions may be a particularly promising way to enhance children's SR. Parenting programs that specifically aim to enhance parents' or children's self-regulatory capacities (or even better *both*), may

be a suitable, cost-effective, and time-effective solution.

Empirical studies have established a clear link between parenting, children's self-regulation and child behavior problems (Bater & Jordan, 2017; Hardaway, Wilson, Shaw, & Dishion, 2012; Johnson, Hawes, Eisenberg, Kohlhoff, & Dudeney, 2017). Positive parenting may support the development of children's self-regulation capabilities, which, in turn, decreases children's risk for externalizing behavior problems. Most evidence-based parenting programs for children with behavior problems (i.e., Triple P, Incredible Years) promote parental warmth and responsiveness, limit setting and consistent consequences, modelling and teaching of appropriate behavior, and positive parent–child relationships. They inherently enhance the emotional climate of the family, and likely improve children's self-regulation. However, to date evaluations of standard parenting programs do not typically include measures of children's SR as outcomes. Programs that specifically focus on teaching parents emotion-coaching techniques (e.g., Tuning in to Kids) have been shown to enhance children's SR. However, there is currently little evidence to suggest that incorporating those and other SR enhancing strategies into standard parenting programs for conduct problems has an additive effect (Salmon, Dittman, Sanders, Burson, & Hammington, 2014). More research is needed to elucidate which particular parenting practices and emotion-related socialization behaviors are most useful in promoting SR and ER, and how they can be packaged into effective parenting interventions.

Another limitation of the current evidence base is a lack of variation in many study characteristics. The majority of studies have investigated white, middle-class mothers, and have not examined boys and girls separately. More variation in study characteristics is needed to enable the examination of possible moderator effects, for example the gender and age of the children, cultural norms, or the parent's own self-regulation.

As mentioned early on in the chapter, the definition of SR remains an issue. SR is a multidimensional construct and its conceptualizations differ according to the field of research. The way SR is operationalized in empirical studies differs widely and the majority of studies focus on narrow aspects of SR. There is also considerable overlap between some of the aspects of SR (for example, the constructs of effortful control and executive functions), and indeed, the measures used to assess them in empirical studies. This means that one has to be careful to clearly identify what exactly is being measured and hypothesized to be influenced by parenting (e.g., a particular component of SR or ER vs. SR in general). More refined measures are necessary to make distinctions between some of the components of SR. The currently relatively small number of validated assessment tools imposes a limitation that needs to be overcome in order to make greater strides in this research area. To date, many of the research findings are difficult to interpret and generalize because of the poor reliability and validity of the assessment instruments. The majority of studies rely on self-report measures, sometimes augmented by laboratory observations. However, there is still debate whether behavior in the laboratory faithfully represents real-world behavior (Falk & Heckman, 2009). In addition, laboratory-based observations, computerized reaction time and accuracy tasks, and rating scales have only weak intercorrelations.

Methodological improvements will be an important component driving advances in this area of research. In particular, the more recent advancements in the assessment of physiological changes will add another dimension to objectively assessing occurring changes (e.g., functional neuroimaging; Poldrack et al., 2017).

Implications for Policy and Practice

There are many reasons why parents, professionals and policy makers should strive to promote the development of self-regulation in children. For example, better self-regulation is associated with fewer adjustment problems, increased school readiness and academic achievement, and overall social competence. In addition, self-

regulatory capacity in early childhood predicts a wide range of indices of social competence and well-being in adolescence and adulthood (Moffitt et al., 2011).

Interventions that enhance self-regulation may improve the welfare of children and adults alike, and reduce a range of societal problems that are caused, or at least exacerbated, by a lack of SR. The developmental trajectory of self-regulation suggests the window for effective intervention may be early in life. Further, prevention and early intervention efforts may bring a greater return on investment than trying to address a lack of SR later in life.

The relatively consistent finding that parenting can support or hinder the development of children's regulatory capacities has important practical implications. Parenting interventions that enhance children's SR capacities may be an effective way to promote SR in our society.

Once parenting interventions have been proven to enhance children's SR, they should be made universally available to all families. Allowing equitable access makes participation normative and increases the likelihood that large portions of the population will be reached (Sanders, 2008). Parenting programs have already been demonstrated to be capable of being disseminated at a universal level and achieving population level outcomes (Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009). Promoting self-regulation via parenting interventions therefore represents a viable option that deserves further investigation.

Conclusions

Self-regulation includes the processes that enable an individual to guide his/her goal-directed activities over time and across changing circumstances. There is still much to learn about how self-regulatory mechanisms work, and how such mechanisms can be activated and enhanced to promote the well-being of children. While there is a genetic vulnerability to poor self-regulation, children's self-regulatory capacities are greatly influenced by environmental experiences, such as the quality of interactions with caregivers (Posner, Rothbart, Sheese, & Voelker, 2014). Parents play an integral role in the promotion (or inhibition) of regulatory capacities. The way in which parents relate to their children, discipline them, and teach them appropriate behavior is related to children's SR capacities. For instance, parental warmth, limit-setting activities with mild to moderate power assertion, and the use of clear guidance and instructions while directing the child are positively associated with self-regulated behavior. Conversely, verbal aggression and rejection, negative controlling strategies, such as power-assertive limit-setting activities and coercive behaviors, stifle the development of SR capabilities.

Many of the complex interactions between child and parental influences are still not sufficiently understood, but it is clear that the development of self-regulatory abilities is a plastic, bidirectional process that is affected by a multitude of influences. A focus on large longitudinal and intervention studies will help to decipher how parents can best support the optimal development of their children's self-regulation.

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Peer and Sibling Relationships

Karyn L. Healy

Introduction

> Your children are not your children.
> They are the sons and daughters of Life's longing for itself.
> You can house their bodies but not their souls
> For their souls dwell in the house of to-morrow
> Which you cannot visit, not even in your dreams.
> Gibran (1926, p. 20)

The primary purpose of parenting is to prepare children for the future, and there is no more important parental role than helping children relate successfully to their peers. Ultimately, the child must learn to live in a world of peers. From the peer group the child will find friends, companions, rivals, coworkers, future spouses, and perhaps enemies. Parents are not part of this peer world, but prepare their children to live in this world through the complex interplay of genes and the environment they shape. This chapter looks at the importance of peer relationships, and how parenting influences children's peer relationships.

This chapter also examines children's sibling relationships, which can be some of the most enduring relationships in life (Salmon, 2015). For many children, sibling relationships are the first experience of a relationship with relative equals or peers. Both peer and sibling relationships are more horizontal than vertical in power structure (Hartup, 1989), in that, compared to parents, siblings having relatively equal influence in the family (depending on child age and the age difference between siblings). For both peers and siblings, play and companionship are central to the relationship (Dunn, 1983).

Peer and sibling relationships in general seem to function in similar ways for children. Whether positive or negative, peer and sibling relationships can have a significant impact on a child's ongoing well-being and behavior (Dirks, Persram, Recchia, & Howe, 2015), and both types of relationships are influenced by parents. Before examining the interplay of sibling and peer relationships, and how parenting affects both, the impacts of peer and sibling relationships on children will be examined, starting with positive peer and sibling support.

Impacts of Supportive Peer and Sibling Relationships

The impact of supportive peer and sibling relationships on children's overall well-being will be considered, before examining how supportive peer and sibling relationships protect children against adversity.

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Impact of Supportive Peer and Sibling Relationships on Well-Being

Positive peer relationships have been associated over time with a wide range of beneficial outcomes including better emotional adjustment, school retention (Jimerson, Egeland, Sroufe, & Carlson, 2000), academic achievement (DeRosier, Kupersmidt, & Patterson, 1994; Wentzel, 2005), prosocial behavior and positive self-beliefs (Wentzel, Donlan, & Morrison, 2012), improved health, and increased participation in healthy behaviors (Molcho, Nic Gabhainn, & Kelleher, 2007). There is also some evidence that online relating with peers has benefits. A recent survey by the Australian Communications and Media Authority (2013) found that most 14–17 year olds reported that the internet improved their well-being and relationships. Similarly, a recent review found that teenagers' participation in social media had positive effects on self-esteem, support, and group belonging (Best, Manktelow, & Taylor, 2014).

There is also some evidence that positive sibling support is beneficial. In a meta-analysis of cross-sectional studies of the relationship between sibling relationships and psychopathology, Buist, Deković, and Prinzie (2013) found that greater sibling warmth was associated with fewer internalizing and externalizing problems. White, Ensor, Marks, Jacobs, and Hughes (2014) found that children's spontaneous sharing with siblings at 3 years of age predicted later sharing with peers at 6 years of age. Kim, McHale, Crouter, and Osgood (2007) found that higher sibling intimacy in childhood led to greater peer competence in adolescence, after controlling for parent–child relationships and sibling and parent adjustment.

However, there are important exceptions to when positive support from peers and siblings is beneficial. Dishion and colleagues described a process of *deviancy training* whereby peers reinforce antisocial behavior, such as substance use among adolescents (Dishion & Skaggs, 2000; Dishion, Spracklen, Andrews, & Patterson, 1996). Consistent with this, recent studies have found that male adolescents can be negatively influenced in close relationships by peers demonstrating antisocial behavior (Farrell, Thompson, & Mehari, 2016), early use of substances (Han, Kim, & Lee, 2016), and substance abuse (Piehler, Véronneau, & Dishion, 2012), and, for females, depressive symptoms (Giletta et al., 2012). The same dynamic can apply with younger children. In a longitudinal study of grade 1 boys, Lamarche et al. (2007), found that for boys, the predicted link between peer victimization and children's reactive aggression was moderated by recent reciprocal friends' similarly aggressive characteristics. This suggests that, especially for male adolescents, whether positive relationships with peers have a positive or detrimental influence depends on whether the behavioral example set by the peer or sibling is viewed as beneficial to the child.

Similar dynamics have been found in sibling relationships, and are referred to as *sibling deviancy training* by Feinberg et al. (2013). In a longitudinal study of Dutch adolescents, Branje, Van Lieshout, Van Aken, and Haselager (2004) found that sibling support usually predicted lower levels of externalizing problem behaviors (after controlling for support from parents and friends and previous problem behaviors). However, for close fraternal relationships, delinquent behavior of the older sibling could lead to increased antisocial behavior by the younger brother over time. This pattern of negative social contagion in close fraternal relationships has also been found in studies of substance abuse in adolescence (Rende, Slomkowski, Lloyd-Richardson, & Niaura, 2005; Samek, Rueter, Keyes, McGue, & Iacono, 2015; Slomkowski, Rende, Novak, Lloyd-Richardson, & Niaura, 2005). These results are consistent with social learning theory (Bandura, 1977, 1978) in that children are likely to adopt the behaviors of attractive role models.

So, whether positive relationships with siblings and peers have a positive or negative impact depends on the situation and the model of behavior provided. Given the complex association between supportive peer and sibling relationships and well-being, it may be that conflictual relationships have clearer links with well-being. In accordance, a meta-analysis of the relationship

between sibling relationship and psychopathology reported that sibling conflict had stronger links with both externalizing and internalizing problems than did sibling warmth (Buist et al., 2013). Similarly, in an 8-year longitudinal study of adolescent African American siblings, Whiteman, Solmeyer, and McHale (2015) found that, after controlling for age-related changes and parent–adolescent relationships, changes in sibling negativity (but not positivity), were positively related to changes in both adolescents' depressive symptoms and risky behaviors.

There is also mixed evidence as to whether having siblings per se is associated with better outcomes (Downey & Condron, 2004). Generally speaking, the more siblings children have, the poorer their academic outcomes; this is attributed to the dilution of parental attention and other physical and economic resources (Blake, 1981). However, the negative impact of more siblings on learning may be attenuated if the older child coaches the younger child with sensitivity to their cognitive ability (Prime, Pauker, Plamondon, Perlman, & Jenkins, 2014). There is also mixed evidence about whether having siblings helps children develop social skills with peers. Kitzmann, Cohen, and Lockwood (2002) found that children who had a sibling were more liked by peers. However, an earlier review reported no relationship between number of siblings and peer popularity (Polit & Falbo, 1987). Baydar, Hyle, and Brooks-Gunn (1997) provided some insight after comparing preschool children who gained a sibling to those who did not over a 4-year period. Baydar et al. reported an initial period of behavioral deterioration whilst the older child adjusted to the new sibling, followed by improved social behavior.

Despite these complexities, in general, the more sources of positive support children have, the better their adjustment. A report by the World Health Organization found that the accumulation of support from parents, siblings and peers leads to a stronger prediction of positive health for children and adolescents (Currie et al., 2009). Stocker (1994) studied links between psychological adjustment and relationships with siblings, mothers, and friends of children in grade 2. Children reporting social support from friends, siblings or mothers were less likely to be lonely, depressed, have low self-esteem or demonstrate behavior problems. Children with warmer relationships with mothers and/or friends were better adjusted. In a recent meta-analysis of 246 cross-sectional studies of well-being in children and adolescents, Chu, Saucier, and Hafner (2010) reported a positive overall association between social support and indices of well-being. There was a smaller effect size for support from peers compared to support from teachers,[1] which was attributed to inclusion of studies showing peer influence towards "socially deviant" risky activities such as drug abuse and delinquency (e.g., Borum, 2000). The study by Chu et al. raised interesting questions; however, it was based on cross-sectional data, so caution is warranted in interpreting causality. There is another plausible alternative explanation as to why peer support had a lower association with child well-being than did teacher support. When children encounter hardship and problems, they may be more likely to seek help from peers than adults. This is consistent with research finding that children are more likely to seek help from peers than adults in the situation of bullying (Fekkes, Pijpers, & Verloove-Vanhorick, 2005). Also consistent with this alternative interpretation is a great deal of evidence that peer and sibling support protects children in times of adversity. This evidence is presented below.

Supportive Relationships Protect Against Adversity

Well-controlled longitudinal studies demonstrate that positive peer relationships protect children from the impact of adversity. Having good friends protects children against being bullied by peers. Hodges, Boivin, Vitaro, and Bukowski (1999) found that for fourth grade children, having a best friend protected the child from increases in victimization associated with internalizing and externalizing behaviors. Schwarz, Dodge, Pettit,

[1] Sibling support was not measured separately but included under "family support."

and Bates (2000) found that having numerous friends protected middle school children from victimization predicted by adversity in the home environments. Supportive friendships also protect children from internalizing problems following adversity. Hodges et al. (1999) found that friendships protect children against later internalizing problems following bullying by peers.

Support from friends also protects children against increases in externalizing problems following adversity. Criss, Pettit, Bates, Dodge, and Lapp (2002) found that, for grade 1 children, peer acceptance and friendships moderated the impact of harsh parental discipline on externalizing behavior. In fact, acceptance by peers moderated the impact of three types of family adversity (ecological disadvantage, violent marital conflict, and harsh discipline), to the extent that when there were high levels of positive peer support, family adversity was not significantly associated with child externalizing behavior. Criss et al. found that these effects were consistent across gender, ethnicity and aggressiveness of the child's friends, and that positive peer relationships remained significant moderators of adversity after controlling for earlier levels of child temperament or social information-processing patterns.

Positive relationships with peers can also help children overcome barriers to academic achievement. Song, Bong, Lee, and Kim (2015) examined the relative importance of perceived social support from parents, peers, and teachers in middle school students in Korea and found that, although support from parents was the most beneficial of the three types of support, support from peers worked as a buffer against poor motivation and test anxiety.

There is good evidence that, like peer relationships, supportive sibling relationships buffer children from the impact of hardships. In a large-scale, well-controlled longitudinal study of twins, Bowes, Maughan, Caspi, Moffitt, and Arseneault (2010) found that maternal warmth, sibling warmth, and a positive home atmosphere protected children against the emotional and behavioral consequences of being bullied. Gass, Jenkins, and Dunn (2007) found that adolescents with an affectionate sibling relationship reported less depression and anxiety after stressful life events, such as the death of a loved one. Sibling support may also compensate when other support is not available: cross-sectional studies suggest that when there are low levels of parent and peer support, adolescents with higher levels of sibling warmth report less loneliness and depression (East & Rook, 1992; Milevsky & Levitt, 2005).

Overall, there is strong evidence that both peer and sibling relationships protect against the impact of stressors. This is consistent with Rutter's theory that positive relationships strengthen resilience and protect children against the negative impacts of adversity (Rutter, 1985, 1987). Overall, research shows that under most circumstances positive peer and sibling relationships are beneficial to well-being and can protect against adversity. On the other hand, negative peer and sibling relationships can cause great harm.

Adverse Impacts of Peer and Sibling Relationships

Children's relationships with peers and siblings are not always positive. A number of peer problems have been cited in the literature, including bullying, aggression, rejection and neglect, shyness and social withdrawal, conflict, lack of friendships, and parental concerns about peer pressure (Malik & Furman, 1993). Of these, by far the most concern has been expressed about bullying by peers. Recent surveys in Australia (Telstra.com, 2014) and the USA (Care.com, 2016) name bullying and cyber bullying as parents' greatest concerns.

There is a great deal of evidence that being bullied by peers has serious ongoing negative impacts on victims, so much so that it has been described as the single most important modifiable risk factor for mental illness in children and adolescents (Scott, Moore, Sly, & Norman, 2014). Bullying is defined as intentional and repeated behavior that causes hurt or harm to someone who feels powerless to protect themselves (National Centre Against Bullying, 2016). It can include actions that are verbal, physical, or social (such as exclusion), and can be carried out

in person or through technology (cyber bullying). Well-controlled, longitudinal studies have shown that bullying by peers increases ongoing risk of depression, anxiety, psychosis, and self-harm (Arseneault et al., 2008; Fisher et al., 2012; Schreier et al., 2009). Children who have been bullied by peers continue to have increased risk of poor health, psychiatric, and social problems well into adulthood, which leads to increased unemployment, poorer social economic status, and social problems (Copeland, Wolke, Angold, & Costello, 2013; Wolke, Copeland, Angold, & Costello, 2013).

Early research in cyber bullying seemed to indicate that the mental health outcomes of cyber bullying may be worse than for traditional bullying (Campbell, Spears, Slee, Butler & Kift, 2012; Wang, Nansel & Iannotti, 2011). However, these studies did not control for the effects of face-to-face bullying, which is a potential confound given that most children and teenagers who are bullied online are also victims of face-to-face bullying (Beran, Mishna, McInroy, & Shariff, 2015; Hase, Goldberg, Smith, Stuck, & Campain, 2015), and know the perpetrator in real life (Juvonen & Gross, 2008). It is not clear that cyber bullying has more serious mental health outcomes than face-to-face bullying (Bonanno & Hymel, 2013; Hase et al., 2015). Either way, it is clear that the impact of bullying is cumulative, with children who experience more victimization (whether face-to-face or cyber), experiencing the worst mental health outcomes (Evans, Smokowski, & Cotter, 2014).

The negative impact of bullying is not confined to children who are the victims of bullying. Children who perpetrate bullying are also at increased risk of later conduct problems, criminality, mental health, and substance abuse problems in adolescence (Kumpulainen & Räsänen, 2000) and early adulthood (Copeland et al., 2013). Even children who witness bullying experience stress (Rivers, Poteat, Noret, & Ashurst, 2009).

Recent research suggests that the impact of conflict and bullying by siblings may be just as serious as bullying by peers. Several studies show that conflictual sibling relationships are associated with increased risk of later conduct problems and delinquent behavior (Bank, Burraston, & Snyder, 2004; Criss & Shaw, 2005), and internalizing problems (Bank, Patterson, & Reid, 1996; Kim et al., 2007). However, given that siblings share genetic similarities and family environment, it is particularly important to control for possible confounding factors, including ongoing impact of child temperament, preexisting adjustment problems, and changes to parenting and family life.

There are a number of studies that demonstrate that associations between sibling conflict and later adjustment problems are maintained after controlling for some measures of previous adjustment. Stocker, Burwell, and Briggs (2002) found that sibling conflict in childhood predicted increases in adolescent anxiety, depression, and delinquent behavior, after controlling for maternal hostility and marital conflict. Kim et al. (2007) found that sibling conflict in childhood predicted higher levels of adolescent depression after controlling for parent–child relationships and sibling and parent adjustment. Campione-Barr, Greer, and Kruse (2013) found that for young adolescents, conflicts about personal territory were associated with higher anxiety a year later, whereas conflicts about fairness were associated with later depression. A study by Bowes, Wolke, Joinson, Lereya, and Lewis (2014) found that children bullied by a sibling at age 12 had twice the risk of depression, anxiety, and self-harm at 18 years of age; this was true after controlling for potential confounding variables including earlier bullying by peers and prior anxiety and depression.

In summary, there is no doubt that peer and sibling relationships have significant impacts on children and adolescents, whether for good or bad. The next section explores how parenting influences both peer and sibling relationships.

Theoretical Background

Bronfenbrenner (1977) theorized that a range of different environments influence children's development. The family environment has an

enormous influence on child development (Salmon, 2015). According to Parke, Ladd, and colleagues, children learn the social skills needed for successful peer relationships through daily interaction within their families (Parke, Cassidy, Burks, Carson, & Boyum, 1992; Parke & Ladd, 1992). The relationship between parent and child is centrally important, as the child's internal representation of this relationship provides a template which they adapt to all other relationships. The child's relationship with siblings can provide an intermediate step, through which children transfer relating skills from the parent–child relationship to peer relationships. Parke and Ladd's theory is consistent with attachment theory and social learning theory.

Attachment theory proposes that children's relationships with peers and siblings are affected by internal working models of relationships which are developed through their earliest relationships with attachment figures (Bowlby, 1969; Sroufe, Coffino, & Carlson, 2010). Social learning theory proposes that children learn particular behaviors through modelling by parents and siblings, and generalize these to other environments and relationships with peers and friends (Bandura, 1977). Hence, children can imitate either positive behaviors (such as warm support) or negative behaviors (such as coercion) that they observe and experience in the family environment (and the peer and school environments).

Principles of classical and operant conditioning provide a further theoretical foundation for explaining how children's social behavior is shaped in home and peer settings. Patterson (1982) described processes through which coercive parenting practices lead to an escalating pattern of conflict in the family. According to Patterson, if a parent escalates, and threatens or smacks the child, most children will submit. However, if a parent smacks a socially aggressive child, the child may strike back. If the parent then withdraws, the child is rewarded for aggression. However, if the parent instead escalates, this can lead to an ongoing cycle of violence. The situation described here could also teach children to be victims; their submissive behavior could be negatively reinforced by the withdrawal of the parent's threat.

Classical conditioning (Pavlov, 1941) explains why a child might transfer behavior from one person or situation to another. When interacting with new people or new contexts, if the child encounters an antecedent situation which is similar to one previously experienced (e.g., wanting a toy or being threatened), this is likely to trigger the same behavior that has worked in the original situation. These Pavlovian principles are also consistent with current thought in neurology and brain function which explains how behavioral habits are formed: "Neurones that fire together, wire together" (Doidge, 2015, p. 7, after Grinker & Bucy, 1949).

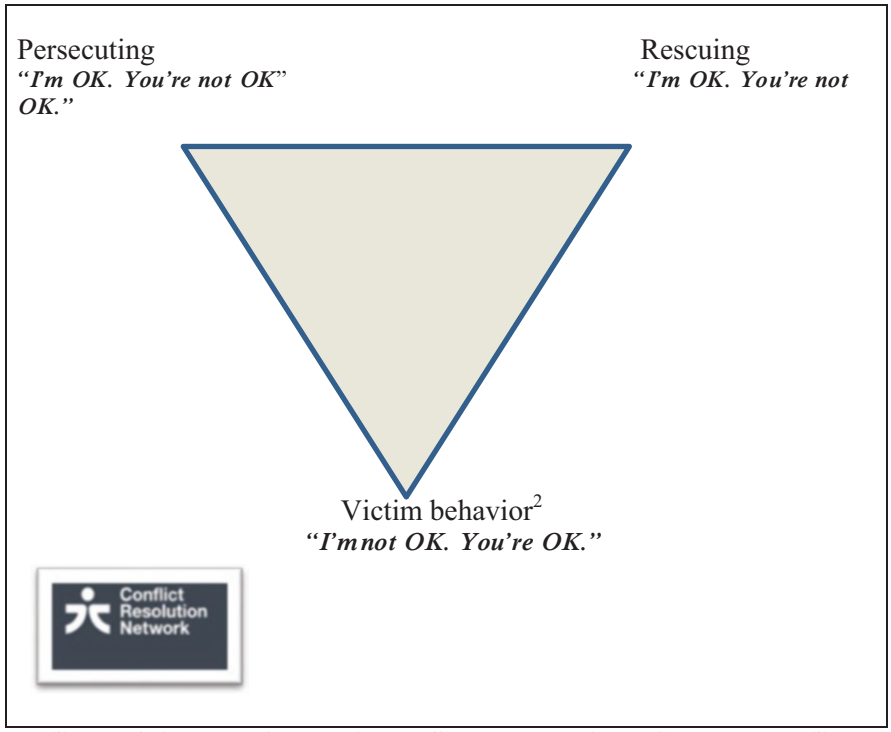
When a child transfers a behavior to a new person or new setting, similar or different contingencies operate which will influence how this behavior is shaped, and whether the behavior is reinforced and perpetuated over time. For instance, Patterson, Littman, and Bricker (1967) explained dynamics through which bullying and victim behaviors are shaped in a preschool setting. They found that peer victims reinforced peer aggression 80% of the time by withdrawing, crying, or giving up on the desired object or play setting. According to principles of operant conditioning (Skinner, 2014) this immediate reinforcement increases the likelihood that the behavior would be repeated in a similar situation. The victim's submission would also be negatively reinforced in escaping from the feared situation. Thus, children develop chronic patterns of social behavior over time. In accordance with this, children who are bullied tend to show submissive body language and to react in an emotional way whether internalizing (e.g., crying or sulking) in the case of passive victims (Hodges & Perry, 1999), or externalizing (e.g., lashing out angrily) in the case of provocative victims (Dulmus, Sowers, & Theriot, 2006).

In the situation described above, there are several feedback loops operating which tend to perpetuate these patterns over time. Both the aggressor and the victim have their behaviors reinforced by this interaction. The child aggressor gets what they want (e.g., desired toy). The victim escapes the threat of aggression by submitting (or in the case of the provocative victim may get some short-term satisfaction from

revenge). When behaviors are mutually reinforcing they could be said to form a positive feedback loop which leads to amplification of this pattern over time (Maruyama, 1963). For victims of bullying, another positive feedback loop operates. Emotional reactivity is both an antecedent and consequence of victimization (Hodges & Perry, 1999; Reijntjes, Kamphuis, Prinzie, & Telch, 2010). Hence, the more a child reacts, the more they are likely to be targeted, which in turn increases their emotional reactivity and sensitivity.

The behavior of other children (e.g., watching) who are bystanders can also increase the frequency of victimization (Salmivalli, Voeten, & Poskiparta, 2011); even passive bystander behaviors such as watching could encourage the child bullying (by giving them an audience), and increasing the stress and emotionality of the child targeted. Experimental research has found that observing victimization makes children feel less inclined to socialize with the victim (Howard, Landau, & Pryor, 2014). Lack of social support is likely to make the victimized child more isolated and vulnerable, which would further increase their reactivity. Hence, there are several feedback loops operating which tend to maintain and encourage a stable pattern of victimization over time.

Role theory from social psychology also has theoretical implications for the situation of bullying and victimization in families and schools, and how these roles might be maintained. "Roles" in social psychology refer to patterns of behavior that individuals might adopt in various situations (Sarbin & Allen, 1954). Transactional analysis (Karpman, 1968) describes the dynamic between the roles of "bully" ("I'm okay. You're not okay."), and "victim" ("You're okay. I'm not okay."), and introduces a third role: that of "rescuer" ("I'm okay. You're not okay."). Figure 1 shows the Power Game Triangle Diagram from the Conflict Resolution Network (Hollier, Murray & Cornelius, 2008), which portrays these dynamics.



©Conflict Resolution Network (CRN) from Hollier, Murray, and Cornelius (2008), Conflict Resolution Trainers Manual: 12 skills, 5.8, available for free download from www.crnhq.org.

Fig. 1 Power Game Triangle diagram. ©Conflict Resolution Network (CRN) from Hollier, Murray, and Cornelius (2008), Conflict Resolution Trainers Manual: 12 skills, 5.8, available for free download from www.crnhq.org

Typically, the person in the "rescuer" role sides with the person in the "victim" role, and may push away and/or attack (e.g., admonish or punish) the person in the "bully" role. Being pushed away or attacked ("You're not okay") makes the child in the bullying role feel angry, frustrated, and excluded and more motivated to attack again. This aggressive behavior in turn makes the child in the victim role feel more vulnerable, and reinforces the need for the rescuer's assistance. Thus, each role is reinforced and perpetuated by the other two roles.

These dynamics could also operate in a family system. Parents may inadvertently perpetuate conflict between siblings if they intervene in conflict in a way that is consistent with the role of rescuer, i.e., if they take sides with one child and blame the other. Unequal ages and capabilities of siblings in the early years makes it highly likely this will happen; it is common for parents to need to intervene to defend one child from the boisterous behavior of another. Teacher intervention at school could reinforce the pattern of behavior in the same way, by blaming children known to be frequently aggressive in instances of conflict. Despite the face validity of these dynamics, there is minimal research which tests the relevance of the rescuer role in the scenario of bullying. There is one experimental study involving adults that found support for a hypothesis based on the theory (Pasternack & Fain, 1984) (Box 1).

Box 1 Case Example: Bullying between siblings

Tracey discussed the case of her daughter, Sacha at a parenting group session. Sacha had a twin brother and a younger brother. Tracey was concerned about her daughter's aggressive conduct towards her younger brother, and complained that Sacha would try to wreck the boys' games. Through discussion, Tracey realized that the boys had been excluding Sacha from play, and could understand why Sacha was frustrated by this. Tracey realized that she had been inadvertently maintaining this pattern by directing Sacha to leave the boys alone. Tracey decided to speak to all three children together, to help them come up with a fair solution. The solution involved the three siblings playing some games together that they all liked, and at times, when the boys wanted to do something that Sacha did not like, Sacha could do something else with Tracey or a friend, or a special activity independently.

The Power Game Triangle is an example of how parents or teachers could directly impact peer or sibling relationships in a situation of conflict or bullying. According to both Bronfenbrenner (1977) and Parke, Ladd, and associates (e.g., Ladd, 1992), there are indirect as well as direct mechanisms through which parents impact child peer and sibling relationships. In the case of siblings, parents can have a direct impact (e.g., teaching siblings to share) or an indirect impact (e.g., marital conflict which impacts child stress which increases conflict with siblings). In the case of peer relationships, since parents are usually not present during peer interactions, the parental influence is more likely to be through indirect pathways. So, what are the specific pathways through which parenting affects peer and sibling relationships? McDowell and Parke (2009) identified three distinct paths through which parenting influences children's social competence and peer acceptance over time; these include the quality of the parent–child relationship, parental instruction or coaching of children, and providing opportunities for peer interaction. Separate research has identified several other pathways of parental influence including coercive parenting, spousal conflict, differential treatment of children, and parental management of sibling conflict. Evidence for all seven of these paths is discussed in the following section.

Evidence for Effects of Parents and Parenting on Peer and Sibling Relationships

This section examines evidence for pathways through which parents influence children's peer and sibling relationships. It then introduces research on parenting which combines different paths of parenting influence, under the name of facilitative parenting.

Evidence for Pathways of Parental Influence

1. *Warm, responsive parent–child relationships*. A body of literature indicates that children who experience warm, responsive parent–child relationships tend to form more positive relationships with peers. McDowell and Parke (2009) found that warm, responsive parenting predicted improvements in peer competence and relationships over time, after controlling for earlier measurements of these same child variables. Youngblade and Belsky (1995) found that observed positive parent–child relating predicted observed positive relating between the child and a friend 2 years later. A recent meta-analysis including both cross-sectional and longitudinal studies found that warm, responsive parenting protected children against being bullied by peers (Lereya, Samara, & Wolke, 2013). On the other hand, low levels of warm parenting have been associated with peer relationship problems, including being bullied (Ladd & Ladd, 1998) and bullying others (Bowes et al., 2009).

   A separate body of research focusing on the quality of the parent–child attachment reveals a similar pattern. Lieberman, Doyle, and Markiewicz (1999) found that, for older children and young adolescents, children's reports of positive friendship qualities and lack of conflict in their best friendships were related to the quality of warm, responsive attachment to both mothers and fathers. Kerns, Klepac, and Cole (1996) found that grade 5 and 6 children who had closer attachments to their mothers were accepted more by peers, had more reciprocal friendships, and were less lonely. A second study from the Kerns et al. paper found that peer dyads, in which both children reported a warm secure attachment to their mothers, were more responsive and less critical to each other compared to dyads in which at least one child reported an insecure attachment.

   Several cross-sectional studies have reported associations between children's sibling relationships and warm, responsive parenting. Tippett and Wolke (2015) found that positive parenting predicted lower levels of aggression between adolescent siblings (where aggression was defined broadly to include verbal, social, and property actions as well as physical aggression). Gamble and Yu (2014) found that in a sample of families of mainly Mexican origin, sibling relationships which were warm and low in conflict were associated with supportive, positive parenting.

   Recent research on callous-unemotional traits in children has reinforced the prime importance of warm, responsive parenting to child social behavior. Callous-unemotional (CU) behavior is characterized by deficits in empathy and guilt, insensitivity to punishment, and reward-focused aggression (Waller et al., 2015), and is thought to be influenced by a strong genetic predisposition to antisocial behavior (Frick, Ray, Thornton, & Kahn, 2014). Previous cross-sectional research reported weaker associations between child conduct problems and parenting for children and adolescents with high CU (e.g., Falk & Lee, 2011; Hipwell et al., 2007). However, in a study of the moderating effect of CU on the relationship between parenting at age 2 and child conduct problems at age 4, Waller et al. (2015) found that in longitudinal models, CU did not moderate either the impact of parental warmth or parental harshness on children's conduct problems. This demonstrates that, at least for very young children, parental warmth has a powerful influence on child behavior, even when children are temperamentally predisposed to antisocial behavior, as is the case with CU traits.

2. *Harsh, hostile parenting*. There is substantial evidence that harsh, hostile parenting is a risk factor for bullying and aggressive behavior in children. Children's bullying of peers is associated with conduct problems, antisocial behavior, and callous-unemotional traits characterized by low empathy (Golmaryami et al., 2016). Harsh, hostile parenting has previously been implicated in general conduct problems (Gardner, Ward, Burton, & Wilson, 2003; Patterson, 1982), and has recently been found to predict conduct problems, even in children with high levels of callous-unemotional traits (Waller et al., 2015). Research on school bullying shows that parents of children who bully peers at school tend to show a similar pattern of parenting; they display high levels of harsh, hostile parenting, lower levels of warmth, and laxness in supervision (Atik & Güneri, 2013; Demaray & Malecki, 2003; Loeber & Dishion, 1984). Tippett and Wolke (2015) also found associations between harsh parenting and sibling aggression.
3. *Parenting coaching*. There are several well-controlled studies that show that an inductive style of parenting, in which parents help children learn to solve problems, can improve children's peer skills and relationships. McDowell and Parke (2009) showed that parents' use of skillful, direct instruction significantly predicted children's peer social skills and peer acceptance over time (after controlling for earlier measures of these). McDowell, Parke, and Wang (2003) found that parents' use of an inductive style of instruction without being overly controlling predicted better peer relationships for children. Rajendran, Kruszewski, and Halperin (2016) found that greater parental support for child autonomy prior to starting school predicted reduced perpetration of bullying over the next few years at school. On the other hand, overly intrusive or directive parenting has been associated with increased risk of victimization by peers (Ladd & Ladd, 1998). There is very little research, to my knowledge, on the relationships between inductive parenting and parental coaching and outcomes for siblings. However, in an observational study, Perlman and Ross (1997) concluded that parent intervention in sibling conflict lead to siblings using less coercion and more negotiation.
4. *Parents as gatekeepers of opportunities*. Parents make many choices which affect children's opportunities to develop peer skills and relationships. Parents' choice of neighborhood has been shown to influence children's social development (Parke & Bhavnagri, 1989). Parents also have a significant influence on the school the child attends, the child's participation in extracurricular activities, and opportunities to get to know peers outside school, for example inviting friends over for playdates or interacting through social media. McDowell and Parke (2009) found that this gatekeeper role predicts children's peer social skills and acceptance by peers over time. Parents of children who are bullied tend to be more overprotective than other parents (Bowers, Smith, & Binney, 1994), so in protecting children may inadvertently deny children access to peers to develop friendships.
5. *Spousal conflict*. A meta-analysis by Reid and Crisafulli (1990) reported a significant positive association between spousal conflict and child behavior problems for boys (but not girls) (Halford, Rhoades, & Morris, 2018). Stocker and Youngblade (1999) examined the associations between spousal conflict and children's relationships with siblings and peers through observations and reports of family interactions. Spousal conflict was positively associated with conflict in children's sibling relationships, mediated by both maternal and paternal hostility towards the child.

There have been some longitudinal studies demonstrating relationships between marital conflict and peer conflict. Schwarz, Stutz, and Ledermann (2012) found that perceived spousal conflict increased the risk of instability in children's friendships across a 1-year period (moderated by attachment quality). Underwood, Beron, Gentsch, Galperin, and Risser (2008) found that, for girls, mothers' negative spousal conflict was positively asso-

ciated with girl's social and physical aggression with peers.

6. *Differential treatment of children*. Research shows (and parents have long known) that children's sense of fairness is developed from early in childhood (Hod-Shemer, Zimerman, Hassunah-Arafat, & Wertheim, 2017; Siegal, 1982; Ulber, Hamann, & Tomasello, 2017). So it is not surprising that issues of fairness and differential treatment of siblings by parents feature in research about sibling conflict. Buist et al. (2013) found that children reporting higher levels of differential treatment and sibling conflict and lower levels of sibling warmth were more likely to have internalizing and externalizing problems. Most parents show differential treatment (Atzaba-Poria & Pike, 2008). However, according to Ross and Howe (2009), children expect their parents to treat them equally, or that when inequality arises, the reasons for it will be understandable (Kramer & Kowal, 2005). This all suggests that differential treatment by parents is likely to lead to increased conflict. This idea has face validity, and is consistent with the Power Game Triangle dynamics, but is yet to be empirically tested.
7. *Parental management of sibling conflict*. Parke and Ladd (1992) theorized that sibling relationships provide an intermediate step through which children transfer patterns of relating from the parental relationship to peer relationships. Slomkowski, Rende, Conger, Simons, and Conger (2001) suggested that sibling relationships were "key pathogens" for development of aggressive interactions which could transfer into other relationships. In accordance with this, Tippett and Wolke (2015) found concurrent associations between sibling aggression and peer bullying, and between victimization by siblings and victimization by peers. A longitudinal study of young children's relational aggression found that initially greater sibling aggression compared to peer aggression at 4 years of age shifted towards similar rates of aggression between friends and sibling pairs by 8 years of age (Stauffacher & DeHart, 2006). In another longitudinal investigation of antecedents of peer conflict management strategies, Dunn and Herrera (1997) found that children's conflict resolution with their friends at the age of 6 years was related to the conflict strategies of their mothers and siblings 3 years earlier. Receipt of bullying by secondary school children has also been found to be associated with prior sibling victimization (Wolke & Samara, 2004).

It is worth noting that not all research has been consistent with the hypothesis that children's patterns of social behavior are transferred from sibling to peer relationships. In a developmental review of methods used to resolve conflict, Laursen, Finkelstein, and Betts (2001) found that negotiation prevailed in all peer relationships, except for those with siblings. In a longitudinal study of twins, Bekkhus et al. (2016) found that positive, but not negative, features of sibling relationships were associated with best friendships a year later. Faith, Elledge, Newgent, and Cavell (2015) found that children regarded by parents as engaging in frequent sibling conflict were at greater risk of victimization, but not if the child was dominant over their sibling. In a mediational study, Healy and Sanders (2018) found that parenting but not sibling relationships predicted ongoing victimization of children bullied by peers, after controlling for earlier victimization. These apparent discrepancies suggest more research is needed to understand the circumstances in which sibling relationships are instrumental in affecting children's peer relationships.

Facilitative Parenting

Facilitative parenting describes a set of parenting practices which are supportive of children's development of peer skills and relationships (Healy, Sanders, & Iyer, 2015). Facilitative parenting draws from several paths described above, including warm relating, enabling of child independence, coaching children in play and friendship skills and in managing conflict, support of friend-

ships as well as effective communication with the school. Healy et al. (2015) found that facilitative parenting and children's social and emotional behavior differentiated children reported by teachers to be bullied by peers from those who were not bullied. In a longitudinal study of children bullied by peers, Healy and Sanders (2018) found that facilitative parenting had a direct effect on depression and indirectly impacted victimization through positive peer relationships.

Evidence of Effectiveness of Parenting Interventions for Peer and Sibling Relationships

There is both general and specific evidence that cognitive-behavioral parenting programs can influence risk and protective factors affecting children's peer and sibling relationships. A meta-analysis of parenting programs reported medium effective sizes for hostile or coercive parenting (Sanders, Kirby, Tellegen, & Day, 2014). There is recent evidence that cognitive behavioral parenting interventions that increase warmth and decrease harsh parenting can reduce callous-unemotional traits (Pasalich, Witkiewitz, McMahon, Pinderhughes, & Conduct Problems Prevention Research Group, 2016), which has been associated with perpetration of bullying (Golmaryami et al., 2016). Recently, there have been reports of parenting interventions specifically targeting improvement of peer and sibling relationships, as described below.

Parenting and family interventions targeting peer relationships. Resilience Triple P is a program for children bullied at school by peers. Parents are trained in facilitative parenting, and coach and support their child in learning peer skills and relationships (Healy & Sanders, in press). There are four sessions for parents and four sessions for children; siblings and parents are involved in children's sessions. In children's sessions, children learn play and friendship skills, skills to address problems and manage conflict and bullying, through coaching by their parents. A randomized controlled trial of Resilience Triple P found that children whose families participated in the program had lower overt victimization and distress, less aggression towards peers, and better peer acceptance than children allocated to the control condition (Healy & Sanders, 2014). There was also more sibling warmth and marginally less problems of sibling conflict reported for intervention children compared to control children (Box 2).

Box 2 Case Example of How a Sibling Relationship Fueled Victimization by Peers

Alberto, his younger sister, Danielle, and their mother participated in Resilience Triple P, a program targeting children who have been bullied at school by peers. Alberto was having trouble with other children at school; children were calling him cruel names, and his friends were excluding him. Danielle was not reporting any difficulties at school; she was in the grade below Alberto at school and had a large group of friends, who overlapped with Alberto's friends. The children's mother was trying to support Alberto's friendships by arranging play dates. However, typically there was conflict between Alberto and Danielle, which resulted in play dates ending abruptly. When reviewing what happened, the children explained that Alberto would not let Danielle join in, so Danielle got angry and called Alberto the mean names that Alberto got called at school.

During the course of involvement with Resilience Triple P, the family made several changes. With their mother's help, the children negotiated a fair way to arrange play dates so that neither felt excluded, but still had private time with their friends. The mother made special time for Danielle when Alberto had a friend over. Clear ground-rules were established about being respectful to each other. Alberto's mother coached Alberto in standing up for himself when called cruel names, and on building his friendships at school.

Mikami, Lerner, Griggs, McGrath, and Calhoun (2010) reported a trial of a pilot intervention that trained parents to be "friendship coaches" for their children with Attention-Deficit/Hyperactivity Disorder (ADHD), and in so doing, facilitated social contexts for children to develop good peer relationships. Receipt of Parental Friendship Coaching (PFC) predicted improvements in children's reported social skills, friendship quality, acceptance, and rejection by peers.

Parenting and Family Interventions Targeting Sibling Relationships

Several trials of programs to improve sibling relationships have been reported with promising results. Tiedemann and Johnston (1992) trialed a parenting program to encourage sharing between young siblings. Families were randomly allocated to either receiving the program individually, receiving the program in a group or waitlist control. Parents in the intervention groups were taught behavioral strategies to promote sharing. Tiedmann and Johnson reported greater improvements in both observed and reported sharing for families who had participated in the intervention at the 6-week follow-up assessment.

An enhanced Incredible Years Parenting Program (Webster-Stratton, 1987) was trialled with preschool children whose older siblings had engaged in serious delinquent behaviors. Brotman et al. (2005) found that children whose families participated in the program showed greater improvements in peer social skills, and more positive and less negative parenting compared to control families.

Feinberg et al. (2013) described the randomized controlled trial of the Siblings Are Special (SIBS) program for fifth graders with a younger sibling. This involved a combination of 12 after-school children's sessions and three family sessions focusing on social, emotional, and conflict resolution skills. They found that the program enhanced positive sibling relationships, use of appropriate strategies for parenting siblings, child self-control, social competence, and academic performance. It was also associated with reduced maternal depression and child internalizing problems. However, there were no effects for sibling conflict or externalizing problems.

Strengths and Limitations of the Evidence Base

Recent parenting and family interventions targeting children's peer and sibling relationships are built on solid theoretical frameworks supported by substantial bodies of research linking parenting with children's relationships. However, a challenge in research examining the relationship between parenting and children's peer and sibling relationships is that although the great majority of studies are cross-sectional, quite a few studies make presumptions about the direction of causality, even though many relationships are likely to be bidirectional. For instance, Maccoby (2000) cites the example of the correlational study by Baumrind and Black (1967) that showed that parents who are both responsive and firm tend to have more competent and cooperative children. Maccoby notes that an alternative interpretation could have been that competent, cooperative children made it easier for parents to be responsive and firm. Another interpretation may be that the links between child and parent constructs are due to shared genetic characteristics rather than environmental influences.

When examining family relationships, it is important for researchers to be aware of alternative explanations for behavior through shared genetic influence. Yet, few studies effectively control for confounding environmental factors, let alone genetic factors.

Maccoby (2000) cites examples of conditions with well-established genetic risk factors, such as schizophrenia, whereby expression of the gene is still mediated by the parenting environment (Tienari et al., 2004). This example, and the findings cited earlier, that parenting influences expression of CU traits, provide strong evidence of the importance of parenting in influencing

children's outcomes. By controlling for earlier adjustment, if not genetic variability, future studies will be better able to separate the effect of parenting from other variables shared by family members.

In the area of peer and sibling relationships, work by Bowes and colleagues has carefully sought to control for both genetic and potentially confounding environmental influences on peer and sibling relationships (e.g., Bowes et al., 2009, 2014). Fortunately, as reported in this chapter, there are examples of other longitudinal studies which carefully control for earlier adjustment, if not genetic factors, and thus provide better quality evidence for how parenting impacts peer and sibling relationships.

Criss et al. (2002) identified a further weakness of existing research in links between parenting and child behavior and relationships; even well-controlled longitudinal studies provide only snapshots of data, from which, we need to deduce the processes of change. Clinical practitioners are well aware that it is often difficult even in single case studies to identify causal factors in complex systems where potentially everything influences everything else. Careful documentation of behavioral observations in real settings, such as that exemplified by Patterson and colleagues (e.g., 1967), may help provide insights into potential processes of change, which can guide the selection of variables for empirical studies. This may also offer an opportunity to test the validity of the "rescuer" dynamic described by Hollier et al. (2008).

Observational studies of behavioral contingencies and responses in natural settings may also identify other relevant variables associated with peer and sibling relationships which may impact dynamics. For instance, in their observational study of parental intervention in children's disputes, Perlman and Ross (2005) found that children were sensitive to the status of their opponent when choosing strategies (e.g., they complied after their mothers used power strategies, but were less likely to do so after their siblings used the same strategies). These kinds of observational studies may identify possible mediator variables to help make sense of discrepant findings, such as differentiating the circumstances under which patterns of interaction in sibling relationships are most likely to be translated into peer relationships (Box 3).

Box 3 Case Example: What Helped Stop Victimization?

Jill was shocked when her son, Nick, confided that another boy had been hitting him at preschool. Nick said it had been happening most days for some time. Jill had not previously known anything was wrong. She knew that Nick was very quiet at preschool, but thought that he was just shy. Jill talked to Nick's teacher, and Nick's teacher spoke to the parents of the other boy involved. Jill talked to her husband who counselled Nick on standing his ground. Jill coached Nick to use his words to stand up for himself and to get help from a teacher when needed. There was an incident at preschool when the other boy went to hit Nick, but Nick pushed him away. All of these things happened within 2 days of Nick telling his Mum about the problem. The bullying stopped—but to what do we attribute the change?

Future Directions for Research

There are many similarities between children's peer and sibling relationships. They are theoretically linked, and parenting affects both. Yet, to date, they have been mainly separate areas of research. Given the substantial similarities in etiology, risk, and protective factors relevant to children's problems with siblings and peers, research could focus on the combination of peer and sibling outcomes. Studies in the sibling area tend to monitor conflict; studies in the peer area are more likely to monitor bullying and victimization. Perhaps both conflict and bullying/victimization could be studied in both peer and sibling relationships to better understand the links between these systems.

For instance, research into sibling interventions could also monitor children's peer relationships at school. Studies of peer interventions could also monitor impact on sibling relationships.

There have also been some presumptions made about direction of causality which have not always been tested. Further research could test bidirectional links and influences on different systems. The more systems that are influenced in a positive manner, the greater the chances of making a difference for a child's social relationships. For instance, some studies, but not others have found that features of the sibling relationship are translated into peer relationships. Could the reverse also be true? Parents report anecdotally that children's relationships with peers at school affect their home life.

Despite a great deal of evidence that cognitive-behavioral parenting programs can reduce harsh, hostile or lax parenting, increase parental warmth, reduce conduct and behavior problems, and, more recently, callous-unemotional traits in children (Pasalich et al., 2016; Sanders et al., 2014), there have been no controlled trials specifically investigating the impact of parenting programs on children bullying at school. This is an opportunity for future research.

Portner and Riggs (2016) raised the question of whether children adopt a congruent or compensatory role in a family situation. For instance, if their parent is aggressive, does the child copy this aggressive behavior or take on submissive behavior typical of a victim role? Crockenberg and Lourie (1996) found that, for boys, mothers' use of coercive parenting strategies at 2 years of age predicted externalizing behaviors 4 years later, whereas for girls, parental coercion was associated with higher internalizing problems. Further research could identify more moderator variables to explain the circumstances in which parenting affects the behaviors children take into their interactions with peers and siblings.

Implications for Policy and Practice

Peer and sibling relationships have an enormous impact on children's lives. There is now a great deal of evidence that parenting impacts peer and sibling relationships. Therefore, an important way to strengthen children's peer skills and relationships is in improving parents' skills and knowledge. Bullying by peers at school is of great international concern. Yet, efforts to reduce bullying have focused almost exclusively on school interventions, which, according to recent meta-analyses, have made statistically significant but relatively modest improvements in bullying and victimization (Merrell, Gueldner, Ross, & Isava, 2008; Ttofi & Farrington, 2011). A critical factor that discriminates effective from ineffective whole-school programs is the involvement of parents (Ttofi & Farrington, 2011). To best address victimization and other peer problems at school, it is essential that schools seek real parental involvement in improving children's peer relationships and support parents to address risk factors and enable protective factors within the parenting and family domain.

Conclusions

Peer and sibling relationships have a substantial positive and negative impact on the well-being of children and adolescents. Supportive peer and sibling relationships help protect children from the negative effects of adversity. On the other hand, peer and sibling relationships characterized by bullying and hostile conflict can have long-term adverse mental health and behavioral consequences. Parents influence peer and sibling relationships through a number of paths, including warm relating, hostile parenting, coaching of children in social skills, playing a gatekeeper role in opportunities children have to socialize with peers, management of marital conflict, differential treatment of siblings, and management of conflict between siblings. There is substantial evidence that parenting interventions can influence risk and protective factors relevant to children's peer and sibling relationships. Recently research has investigated the effectiveness of parenting and family interventions specifically targeting peer and sibling relationships, with promising outcomes reported. As parenting and peer and sibling relationships have a bidirectional influence, and are influenced by genetics as well as the environment,

future research could take more care to control for possible confounding factors (such as earlier adjustment and genetic similarities). To successfully improve peer relationships and address peer problems, such as bullying and victimization, it is recommended that schools involve parents and seek to complement school programs with parenting and family interventions.

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Schooling and Academic Attainment

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Introduction

Children's social and economic background predicts academic success. In both high-income countries like the US and low- and middle-income countries (LAMICs), poverty presents an enormous obstacle to children's academic success and overall well-being (OECD, 2012; UNICEF, 2016). Living in poverty negatively influences children's development across the lifespan and across all developmental domains, including health, cognitive abilities, socio-emotional skills, and psychological well-being such that children living in poverty are less likely to meet their developmental potential across these domains (Blair & Raver, 2012; Grantham-McGregor et al., 2007). Across contexts, children living in poverty are more likely to have poorer nutrition and poorer general health (Grantham-McGregor et al., 2007; Pulcini, Zima, Kelleher, & Houtrow, 2017; UNICEF, 2016). Consequently, children living in poverty are more likely to complete fewer years of schooling (Grantham-McGregor et al., 2007), have higher absenteeism from school (Ready, 2010) and more difficulties engaging in learning when in school (Pulcini et al., 2017).

In many countries and contexts, both poverty and racism (interpersonal and institutional) combine to negatively influence children's academic attainment and schooling. In the US, people living below the poverty line are more likely to be members of racial minority groups. Students who live in poverty are almost twice as likely to drop out of high school, and Black students, regardless of poverty status, are significantly more likely to drop out than White students (Hernandez, 2011). Despite recent improvements in high school completion rates across racial groups, less than 70% of Black students and less than half of Black males graduate high school in 4 years (Balfanz, Bridgeland, Bruce, & Hornig Fox, 2013).

Across contexts, the first years of schooling are critical in shaping academic outcomes. Lower school readiness and early difficulties with reading, math and behavior portend later academic problems and grade retention (Winsler et al., 2012). In the US, there is a clear and sizable Black-White achievement gap by kindergarten entry (Fryer & Levitt, 2004). The gap grows with each year of early schooling (Burchinal et al.,

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2011), and is considered relatively intractable by the end of elementary school (Grissmer & Eiseman, 2008). Time spent in impoverished neighborhoods and schools, and a growing awareness of and exposure to interpersonal and structural racism, have been associated with declining optimism about the future and academic performance among racial and ethnic minority and immigrant children (Kao & Tienda, 1998; Suárez-Orozco et al., 2010). A comparison study of poor Black and White children found that Black children were more likely to live in extreme poverty, to attend more disadvantaged schools, and to live in single-parent homes; these differences fully accounted for the Black-White gap in reading and largely accounted for the gap in math skills (Burchinal et al., 2011).

Based on extant research in the US and elsewhere, the expectation is that poverty-related family, school, and neighborhood factors combine and jeopardize healthy development and academic attainment. Therefore, any examination of the causal impact of parents and parenting on academic attainment must consider the role of poverty-related stressors and racism.

Theoretical Background

Developmental psychologists and economists have described parents as investing resources in their children in anticipation of promoting children's social, economic, and psychological well-being. Parents' promotion of children's healthy development has been characterized as taking two forms: (1) monetary, material, psychological, and social resources; and (2) provision of guidance, warmth, support, and love (Kalil & DeLeire, 2004). One goal of these parental investments is to help children successfully regulate biological, cognitive, social-emotional and behavioral functioning, all of which are linked to academic achievement (Blair & Raver, 2015).

The influence of parents is perhaps most critical during the earliest years of life, when a child's brain is rapidly developing and when nearly all of her or his experiences are created and shaped by parents and the home environment (Brito & Noble, 2014; Phillips & Shonkoff, 2000). As such, a large body of work has been dedicated to understanding how parents, their resources, and the family environment influence child development.

We present two main theories in developmental psychology to provide the foundation for the review of evidence relating parenting to schooling and academic attainment: (1) the *investment model*, which emphasizes the role of income and parents' ability to provide material goods, services, and experiences as well as human capital and the home environment (Haveman & Wolfe, 1994; Mayer, 1997); and (2) the *family stress theory*, which focuses on the relationships and interactions within the family (Conger & Elder, 1994; Elder, 1999).

The Investment Model

The *investment model* (Evans, 2004; Evans & English, 2002) focuses on family resources. These include money with which caregivers can purchase material goods, services, and experiences, as well as the resources of time, social capital, and the home environment. According to the investment model, limited income influences the amount of cognitively stimulating materials found in a child's home environment, as well as the learning opportunities a child experiences. Researchers have found that if children are exposed to cognitively stimulating toys, books, and games, the negative effects of poverty on behavioral and cognitive child outcomes are attenuated (Yeung, Linver, & Brooks-Gunn, 2002). Moreover, the number of learning materials and stimulating experiences provided to a child explain a significant amount of variation in IQ scores during the preschool years (Duncan, Brooks-Gunn, & Klebanov, 1994; Linver, Brooks-Gunn, & Kohen, 2002; Yeung et al., 2002). For young children, the value of learning materials and experiences is mediated through interactions with capable adults, siblings or peers (Hindman, Skibbe, & Foster, 2014; Reese & Cox, 1999; Saegert & Winkel, 1990). Learning materials and activities can also provide opportu-

nity for social exchanges, often engaging both the child and adult, and resulting in generally productive time spent together (Bradley & Corwyn, 2002). The time a parent spends with his or her child is in itself a valuable commodity (Milkie, Nomaguchi, & Denny, 2015). Under the investment model, parental employment has the potential to be both positive, because it increases income, and negative, because it decreases the amount of time spent by parents on stimulating activities with the child (Heinrich, 2014). The challenge of balancing monetary and time-related resources is especially pronounced for low-income families. Although slight changes in income matter more for children in poverty than children at higher income levels (Dearing, McCartney, & Taylor, 2001; Duncan, Magnuson, & Votruba-Drzal, 2014), low-income parents who work, sacrifice time with their children without gaining much buying power in exchange (Heinrich, 2014; Ryan, Fauth, & Brooks-Gunn, 2006).

Social capital is another pathway through which parental resources may influence children's academic outcomes. Social capital refers to help and support from family and friends in the form of both time and money (Boisjoly, Duncan, & Hofferth, 1995). Social support can help parents maintain emotional health and positive parenting practices in the face of economic adversity (Cowen, Wyman, Work, & Parker, 1990). Parents who receive social support may feel less isolated and overwhelmed by their economic situation, and therefore engage in more positive parenting practices (McLoyd, Jayaratne, Ceballo, & Borquez, 1994; Serrano-Villar, Huang, & Calzada, 2016). A recent meta-analysis of over 300 studies found that parenting practices characterized as high in warmth and nonphysical discipline are associated with better academic performance both concurrently and longitudinally (Kim et al., 2017; Pinquart, 2016). When support comes in the form of financial assistance to the family, some of the economic strain and associated outcomes may be relieved (Jackson, Brooks-Gunn, Huang, & Glassman, 2000).

The physical home environment of children also plays an important role in both cognitive and behavioral outcomes (Coldwell, Pike, & Dunn, 2006; Deater-Deckard, 2014; Evans, 2006). Children who live in homes that are quieter, more organized, and have a predictable routine tend to have better academic outcomes, regardless of their family's socioeconomic status (Evans, 2006). Conversely, children who live in homes with high levels of household chaos (e.g., noise, disorder) have a tendency to withdraw from academic challenges, have lower academic expectations, and exhibit poorer school performance (Brody & Flor, 1997; Brown & Low, 2008; Hanscombe, Haworth, Davis, Jaffee, & Plomin, 2011). Poor sleep is thought to partially explain the link between household chaos and poor school performance (Brown & Low, 2008). Importantly, while household chaos is consistently related to poverty (Evans, Eckenrode, & Marcynyszyn, 2010), not all low-income families live in chaotic household environments, nor is chaos found solely in low-income homes. Chaos is more likely to occur in low-income homes in part because poverty-related factors, such as single-parenthood and nonstandard work hours, are linked to chaotic households (Vernon-Feagans, Garrett-Peters, De Marco, & Bratsch-Hines, 2012).

Parental resources also influence child health and nutrition. Children from low-income families suffer worse health than do children from higher-income families (Case, Lubotsky, & Paxson, 2002). Children from low-income families experience increased rates of low birth weight compared with their higher-income peers (Brooks-Gunn & Duncan, 1997). Low birth weight and associated conditions are predictive of poorer performance on cognitive measures. In particular, low birth weight babies experience increased rates of learning disabilities and classroom behavior problems compared with those born of normal weight (Klebanov, Brooks-Gunn, & McCormick, 1994). Children with chronic health conditions, such as asthma (which disproportionately affects poor and racial and ethnic minority children), are more likely to be absent from school and fall behind academically. Children who are chronically absent (i.e., do not attend $\geq$10% school days in a school year) in

kindergarten are about a year behind in reading by third grade and unlikely to ever catch up to their peers (Buehler, Tapogna, & Chang, 2012). Hunger and food insecurity are also associated with absenteeism and poorer academic outcomes (Jyoti, Frongillo, & Jones, 2005).

The neighborhoods that families live in can also be considered an additional investment made by parents, as residence in impoverished neighborhoods has implications for childcare settings, schools, and peer groups (NICHD Early Child Care Research Network, 1997), which all influence academic achievement. A growing body of research suggests that the concentrations of poor and affluent neighbors have differential influences on child and adolescent development (Brooks-Gunn, Duncan, & Aber, 1997; Jencks & Mayer, 1990; Leventhal & Brooks-Gunn, 2000). For example, residence in neighborhoods with mean incomes greater than $30,000 USD, compared with less affluent neighborhoods (mean incomes $10,000 USD–$30,000 USD) has been positively associated with 3-year-olds' IQ scores (Brooks-Gunn, Duncan, Klebanov, & Sealand, 1993). This positive association is sustained when children enter school 2 years later (Duncan et al., 1994). Conversely, studies have documented a negative association between neighborhood poverty and early school-aged children's math and language/literacy achievement (Chase-Lansdale, Gordon, Brooks-Gunn, & Klebanov, 1997). Analyses from a randomized housing mobility experiment (Moving to Opportunity, MTO), however, indicate that the achievement-related benefits from improved neighborhood environments alone are small (Sanbonmatsu, Kling, Duncan, & Brooks-Gunn, 2006). It must be noted that any potential gains associated with moving to a better neighborhood (in the case of MTO, defined as neighborhood within a census tract with a poverty rate below 10%) may have been offset by the disruption of moving itself. More recent analysis of MTO data indicate that children who were younger at the time of the move (aged 13 years or less) were more likely to attend college than children who did not move into better neighborhoods (Chetty, Hendren, & Katz, 2016). Children who were older than 13 years of age at the time of the move experienced insignificant or negative outcomes, perhaps due to the disruption to social networks. Chetty and colleagues' findings suggest that the earlier and longer a child lives in a better neighborhood, the better the outcomes.

In addition to the home environment and neighborhood, parents make investments in their children by placing them in non-parental childcare. Research on childcare suggests that children's experience in care can affect their cognitive and social development in early childhood. The size and direction of these effects, however, depend on age of entry into care, quality of care, and parents' poverty status (Brooks-Gunn, Han, & Waldfogel, 2002; NICHD Early Child Care Research Network, 2002).

The Family Stress Model

Children show the healthiest outcomes when parents are successful at creating environments and interactions that are safe, nurturing, and predictable (Bornstein, 1995; Dawson-McClure, Calzada, & Brotman, 2017; Pinquart, 2016). In contrast, parenting that is harsh, emotionally detached or erratic has been linked to insecure attachments, with potentially long-lasting negative effects across a wide range of developmental outcomes (Shonkoff & Phillips, 2000). Financial strain, income deprivation, and associated stressors undermine parents' psychological and emotional resources, thereby disrupting parenting practices, parent–child interactions, and, consequently, child development (Conger & Conger, 2002; Conger & Donnellan, 2007; Conger, Rueter, & Conger, 2000).

Originally proposed to explain how the income loss resulting from the Great Depression influenced parental mental health and family dynamics (Conger et al., 2000; Conger & Elder, 1994), the *family stress model* has been extended to explain the effects of poverty on parents and children. Like families who experience income loss, parents in persistent poverty also struggle to supply food, shelter, safety, and clothing to their families. These struggles have been correlated

with higher levels of parental depression and anxiety, which are negatively associated with positive parenting (Puff & Renk, 2014). The association between parent stress and negative parenting is stronger for families with lower incomes, possibly because maternal depression and negative parenting practices exert a stronger influence over the developmental outcomes of low-income children (Petterson & Albers, 2001). Parental stress caused by economic circumstance can influence a variety of parenting behaviors. For example, poverty has been linked to harsh parenting and physical discipline in racially and ethnically diverse families (Barajas-Gonzalez & Brooks-Gunn, 2014; Dodge, Pettit, & Bates, 1994; Linver et al., 2002). This link might occur because parents resort to physical punishment to keep their children from engaging in dangerous or health-threatening activities, or as a direct result of increased parental stress. A second area of parenting influenced by poverty is parental responsiveness and warmth. Low-income parents are more likely to be stressed, and consequently, less attuned to the needs of their children (Dodge et al., 1994; Jackson et al., 2000; Smith, Brooks-Gunn, Kohen, & McCarton, 2001), and are less likely to receive the social support from friends and family that can mitigate parental stress (Jackson et al., 2000).

How parents adapt to the stress of poverty may influence how poverty influences child academic attainment. If parents are able to engage in positive parenting practices and create safe, nurturing, and predictable environments (Dawson-McClure, et al., 2017) for their children despite added stress, the negative effects of poverty on child development can be buffered (Cowen et al., 1990; Neppl, Jeon, Schofield, & Donnellan, 2015).

These two theoretical models have overlapping pathways through which parental resources influence child schooling and academic attainment. The impact of poverty on parents' mental health is one way in which children are affected by poverty. A second way is via the limitations poverty places on a family's ability to provide opportunities and resources of varying kinds. These two pathways may occur independently or concurrently while interacting with one another. One example where the two pathways come together is in the domain of children's self-regulation, as household chaos, routines, parental stress, and parenting behaviors have all been linked with self-regulation (De Cock et al., 2017; Deater-Deckard, 2014).

Numerous studies demonstrate the foundational role of child self-regulation in academic achievement. Changes in behavioral regulation predict gains in early academic skills, independent of initial levels of achievement (Blair & Razza, 2007; McClelland et al., 2007, 2014). Ursache, Blair, and Raver (2012) proposed a developmental model of self-regulation focusing on bidirectional relations between the development of emotion regulation and the development of executive functioning. Self-regulation is defined as the volitional management of arousal or activity in attention, emotion, and stress response systems in ways that facilitate the use of executive function abilities in the service of goal-directed actions. As such, early experiences can either foster levels of emotional reactivity, stress, and attentional control that are conducive to executive function abilities and that increase the probability of their use, or can, in contrast, lead to levels of arousal in emotion, attention and stress response that lead to more reactive and less reflective responses to stimulation (Blair & Raver, 2015).

Parents influence children's schooling and academic attainment by providing the emotional, physical, and intellectual environment that shapes children's neural connections, self-regulation, and learning in the early years of life (Blair & Raver, 2016; Center on the Developing Child at Harvard University, 2016; Phillips & Shonkoff, 2000). The influence of parents is perhaps most critical early in development when a child's brain is rapidly developing and nearly all experiences are created and shaped by parents and the home environment (Brito & Noble, 2014; Phillips & Shonkoff, 2000).

These theoretical models highlight the need to interpret studies on the influence of parents and parenting on child schooling and academic attainment in the context of poverty-related stressors, race and racism, parent social capital, and parent

cultural beliefs and values. In addition, it is important to understand parenting influences during the early years of life, prior to school entry, as an essential context for academic attainment.

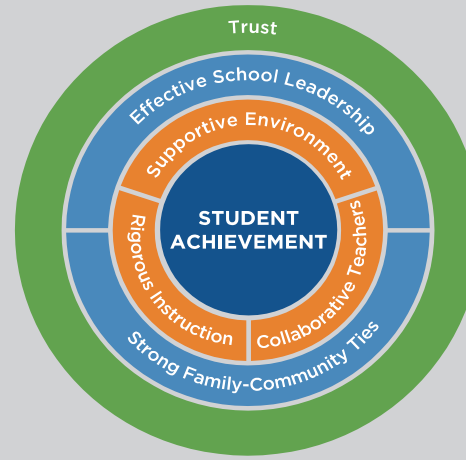
Parent Involvement in Learning and Education: A Developmental Perspective

Educational research has been accumulating for decades indicating that, at any grade level (including prekindergarten), challenging curriculum, establishing important learning goals, conducting effective assessments, responsive feedback to students, and parental involvement in learning and education are important for student academic achievement, attendance, child behavior in school, and other important school outcomes (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; Marzano, 2003; Sheldon, 2003). Box 1 provides an overview of how the New York City Department of Education (2017a) (NYCDOE) incorporates these elements in its Great Schools Framework, which emphasizes the importance of building relationships with parents.

Box 1 Quality Standards, Policies and Practices to Promote Parent Involvement in Children's Schooling in the United States

The importance of parenting in supporting children's schooling is affirmed in recent policy advances and efforts to improve school quality in the United States. The Head Start standards and a number of states' quality rating systems include efforts to engage parents as an indicator of high quality programming. The seminal work by Bryk, Sebring, Allensworth, Luppescu, and Easton (2010) at the University of Chicago Consortium on School Research, initially for kindergarten through eighth grade and now extended to high schools, identified *Involved Families* as one of five essential supports for classroom practices and student learning (defined in terms of efforts to engage families: "the entire school staff builds strong relationships with families and communities to support learning"). Their research validated the Five Essentials as a framework for school improvement, demonstrating that schools strong in three or more essentials were ten times more likely to improve student math and reading test scores, relative to schools weak in most essentials (Bryk et al., 2010). Chicago Public Schools and the Consortium assess the Five Essentials annually through the *My Voice*, *My School* surveys of teachers, parents and students. Building on this work, the New York City Department of Education (2017b) (NYCDOE) articulated the Great Schools Framework, which names *Strong Family-Community Ties* and *Trust* as necessary elements to support student achievement, and elicits teacher, parent and student perspectives through annual surveys.

As shown below, the meaning of *Strong Family-Community Ties* is further explicated in the NYC DOE Program Quality Standards for pre-kindergarten as three aspects of engaging families: *Strong Relationships, Two-way Communication, and Capacity Building*.



Box 1 (continued)

Strong Family-Community Ties

1. *Strong Relationships*: Programs foster mutual respect, trust, and connection with and among families and the community in order to build strong relationships.
2. *Two-Way Communication*: Programs promote two-way sharing of information between program staff and families, in a culturally and linguistically responsive manner, to support children's well-being, academic success, and developmental progress.
3. *Capacity-Building*: Programs recognize families' essential contribution to their child's development and support families in enacting their role as their child's:
   (a) *Primary Teacher*: Programs partner with families to develop their capacity to enrich their child's academic, social, emotional, and behavioral skills that are foundational to learning.
   (b) *Primary Advocate*: Programs partner with families to develop their capacity to advocate for their child's holistic needs and drive program improvement.

This understanding of pre-K program quality is consistent with recent family engagement frameworks (Henderson & Mapp, 2002; Iruka, Curenton, & Eke, 2014) and research emphasizing the fundamental importance of building relationships with parents (e.g., teachers and parents who communicate and feel close to each other have been observed as more sensitive and responsive in their interactions with children; Iruka, Winn, Kingsley, & Orthodoxou, 2011). The standards are also grounded in theories of parent involvement (e.g., emphasizing the importance of both home- and school-based activities; Epstein, 1987) and research on the science of early childhood brain development.

Further, the standards reflect several important shifts from traditional views of parent involvement in learning and education: (1) from a focus on (pre-)academic skills to a recognition that social, emotional and behavior skills are foundational to learning; (2) from a focus on school-based involvement (e.g., attending parent–teacher conferences or PTA meetings) to a recognition of the importance of home-based involvement, with particular emphasis on the contribution of every day parent–child interactions to brain development; (3) from a focus on distributing information or conducting didactic workshops to a recognition of the need to provide parents with opportunities to practice new skills (as recommended by Yoshikawa et al., 2013 and as supported by both *ParentCorps* and *REDI-P* interventions; Bierman, Heinrichs, et al., 2017; Brotman et al., 2016).

These policy advances recognize and highlight the influence of parenting on children's learning and honor parents' capacity to help children succeed. It is a powerful statement that family engagement is a considered a responsibility and an opportunity.

Frameworks of parent involvement in learning and education distinguish between *home-based* and *school-based involvement* (e.g., Kohl, Lengua, & McMahon, 2000; Seginer, 2006). Epstein (Epstein, 1987; Epstein & Connors, 1995; Epstein & Sanders, 2002) described *home-based involvement* strategies, including engaging in educational activities at home (e.g., shared book reading, homework help); school support for parenting (e.g., programs for parents); and involvement between the school and community agencies, and *school-based involvement* strategies (e.g., volunteering at school, parent–teacher communication, and involvement in school governance). Grolnick and Slowiaczek (1994) articulated three aspects of parent involvement: (1) *behavioral involvement* includes both home-based and school-based

involvement strategies, such as active connections and communication between home and school, volunteering at school, and assisting with homework; (2) *cognitive–intellectual involvement* reflects home-based involvement and includes the parent's role in exposing their children to educationally stimulating activities and experiences; and (3) *personal involvement* includes attitudes and expectations about school and education and conveying the enjoyment of learning, which reflects parental socialization around the value and utility of education. Hill and Taylor (2004) described *academic socialization* to include parents' communication of their expectations for achievement and value for education, fostering their child's educational and occupational aspirations, discussing learning strategies with children, and making preparations and plans for the future, including linking material discussed in school with the child's interests and goals. According to Hill, *academic socialization* includes the types of developmentally appropriate strategies that scaffold a student's growing autonomy, independence, and cognitive abilities.

Evidence for Effects of Parents and Parenting on Academic Attainment

The types of parental involvement used and the nature of the relation between parental involvement and academic attainment and school success vary depending on the age or developmental phase of the child. As such, we review the evidence for the effects of parents and parenting on academic attainment in two sections: (1) early childhood and impact on school readiness, mental health, and academic achievement; and (2) later childhood and adolescence and impact on academic attainment.

Early Childhood and School Readiness, Mental Health and Academic Achievement

Decades of research in early childhood development highlight the central role that parents have on children's development. The ways that parents interact with their children and the relationships they form with their children's caregivers and teachers play an important role in supporting a child's readiness for school. *School readiness* is broadly construed as the degree to which young children are prepared to meet the *academic* and *social-emotional* demands of school (Raver, 2003). Readiness in both domains predicts later achievement (Duncan et al., 2007). The *academic* domain includes early language, understanding of concepts, and motor skills that serve as building blocks for emergent reading and math skills (NICHD Early Child Care Research Network, 2000). The *social-emotional learning* domain includes social skills, such as interacting positively with adults and peers, and regulating emotions, attention, and behavior. Social-emotional learning promotes on-task behavior and executive functioning, and reduces negative interactions with teachers and peers that distract from learning (e.g., Rhoades, Warren, Domitrovich, & Greenberg, 2011). Children without the requisite social-emotional and self-regulation skills are more likely to display behavior problems that interfere with learning and later achievement (McEvoy & Welker, 2000). Studies in the US find that girls are 16% more likely to be "ready" for school than boys (Isaacs, 2012), and outperform boys by 12% on reading in kindergarten (Eliot, 2010). Indeed, the gender gap in kindergarten reading achievement has been attributed in part to underdeveloped social-emotional learning and higher rates of behavior problems in boys (Isaacs, 2012).

As described above, low-income families often face many barriers to providing high-quality early learning opportunities and safe, nurturing, and predictable environments for their children. As a result, there is a wide gap in school readiness between children from low-income families and those from high-income families.

When children are ready for kindergarten with strong language, cognitive, and self-regulation skills, they are much more likely to have academic success in elementary school and beyond (Duncan et al., 2007). The ability to follow instructions and routines, pay attention, get along with others, and manage strong feelings in kindergarten and in the early grades is especially important for positive school adjustment, high

school graduation, and long-term employment (Bierman, Morris, & Abenavoli, 2017).

Because of the importance of social-emotional skills and self-regulation in early childhood to promoting long-term academic attainment, we broadly define *home-based parent involvement* during this developmental phase to include positive parenting practices and parent–child relationships as well as engaging in activities to promote language and math-related learning. Within the preschool period, there is a range of interventions that promote *home-based parent involvement* (e.g., positive parenting practices, parent–child relationships, engaging in language and math-related learning activities, academic socialization) and *school-based parent involvement* (e.g., proactive discussions with early childhood teachers) that have been tested in rigorous controlled trials (see Bierman, Morris, et al., 2017 for examples). There is strong evidence from experimental studies that interventions that promote positive parenting practices, parent–child relationships, and parent involvement in early learning and education result in improved school readiness and academic success.

Bierman, Morris, et al. (2017) review interventions that promote parenting practices and parent–child relationship quality to reduce child problem behaviors (e.g., noncompliance and aggression) and improve child social competence. Typically, these 10–14 session programs target specific parenting skills, and are delivered via school- or community-based groups or during individual face-to-face sessions. Parents are taught how to focus positive attention on their children, set clear expectations, use praise to reinforce positive behavior, and effectively set limits. Examples of these programs include the *Incredible Years*, *Chicago Parent Program*, and *ParentCorps*, among others.

We describe *ParentCorps* as an example of how an early intervention that promotes positive parenting practices and parent–child interactions can result in improved school readiness and academic achievement. *ParentCorps* is a family-centered, school-based intervention that is delivered as an enhancement to pre-kindergarten (Pre-K) programs in schools serving large numbers of children living in high-poverty neighborhoods. *ParentCorps* includes a group-based parenting intervention, as well as components for teachers and children. The intervention aims to strengthen relationships and communication between parents and teachers, and to promote safe, nurturing, and predictable environments at home and in the classroom. These changes scaffold children's acquisition of social, emotional, and self-regulation skills, and sustained changes in the environment coupled with skill development and self-regulatory capacity, contribute to improved mental health and greater academic achievement in elementary school (Brotman et al., 2016; Dawson-McClure et al., 2015, 2017).

From *ParentCorps*' inception in 1998, the goal was to reduce racial and income disparities in health and academic achievement by creating a parenting intervention that would be accessible, engaging and effective for low-income and culturally-diverse families living in large urban centers. *ParentCorps* includes a core set of strategies (e.g., providing positive attention during parent–child play, giving positive reinforcement, establishing routines, and providing consequences) that are found in nearly all effective parenting interventions for young children (including the *Incredible Years* and the *Chicago Parent Program*), and a culturally-informed approach to engaging families and supporting behavior change that is unique. The following features are hypothesized to be key to achieve the goal of reducing health and achievement disparities:

1. Embedded in schools or early education centers—and facilitated by school staff—to create a sustainable mechanism to reach the majority of children early in life.
2. Timed with the transition to school when parents may be especially open and motivated to change, and when children are at risk for behavior problems.
3. Universal for all children as they enter Pre-K to maximize acceptability, with the expectation that it would engage and benefit the highest-risk families.
4. Includes multiple components—for parents, teachers, and children—in an effort to strengthen both home and classroom environments and to provide consistent evidence-

based practices across settings as buffers against poverty.
5. Group-based to create space for parents to come together, share ideas and support each other in parenting effectively ("corps").

While the *ParentCorps* theory of change specifies strong relationships and communication with families as important outcomes in their own right, helping teachers connect with families is viewed as essential to optimizing parent engagement in interventions delivered in school settings. For example, parents who feel welcome in the school building may be more likely to come to the *ParentCorps Parenting Program* in the first place, and parents who have positive experiences with *ParentCorps* may be more likely to speak up and engage in children's schooling in a variety of other ways (e.g., express concerns to teachers, share when circumstances at home may affect child's performance at school, respond openly to suggestions from teachers). Accordingly, professional learning for early childhood teachers aims to enhance commitment, confidence and skill in building relationships with families from the start of the school year; fostering ongoing, frequent two-way communication; and effectively partnering if concerns about children arise. Professional learning includes scenarios to elicit discussion about cultural misunderstanding and opportunities for teachers to practice these skills.

Two cluster randomized trials of *ParentCorps* found impact on early childhood health and development (Brotman et al., 2011, 2013, 2016; Dawson-McClure et al., 2015). Evidence of impact on home and classroom environments was based on parent and teacher report and observations of adult–child interactions by raters masked to condition (Brotman et al., 2011; Dawson-McClure et al., 2015). In the second trial, children were followed through the end of second grade. *ParentCorps* was found to impact kindergarten achievement test scores (reading and math) and teacher ratings of academic performance, with effects observed across the full spectrum of baseline pre-academic and self-regulation skills (Brotman et al., 2013). By the end of second grade (age 8 years), relative to controls, children who attended Pre-K in schools with *ParentCorps* had lower levels of teacher-reported mental health problems, better teacher-reported academic outcomes, and higher reading achievement test scores. Significant differences between the intervention and control groups on second grade mental health and academic outcomes held across baseline levels of self-regulation observed during Pre-K (Brotman et al., 2016).

In high-poverty urban schools, it is estimated that nearly one-quarter of children enter school without adequate self-regulatory skills (Brotman et al., 2016; Konstantopoulos & Hedges, 2008; Yoshikawa et al., 2013). While self-regulation facilitates on-task behavior and optimal management of attention, motivation, and stress reactivity in learning contexts (Blair & Raver, 2015; Iruka et al., 2014), children without these skills are much more likely to have negative or disruptive interactions with teachers and peers, and ultimately to develop emotional or behavioral problems that interfere with learning (Rhoades et al., 2011). *ParentCorps*' focus on helping parents create safe, predictable and nurturing home environments is expected to soothe children's physiological stress reactivity and allow for the acquisition of executive functioning skills. The plausibility of this mechanism is supported by Brotman and colleagues' demonstration that family-centered early intervention (i.e., the Incredible Years) with low-income families altered cortisol stress response as well as prosocial and disruptive interactions with peers (Brotman et al., 2007).

Developmental and intervention theory provides the rationale for the expectation that a relatively brief family-centered intervention to improve parenting practices and parent–child interactions in early childhood could result in meaningful and sustained benefits on academic attainment among children from low-income families attending high-poverty schools (Masten et al., 2005; McEvoy & Welker, 2000). First, although no single factor predicting academic success has a large effect size, the accumulation of small effects over time can be great. Therefore, small increases in self-regulation and early learn-

ing can lead to large differences in mental health and academic achievement. Second, there is a primacy of early influences, not necessarily because their effects are larger than later influences, but because they trigger cascades that grow into larger effects over time. Third, the developmental pathway to academic attainment is characterized by transactional influences across several domains. Therefore, by altering parent and teacher behaviors, self-regulation and early learning, early intervention can yield broad and long-lasting effects.

In the *ParentCorps* trial, mental health problems observable by teachers increased substantially during the early school years among children enrolled in control schools (Pre-K programs without *ParentCorps*). This pattern is consistent with the well-described accumulation of stressors and the cascading negative consequences for psychological well-being, health, and development among children living in poverty. A very different pattern was observed among children enrolled in Pre-K programs with *ParentCorps*, suggesting that intervention mitigated the impact of poverty and racism-related stressors. In early childhood, intervention impact on behavior was detectable among boys with low levels of self-regulation (Brotman et al., 2011; Dawson-McClure et al., 2015). Several years later, boys and girls with differing baseline levels of self-regulation had substantially fewer emotional and behavior problems at school as well as greater academic achievement (Brotman et al., 2016). There are likely multiple pathways to positive academic outcomes attributable to the intervention. A dose-response relation for parent participation in the parenting program replicated previous findings and provided further support for the intervention theory of change, which emphasizes the key role of parenting for both mental health and academic outcomes.

Van Voorhis, Maier, Epstein, and Lloyd (2013) summarize findings from 95 studies on parent involvement with young children on literacy and math-linked activities. Reading and literacy-related activities include: shared book reading, dialogic reading, family conversations, visits to libraries, telling of family stories, and practicing specific reading skills (e.g., rhyming, vocabulary). Math-related activities include: counting, playing with shapes and puzzles, board games, recipes and cooking, money math, and practicing specific math skills (e.g., addition, subtraction). Typically, interventions that aim to promote parent involvement in early learning of literacy or math skills are implemented as part of an early childhood education program. These types of programs typically involve the early childhood program giving learning materials to families and showing parents how to use them to help their children enjoy learning. These interventions aim to promote school readiness by enriching the learning materials available at home, and improving the quality of parent–child interactions in ways that will foster thinking skills, learning motivation, and in some cases, self-regulation and social competence.

For example, the *Getting Ready for School Program* is a nine-unit curriculum designed to help parents promote preschool children's school readiness skills in math and reading. It includes weekly, 2-h workshops for 15 weeks led by a trained facilitator (Noble et al., 2012). Parents use familiar items and everyday interactions in the home and community (e.g., buttons, laundry, cooking) to prompt children's learning, including solving math problems, connecting math with real life, estimating numbers and sizes, and exploring shapes. A pilot study in four Head Start classrooms with 56 parents of preschoolers demonstrated that children in the intervention group improved significantly more than children in the comparison group on the applied problems subtest of Woodcock Johnson III (e.g., showing two fingers, counting objects, and adding or subtracting small numbers; Noble et al., 2012). There were, however, no significant differences in intervention and comparison group children's scores on the quantitative concepts (e.g., oral questions about mathematical factual information, number patterns) or letter-word identification, passage comprehension, understanding directions, and picture vocabulary subtests. The Van Voorhis et al. (2013) report concludes that the majority of studies, including a small number of randomized controlled trials, demonstrate that

parent involvement in literacy and math-linked activities is positively associated with children's literacy and math skills in preschool, kindergarten, and the early elementary school grades.

The *REDI programs* enrich Head Start preschool classrooms (*REDI-C*) and home visits (*REDI-P*) with evidence-based programming that support *both* social emotional learning and language/literacy skills. The *Preschool PATHS Curriculum* (Domitrovich, Cortes, & Greenberg, 2007) is a core part of the *REDI-C* program. This 33-lesson program supports social emotional learning in the classroom through the use of stories, puppets, photographs, and role-play demonstrations to introduce key social-emotional skills, such as cooperation, emotional understanding, and self-control. Additional curriculum components were designed to interface with *PATHS* and promote language and emergent literacy skills (e.g., an interactive reading program, a set of sound games to teach phonological awareness, a set of activities and materials to use in their print centers to promote acquisition of letter names and related print concepts). Teachers are coached in the use of positive classroom management practices to promote children's self-control (e.g., positive support, emotion coaching, problem-solving dialogue), and strategies to enrich classroom language (e.g., using rich vocabulary, expansions, and questions). To strengthen the impact of the classroom program, *REDI-P* was designed to increase parent support for learning at home as children navigate the transition into kindergarten. Sixteen planned home visits with families are coordinated with the *REDI-C* curriculum and target the same two domains of child social-emotional and language-literacy skills. To support social-emotional skill development, the *REDI-P* home learning curriculum includes *Preschool PATHS* activities, such as compliment lists and the use of feelings faces, as well as interactive stories for parents to read with their children featuring *Preschool PATHS* characters and teaching basic social-emotional skill concepts. *REDI-P* also provides parents with learning games and pretend play activities that teach letters and letter-sound recognition. In addition to providing learning materials, home visitors review positive parenting strategies, emphasizing the provision of learning support, conversation, joint planning, and problem-solving dialogue.

A follow-up study of *REDI* participants evaluated the sustained impact of the classroom and home-visiting enrichments 3 years later, when children were in second grade (Bierman, Heinrichs, Welsh, Nix, & Gest, 2017). The classroom intervention led to sustained benefits in social-emotional skills, improving second grade classroom participation, student–teacher relationships, social competence, and peer relations. The coordinated parenting intervention produced additional benefits in child mental health and academic achievement (reading skills, and academic performance). Interestingly, it was the home-visiting program, *REDI-P*, rather than the classroom program, that boosted child academic gains in second grade. The developers suggest several aspects of the program design that may have led to positive academic outcomes attributable to the parenting component including that home learning materials were streamlined, focused on key school readiness skills, and organized in a developmental sequence, adjusted to each child's skill level. These features created fun and efficient learning opportunities for parents and children. In addition, the home learning curriculum was carefully coordinated and synchronized with the classroom curriculum. Parents were able to follow-through with skill concepts and activities introduced by teachers. This feature may have helped parents feel successful in the teaching role.

Together, the *ParentCorps* and *REDI-P* studies provide compelling evidence from rigorous randomized controlled trials with longitudinal follow-up through second grade that intervention-induced improvements in parenting practices and parent involvement in early learning result in benefits for children's mental health and academic achievement. In both cases, the impact of the intervention was over and above early childhood education. In the case of *ParentCorps*, there was added value above Pre-K programming as usual (standard Pre-K). In the case of *REDI-P*, there was added value over and above the evidence-based enriched Head Start program-

ming. Importantly, both interventions strengthened the parent–child relationship in ways that are expected to facilitate children's self-regulation and capacity for learning.

Overall, intervention studies examining parenting and parent involvement in early childhood demonstrate that parents from diverse backgrounds can benefit from intervention to promote parenting practices, parent–child relationships, and engagement in literacy and math activities. Interventions that promote parenting practices, parent–child interactions and parent involvement in learning have the potential to increase school readiness (pre-academic and social emotional learning), mental health, and academic achievement.

Later Childhood and Adolescence and Impact on Academic Attainment

Two models have been proposed to understand how *home- and school-based involvement* influence youth's academic achievement: *skill development* and *motivational development* models (Pomerantz, Moorman, & Litwack, 2007). In *skill development* models, parent involvement in learning and education is thought to promote achievement by supporting cognitive skills, such as reflective language capabilities, and metacognitive skills, such as planning. *Motivational development* models posit that parent involvement is associated with achievement because it supports academic engagement, such as encouraging positive perceptions of academic competence, and instilling intrinsic motivation for pursuing academics (Grolnick & Slowiaczek, 1994).

During later childhood and adolescence *home-based involvement* includes assistance and clarification with homework, providing structure for free time and homework time, visiting educational venues, such as museums and libraries (Reynolds & Gill, 1994), and enhancing and encouraging interests and motivations (Hoover-Dempsey & Sandler, 1995). In addition, as part of *home-based involvement*, parents can supplement instruction through educationally-based, cognitively-stimulating activities (Chao, 2000; Grolnick & Slowiaczek, 1994). *School-based involvement* includes parents making direct contact with schools. During elementary school, *school-based involvement* is likely to include visits to the classroom and interactions with children's teachers. Such interactions and exposure are hypothesized to increase parents' knowledge about the curriculum, enhance social capital, and increase the effectiveness of involvement at home (Comer, 1995; Epstein, 2001; Hill & Taylor, 2004). Further, interactions between parents and teachers may increase mutual respect and increase teachers' perceptions about how much parents value education (Comer, 1995; Epstein, 2001).

By middle school, *school-based involvement* is less likely to include being in the classroom and more likely to include attendance at school activities (Jeynes, 2014; Seginer, 2006). Students with parents who are involved in their school tend to have better mental health and better academic performance, and are more likely to complete high school than students whose parents are less involved (Henderson & Berla, 1994). Research shows that students perform better in school if their fathers as well as their mothers are involved, regardless of whether the father lives with the student or not (Nord, Brimhall, & West, 1998).

There have been several meta-analyses examining the association between parental involvement and academic achievement during later childhood and/or adolescence (Castro et al., 2015; Hill & Tyson, 2009; Jeynes, 2003, 2005, 2007, 2012). Across these meta-analyses, findings indicate that there is a small to moderate meaningful association between parent involvement and academic achievement (Castro et al., 2015; Wilder, 2014). The positive relation between academic achievement and parental involvement exists for both boys and girls (Jeynes, 2005, 2007), for White, Black, Latino and Asian children (Hill & Tyson, 2009; Jeynes, 2003, 2005, 2007), as well as for younger (elementary school) and older (middle and high school) students (Castro et al., 2015; Jeynes, 2012). There is considerable heterogeneity in

observed effect sizes, due in part to differences in samples and how academic achievement is conceptualized (e.g., teacher report of achievement versus grade point average). In general, the strongest associations between type of parental involvement and academic achievement are found when parents have high academic expectations for their children, develop and maintain communication with them about school activities and schoolwork, and promote the development of reading habits. There is less consistent support across studies for involvement behaviors such as supervision of homework and parental attendance at school activities predicting children's academic achievement. Possible explanations for the lack of impact of these activities include differences in how parents and schools present the curriculum (such that parental help with homework is actually not that helpful). Another possibility is that help with homework may be elicited by poor school performance, also resulting in a negligible (or negative) association with academic achievement (Hill & Tyson, 2009). Some meta-analyses suggest that parent involvement may have a larger effect on academic achievement in elementary school relative to later grades (Jeynes, 2007; Patall, Cooper, & Robinson, 2008); parents may have better mastery of subjects in earlier grades and a greater chance of influencing underdeveloped skills and habits when children are younger (Castro et al., 2015). Moreover, parent involvement in elementary school may be developmentally congruent with children's needs versus the developmental shift towards independence in adolescence (Gutman & Midgley, 2000). Jeynes' (2003) meta-analysis of parent involvement found a positive association overall between involvement and achievement, regardless of student ethnicity. Interestingly, parental involvement had the greatest association with teacher ratings of students' performance, suggesting that teacher perceptions of student academic performance may be influenced by the perceived level of family involvement (Jeynes, 2003, 2012).

In summary, the extant literature, including several meta-analyses and a meta-synthesis, finds that parental *home-based involvement*, especially involvement characterized as *academic socialization*, has the strongest positive relation with achievement in later childhood and adolescence.

Strengths and Limitations of the Evidence Base

There is substantial evidence that parent involvement in learning and education (broadly defined) is related to schooling and academic attainment throughout development. The early childhood literature includes a number of randomized controlled trials with long-term follow-up that demonstrate a causal link between parenting practices and parent involvement in early learning and later academic achievement (e.g., Bierman et al., 2017; Brotman et al., 2016). There are fewer randomized trials in the later childhood and adolescence period where the evidence has been summarized in a series of meta-analyses and meta-syntheses. Accordingly, there is a more limited body of knowledge regarding which aspects of parental involvement are causally related to academic attainment in older children and the development and testing of interventions to promote parent involvement in older children lags behind the early childhood efforts.

Overall, research is needed on which aspects of parent involvement practices are related to which outcomes—for all children, specific subgroups of students and families (including children with disabilities and from diverse racial, ethnic and income backgrounds) and across developmental phases and grades. Although the positive association between parent involvement and academic achievement is found across different racial, ethnic, and income groups, the strength of these relations appear to vary based on child and family characteristics (Jeynes, 2003; Wilder, 2014). For example, children from lower socioeconomic backgrounds seem to benefit more academically (both in reading and math achievement) from parents' home-based involvement, including visiting a museum or attending a concert (Roksa & Potter, 2011). Similarly, the links

between both parental home-based involvement and academic socialization and student engagement appear stronger for low-income youth as compared to their more affluent peers (Wang & Sheikh-Khalil, 2014).

In addition, there is a need for studies to consider parent beliefs and attitudes about the broad range of academic-related outcomes, including behavior and the parent's role in supporting their child's learning and academic success. A more complete understanding of parental beliefs and values is necessary to develop interventions to support parent involvement, especially in the area of academic socialization.

Within the context of randomized controlled trials of interventions that aim to promote parent involvement, studies are needed to consider potential moderators to understand for whom and under what conditions interventions are effective in increasing parent involvement and academic outcomes. Studies of mediators are also needed, including those that measure parent and teacher beliefs and values.

In early childhood, there is considerable evidence that with guidance, most parents, regardless of socioeconomic, educational, and racial or ethnic background are motivated to support their children's learning at home. Although there are a number of interventions that have been shown to effectively engage diverse families to be more involved, most of the existing interventions tend to focus on a single domain—improving child social-emotional skills, language skills or math skills. Little is known about whether parental support of one area (such as self-regulation) might also enhance outcomes in a different area (such as math). There is some emerging evidence for cross-domain synergy, but more studies are needed to inform strategic investments. There is a dearth of studies that focus on the processes necessary to reach and engage diverse families, and strategies to scale-up effective interventions. Future implementation and dissemination studies should clarify the key factors or critical intervention components and implementation supports necessary to achieve benefits for all children, especially those with more limited self-regulation skills.

Future Directions for Research/ Implications for Policy and Practice

The strongest relation to emerge between parent involvement and academic outcomes involves parental expectations (one form of academic socialization; Castro et al., 2015; Wilder, 2014). To the extent that children harbor similar attitudes and beliefs as their parents, having high parental expectations appears vital for academic achievement. In the US, the majority (roughly 90%) of parents expect their children to graduate from high school. There are significant differences though, in the expectation of children attaining a bachelor's degree (or higher) by household income level, race, ethnicity and immigration status (Child Trends, 2015). Low-income parents and parents with less formal education are more likely to express lower educational expectations for their children compared to more affluent and educated parents (Carolan & Wasserman, 2015; Davis-Kean, 2005). Immigrant parents, compared to US-born parents, endorse higher expectations for their children's academic attainment. The proportion of parents with the highest expectations for attainment of a bachelor's degree (or more) is greatest among Asian/Pacific Islanders (84% in 2012), followed by Latinos and Whites (66% and 63%, respectively), and Blacks (58%) (Child Trends, 2015).

Why might parents in the US differ in their educational expectations for their children based on their income-level, immigrant status or race? Contemporary approaches to understanding the sociocultural dimensions of motivation and sociological research on immigrant assimilation offer some insight. The *immigrant optimism* hypothesis (Kao & Tienda, 1995) contends that children of immigrants are at an advantage to succeed in comparison to their native-born counterparts due to immigrant parents' optimism regarding their children's future. Immigrant optimism is a source of motivation for parents to feel confident about their children's future prospects. However, the educational aspirations of immigrants of color decline significantly over successive generations (Rumbaut, 1995). It is posited that this decline is

driven in large part by experiences of social inequality and racial and ethnic discrimination. Wood and Graham (2010) draw upon Coll et al.'s (1996) integrative model of minority child development to integrate theories of academic motivation with children's experiences as members of marginalized social groups. As articulated by the integrative model, the effects of social position on achievement motivation (and other outcomes) are mediated by a variety of repressive macro-level forces, including racism, prejudice, and discrimination. These forces shape youths' experiences in environments like schools by determining the nature of their interpersonal interactions with other people, and by producing various forms of segregation (i.e., residential, economic, and social/psychological segregation) known to give rise to contexts that undermine academic attainment (Wood & Graham, 2010). A large body of work indicates that Black and Latino students' encounters with face-to-face discrimination from teachers and peers negatively impact their beliefs about the personal importance of school, educational utility values, academic self-concept, and motivation (Benner & Graham, 2011; Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008; Eccles, Wong, & Peck, 2006). An emerging body of empirical work supports the notion that racial discrimination concerns are related to lower academic expectations of African American mothers (Varner & Mandara, 2013).

While experiences of racial discrimination undermine achievement motivation for many racial and ethnic minority students and families, it is important to highlight that many students do well despite such barriers. Parenting practices designed to neutralize the influence of racial discrimination on children's development (i.e., racial socialization; Coard, Wallace, Stevenson, & Brotman, 2004), strong racial group identification, and a heightened valuing of educational attainment are some adaptive strategies and beliefs that have been found to enable racial and ethnic minority students to overcome risks linked to social position (Wood & Graham, 2010). Box 2 provides an illustrative example of the strengths and challenges of young Latino stu-

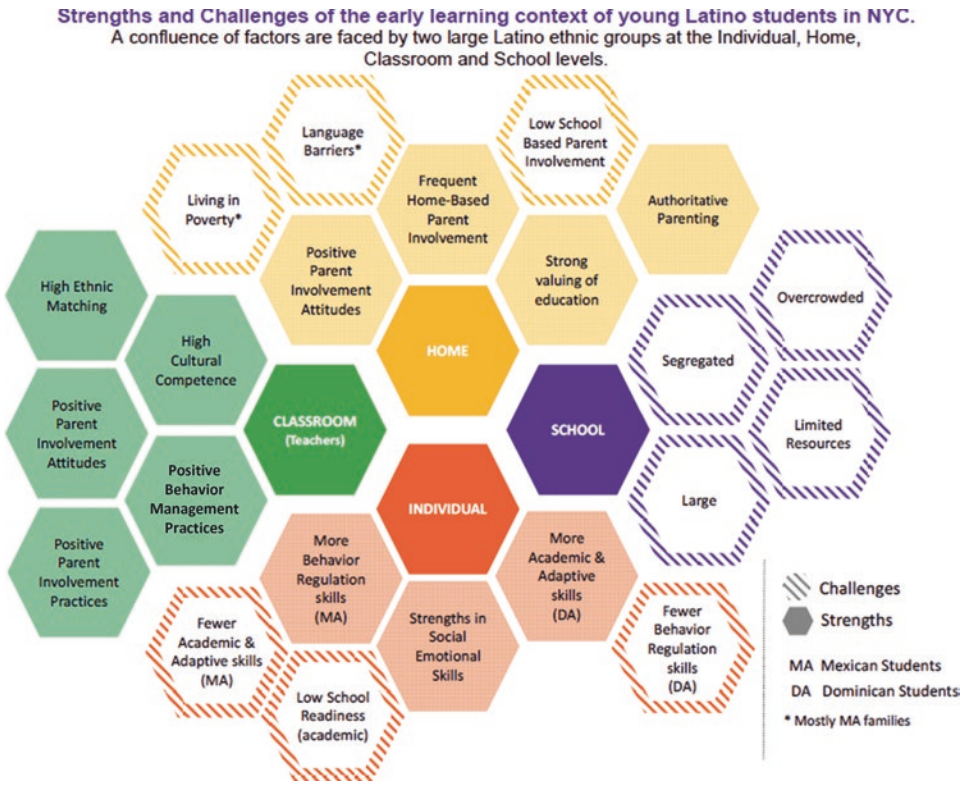
Box 2 Parenting and Early Academic Achievement Among Mexican American and Dominican American Children

The academic achievement of Latino students—a population that has been growing steadily for over 50 years in the United States—has tremendous implications for society. The 12 million Latinos in US public schools (24% of the public school population) are at high risk for academic underachievement, largely due to social inequities and language barriers. Thirty percent of Latino students live in poverty and nearly one-third enter school with little or no English proficiency, including 3.6 million classified as English language learners who require specialized educational supports (Musu-Gillette et al., 2016). Latino students have lower levels of academic school readiness and early achievement scores (Aud, Fox, & KewalRamani, 2010; Lee & Burkam, 2002) and they are two times more likely to be retained during elementary and middle school (Musu-Gillette et al., 2016). By 4th grade, 78% of Latino students fall below the proficient range in math on national tests, and these rates remain stable through 12th grade. A similar pattern is seen for reading achievement, and in 12th grade, 80% of Latinos have not reached proficiency in reading (Hemphill, Vanneman, & Rahman, 2011). Although the high school dropout rate among Latinos has dropped from 32% to 12% since 1990, it remains highest compared to other groups and especially boys (14% of whom do not complete high school; Musu-Gillette et al., 2016). Fewer than 20% of Latino men, and 30% of Latina women, participate in higher education (i.e., college or university). These long-term outcomes reflect the cumulative disadvantage faced by Latino students beginning in early childhood and persisting throughout their schooling.

Box 2 (continued)

Latinos in Context (LINCs) is a systematic series of research studies led by Dr. Esther Calzada designed to identify malleable factors that shape the early learning, mental health, and academic achievement of Latino students (see Figure below). One longitudinal study enrolled 750 Mexican-origin and Dominican-origin students from 24 public schools in New York City in the US. Children's school readiness was assessed in Pre-K (approximately age 4 years) and kindergarten using the Speed DIAL (DIAL-3; Mardell-Czudnowski & Goldenberg, 1998), an individually administered test of motor, conceptual, and language developmental skills. Academic achievement was measured using the Kaufman Test of Educational Achievement (KTEA-II; Kaufman & Kaufman, 2004) at the end of first grade.

Nearly 30% of LINCs participants had low school readiness when they entered school; by the end of first grade, 18.5% of students were underachieving (defined as ≥1 standard deviation below the mean on standardized testing). Children who entered formal schooling in kindergarten rather than pre-kindergarten were twice as likely to be at risk for academic underachievement at the end of first grade (23% compared with 12%). In addition, 28% of Dominican American boys were at risk for academic underachievement at the end of first grade, compared with approximately 15% of Mexican American boys, Mexican American girls, and Dominican American girls. Skin color predicted the lower achievement observed in Dominican



(continued)

Box 2 (continued)
American boys (who are racially Black), suggesting possible racial biases in the school setting.

At the family level, household poverty, low maternal education, and mother's limited language proficiency (in English and Spanish) were associated with lower school readiness. Parent involvement practices at home (e.g., reading and doing puzzles with child) were associated with higher school readiness, but although mothers reported strong parent involvement attitudes and frequent parent involvement practices at home, they were unlikely to engage in school-based parent involvement practices (e.g., volunteering, attending meetings, and spending informal time at the school talking with school staff), possibly because of language barriers. Longitudinal data analyses showed that authoritative parenting (i.e., high responsiveness and demandingness) predicted better academic achievement, whereas authoritarian parenting practices predicted lower achievement (Kim, Calzada, Barajas-Gonzalez, Huang, Brotman, Castro, & Pichardo, 2017). Additionally, nearly half of the young Latino children were at risk for clinically significant anxiety problems according to mother report (Calzada, Barajas-Gonzalez, Huang & Brotman, 2017). Preliminary studies indicate that authoritarian parenting practices (Calzada et al., 2017) and harsh verbal punishment (Barajas-Gonzalez, Calzada, Huang, Covas, Castillo & Brotman, in press) might be contributing to elevated levels of internalizing symptoms in these young children. To offset risk for academic underachievement among Latino students in US public schools, evidence-based parenting programs that enhance parent involvement and authoritative parenting practices, such as *ParentCorps*, may be especially promising.

dents in New York City as discovered through a systematic series of studies of context, parenting and child development.

The literature reviewed in this chapter suggests some important implications for policy and practice. For practice, interventions aimed at promoting academic achievement for all children should focus on promoting parents' educational expectations and parents' ability to clearly communicate these expectations to their children. Interventions aimed at promoting academic achievement for racial and ethnic minority children should consider informing parents about the evidence linking academic socialization and attainment. Methods to socialize children to face potential obstacles related to discrimination without lowering expectations should be supported and further understood. It is also important that teachers and school administrators be aware of the possible damaging effects of racial discrimination concerns on parents' and students' educational expectations. Creating school and classroom environments that make both parents and students feel welcomed and valued may lower concerns about racial discrimination and benefit students through its impact on parents' expectations, parent involvement, and parenting practices.

Conclusions

There is strong evidence that parental involvement in learning and education is linked to better academic outcomes for children and adolescents. For younger children, parent involvement in learning is broadly defined to include parenting practices that promote social-emotional learning and self-regulation as well as language, early literacy, and math skills. For older children, academic socialization, the way in which parents convey value for academic attainment, appears to be most critical. Enough evidence exists, especially in the early childhood period, for strategic investments in promoting parent involvement as one strategy to reduce the achievement gap for children of color

and children from low-income families. Strategic investments and commitments to the provision of racially-conscious and culturally-relevant systematic supports for parents in early childhood has the potential to promote academic achievement and healthy development for all children. Future research needs to identify cost-efficient strategies to reach and engage families across development and to understand what works for whom and how interventions and strategies work to ensure all children reach their full potential.

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Children's Health, Physical Activity, and Nutrition

Alina Morawska and Amy E. Mitchell

Introduction

Children's health, nutrition, and physical and sedentary activity levels underpin their well-being, and serve as a foundation for lifelong health and lifestyle habits. The importance of these aspects of children's development are well recognized, and there is increasing attention paid in research, policy and practice addressing both well-established and emerging health problems. This chapter will begin with a brief overview of problems and concerns relating to children's health focusing on chronic health conditions, nutrition, and their activity levels, before exploring the role of parenting in influencing these domains of children's development.

We would like to highlight a number of caveats before we begin. Firstly, it is important to recognize that health, nutrition, and physical activity are clearly interconnected. A child who eats a healthy, nutritious diet and engages in the recommended levels of daily physical activity is more likely to be within the healthy weight range and at a lower risk for developing a variety of health problems. However, each construct is also independent, with a variety of specific etiological factors contributing to the development of problems in each area. For example, while children with asthma are more likely to experience other types of allergic conditions (Ballardini et al., 2012), overlap is far from perfect indicating different etiological pathways. Given the range of constructs, illness conditions and aspects of health involved in children's development, it is beyond the scope of this chapter to cover each area in depth, and while we will draw on examples from each domain, the review will not be exhaustive.

Secondly, what does connect these constructs is that they are all multidetermined, with often complex etiologies, and considerable underlying biological and genetic components. Again, it is beyond the scope of this chapter to provide an in-depth analysis of each of the components for each construct. Our discussion will be framed within an ecological perspective (Bronfenbrenner, 1992), which assumes that child health, nutrition, and physical activity are influenced by a number of factors present within the child and their immediate and more distal context, but our focus will be on the role of parenting.

Thirdly, the effects of various etiological factors are most likely bidirectional, meaning that while parenting is likely to influence children's outcomes, likewise the child's behavior and temperament impact parental beliefs and behaviors. A simple illustration of these bidirectional influences can be observed in early parent–toddler

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mealtime interactions. Toddlers exposed to a new food are likely to approach it with hesitation and avoidance, due to a neophobic reaction common in children at this age (Cooke, Wardle, & Gibson, 2003). Many parents will interpret the child's negative reaction as the child not liking the food, unaware that children may need multiple (around 10–15) exposures to the new food before they are willing to accept it (Cooke, 2007; Williams, Paul, Pizzo, & Riegel, 2008). If the parent makes this assumption, perhaps because they remember being forced to eat as a child or due to beliefs that children need to be old enough to appreciate certain flavors, they may be less likely to offer this food again, reducing the chances that the child will learn to accept the food (Russell, Worsley, & Liem, 2014). This example highlights that children's reactions are likely to influence subsequent parenting, but also that parenting behaviors and beliefs are affected by a range of factors, including the parent's own food preferences, their knowledge of child development, their upbringing, and the social support on which they rely. However, while we acknowledge the importance of these bidirectional effects and the multiple determinants of both child and parenting behavior, the focus in this chapter will largely be on the direction of effect from parent to child.

Finally, we want to emphasize that there is an important distinction between acknowledging the role of parents as one of the multiple determinants of children's health, nutrition, and physical activity outcomes, and blaming parents. Most parents try to do the best by their children; however, they operate in an ecological environment that can make this difficult. For example, we live in a world where access to low nutrition, but high energy food (e.g., fast food, sugary drinks) is often easier and cheaper than healthy food (e.g., fresh fruit and vegetables), and this can be particularly the case in more disadvantaged neighborhoods (Walker, Keane, & Burke, 2010). In contrast, good neighborhood access to green space and sporting facilities is associated with lower risk for childhood obesity (Sanders, Feng, Fahey, Lonsdale, & Astell-Burt, 2015) and increased physical activity (Carver, Timperio, & Crawford, 2015). In this context, engagement in health promoting behaviors by parents and children can be facilitated or hampered by the circumstances in which they live. The corollary is that while there is no doubt that we need to offer parents appropriate evidence-based solutions and interventions to promote their child's health and well-being, these are unlikely to work in isolation, without policies and interventions that address the broader ecological context.

With these caveats in place, we will now turn to an overview of some of the main challenges and issues faced by children and parents in the domains of child health, nutrition, and physical activity.

Child Chronic Health Conditions

Chronic childhood health conditions are common and rates are on the rise (Van Cleave, Gortmaker, & Perrin, 2010). A chronic health condition is defined as an ongoing impairment characterized by a physical condition causing use of health services beyond routine care. For our purposes, these include conditions such as obesity, diabetes, and allergic conditions, but not behavioral (e.g., conduct disorder) or neurodevelopmental problems (e.g., autism; cf. Van Cleave et al., 2010). The most common chronic health conditions in childhood include overweight and obesity, and asthma (Van Cleave et al., 2010). For example, the prevalence of asthma in Australian children is around 20%, which is among the highest in the world (Asher et al., 2006).

Almost a third of children are overweight or obese in countries such as Canada, the United States (US), and Australia (ABS, 2015; Ogden, Carroll, Kit, & Flegal, 2014); however, the problem is not confined to the developed world (de Onis, Blössner, & Borghi, 2010). While rates in developed countries appear to have plateaued (Wabitsch, Moss, & Kromeyer-Hauschild, 2014), the problem starts early: around 8% of 0- to 2-year-olds and nearly a quarter of 2- to 5-year-olds are overweight or obese (Ogden et al., 2014). Childhood obesity is associated with increased risk of multiple other health and psychosocial problems such as asthma, type 2 diabetes, hypertension, and internalizing and

externalizing behavior problems (e.g., Puder & Munsch, 2010). Affected children are also more likely to develop heart and vascular diseases, osteoarthritis, infectious diseases, certain cancers, and psychiatric conditions in adulthood (Maffeis & Tato, 2001; Smith & Smith, 2016), although the effects may not be direct (Park, Falconer, Viner, & Kinra, 2012).

Child Nutrition

While undernutrition remains a significant and ongoing concern in many low- and middle-income countries (Black et al., 2013), malnutrition is increasingly recognized as a significant problem in developed countries. For example, in the US more than a third of children and adolescents consume fast food on any given day (Vikraman, Fryar, & Ogden, 2015). In Australia, the vast majority of 1-year-olds are eating discretionary food items (e.g., biscuits, savory snacks) on a daily basis (Byrne, Magarey, & Daniels, 2014; Lioret, McNaughton, Spence, Crawford, & Campbell, 2013). Higher levels of consumption of discretionary food items by children are associated with higher body mass index (BMI; Braithwaite et al., 2014), and are likely to contribute to the development of lifelong patterns of unhealthy eating (e.g., Craigie, Lake, Kelly, Adamson, & Mathers, 2011).

Child Activity Levels

The role of physical activity in healthy development is clearly recognized in various national and international guidelines, with recommendations promoting both higher levels of physical activity and limiting sedentary activity, particularly screen time (e.g., American Pediatric Association, World Health Organization). However, across the globe, children are engaging in less physical activity and more screen time. Children in most countries are not meeting recommended targets for physical activity and sedentary behavior (Tremblay et al., 2014). For example, in the US fewer than four in ten children met both physical activity and screen time recommendations (Fakhouri, Hughes, Brody, Kit, & Ogden, 2013).

Increased screen time has been associated with higher intakes of high-energy drinks and snacks, lower intake of fruit, and less engagement in physical activity (Salmon, Campbell, & Crawford, 2006), and increased sedentary behavior, in particular, appears to be associated with higher child weight (Prentice-Dunn & Prentice-Dunn, 2012). On the other hand, meta-analytic studies suggest that the patterns of relationships among diet, physical activity, and sedentary behavior are complex, and more longitudinal data is needed (Leech, McNaughton, & Timperio, 2014).

As this brief overview demonstrates, there are many aspects of children's health, nutrition, and activity levels that are a source of concern for parents, health practitioners, and policy makers, and many rapid changes have taken place in the past few decades. The following sections will provide an overview of some of the theories which have been proposed to help understand the nature of these problems.

Theoretical Models: Understanding the Link Between Parenting and Child Health

It has long been understood that parents and the family environment are among the greatest and most enduring external influences on a child's health and development. Theories of child development have been useful in guiding research and practice in this area, and in explaining and predicting the effect of external influences, such as parenting beliefs and behaviors, on child health and development. Overall, theories of child development can be broadly classified as *descriptive theories*, which primarily seek to describe the observed child development phenomena of interest, such as Gessel's Maturational Theory (Gessel, Ilg, & Ames, 1940); *psychological construct-based theories*, which attempt to explain the mechanisms underlying the observed phenomena with a focus on the child's internal processes, such as Erikson's Stages of

Psychosocial Development (Erikson, 1997); or *context-based theories*, which seek to explain the mechanism underlying the observed phenomenon but which also take into account the external influences on the child, such as parenting behaviors and the broader environment in which the child is growing up (Avan & Kirkwood, 2010). Examples of theories in this group include Bandura's social cognitive theory (Bandura, 1986) and Bronfenbrenner's social ecological model (Bronfenbrenner, 1979, 1992). Given our focus on the influence of parenting on child health, nutrition, and activity, this section will focus on a small selection of context-based theories that have been most useful to progressing research and practice in this area.

Taking a Multidisciplinary Context-Based Perspective

Approaches to understanding relationships between parenting behaviors and child health, and intervention-based approaches to effecting change, are becoming increasingly multidisciplinary. Clinical and research efforts to progress work in this area frequently involve teams of practitioners, researchers, and policy makers from a variety of professional backgrounds including public health, psychology, medicine, epidemiology, and others. There are, however, ongoing difficulties with the attempt to provide common ground by transplanting useful and relevant theoretical frameworks from the humanities and social sciences into public health and epidemiological research. This is despite the clear potential for such frameworks to contribute to the evidence base for approaches that are likely to be of benefit to child health and development in the community setting. In an attempt to address this issue, Avan and Kirkwood (2010) propose a set of evaluation criteria (the *COLE* criteria) which aims to provide a useful framework by which to evaluate the potential of theoretical frameworks to contribute to cross-disciplinary efforts to address child health and development issues. They propose that theories most likely to progress child health intervention development are characterized by: (1) *C*ross-disciplinary perspective, with distinct conceptual domains that translate across disciplines; (2) *O*verarching perspective, addressing all of the important domains of child development (which include cognitive, psychomotor, emotional, social, and behavioral aspects); (3) *L*ifelong perspective, taking into account and linking phases of human development across the lifespan (i.e., newborn, infancy, toddlerhood, middle and late childhood, adolescence, early, middle, and advanced adulthood); and (4) *E*pidemiological research perspective, with the potential to be assessed empirically and used to inform the development of evidence-based public health interventions (Avan & Kirkwood, 2010).

Assessment of child development theories according to these criteria suggests that context-based theories tend to outperform the others in terms of adequately addressing the four COLE criteria that are considered important for a theory to contribute to cross-disciplinary child health and the development of research and practice initiatives (Avan & Kirkwood, 2010). Indeed, the majority of research in this area over the past 30 years has rested on theoretical foundations that incorporate a strong contextual focus, as they tend to provide a cross-disciplinary, overarching, and lifelong perspective, with clear potential for the theories to be tested empirically and used to create research-based evidence to support the development and testing of interventions. Context-based theories acknowledge the bidirectional relationships between the child and their environment; that is, the environment (e.g., parents, family) influences the child, and the child, in turn, exerts an influence upon their environment. Most importantly, context-based theories recognize that children are a product of their social environment, and explain *how* social and environmental factors influence child health and development rather than describing *what* children are like at different stages of development. Two examples of context-based theories that feature predominantly in work linking parenting to child health outcomes include Bronfenbrenner's social ecological model (Bronfenbrenner, 1979, 1992) and Bandura's social cognitive theory

(SCT; Bandura, 1986). What follows is a brief description of each theoretical model, and some examples of applications to parenting and child health research and practice.

Bronfenbrenner's social ecological model (Bronfenbrenner, 1979, 1992) provides an overarching sociocultural framework that helps explain interactions between child and environment at different levels of influence. The model proposes that the entire ecological system within which a child is embedded needs to be taken into account when seeking to understand factors that affect child health and development (see Fig. 1). The child is at the center of the model, surrounded by four ecological systems. The *microsystem* is the innermost layer of the model surrounding the child, and includes close interpersonal relationships with parents and family, the peer group, school, and the immediate surroundings. The second layer, the *mesosystem*, can be seen as a system of microsystems, made up of linkages or relationships between two or more settings (e.g., between home and school). The third layer, the *exosystem*, comprises the processes taking place between settings that are more distal to the child, but which can then influence the child's immediate setting (e.g., between home and the parent's workplace). Finally, the *macrosystem* is the outermost layer of the model, which includes social and cultural ideologies and beliefs that affect an individual's environment. The model was further developed via the addition of the *chronosystem*, which accounts for the way in which the individual and their environments change over time, and an increased focus on processes and the individual's own biology.

There is a veritable mountain of evidence to support the notion that every level of the social ecological model can and does impact children's health, well-being, and development (Case & Paxson, 2002; Li, McMurray, & Stanley, 2008). However, it is at the microsystem level that the majority of literature examining the impact of parenting on child health has been situated. Most importantly for those seeking to understand the relationship between parenting behavior and child health, Bronfenbrenner (1992) extended his original definition of the microsystem with the inclusion of a reference to the developmentally

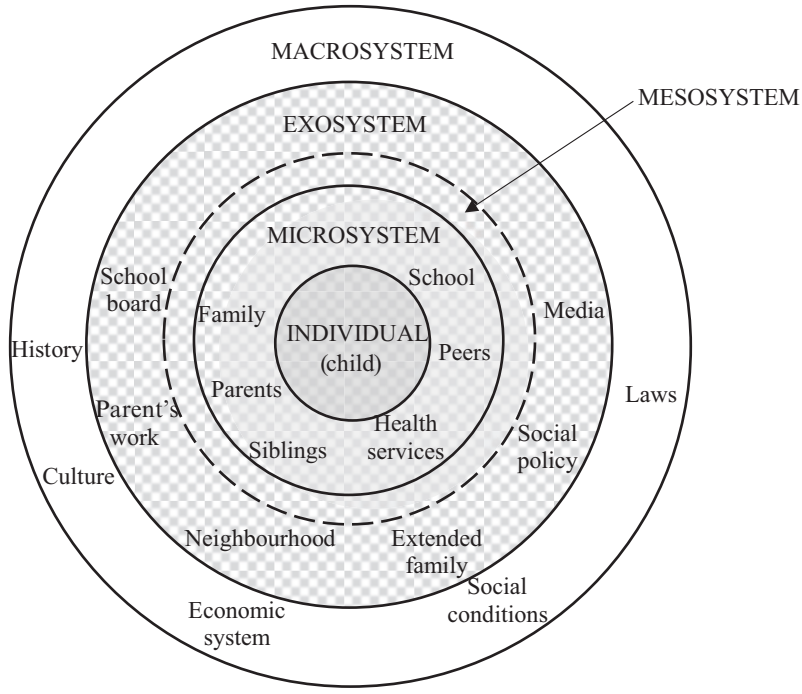


Fig. 1 Bronfenbrenner's social ecological model (adapted from Eisenmann et al., 2008)

relevant characteristics of *others* in the individual's environment. Thus:

> A microsystem is a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given face-to-face setting with particular physical and material features, and containing other persons with distinctive characteristics of temperament, personality, and systems of belief (p. 227).

This chapter will therefore focus predominantly on relationships and interactions at the level of the microsystem, i.e., between parent and child. While detailed discussion of the interactions between the higher-order layers of the model and the microsystem as they pertain to parenting and child health must necessarily take a back seat to the topic at hand, it is important to acknowledge that they exert tremendous influence on both parent and child, and can influence child health, nutrition, and physical activity directly and indirectly via effects on the family environment and parenting behavior. For example, there is no question that child health issues affect the family, both at the individual level and as a family unit. Caring for a child with a health problem impacts on the family's financial well-being; social, community, and school interactions; capacity for parents to maintain employment; family dynamics; and quality of life. These consequences can then become part of a feedback loop which further affects the child's health and well-being. Thus, the way in which families manage increases in day-to-day caregiving requirements and the complexities of health management activities is important, and parent–child interactions can influence short- and long-term health outcomes for the child.

While many researchers examining links between parenting and child health have explicitly adopted the social ecological model as the primary theoretical foundation for their work (e.g., Hinkley, Salmon, Okely, & Crawford, 2013; Ndiaye et al., 2013), the social ecological model can also be seen as providing an overarching framework within which work underpinned by other context-based theories can be situated. One example of this is *Bandura's social cognitive theory* (SCT; Bandura, 1986), which has been frequently used to underpin parenting and child health research and intervention. Encompassing cognitive, emotional, and behavioral understandings of behavior and behavior change, SCT explains interactions between environmental influences, personal factors, and human behavior. SCT arose from the earlier social learning theory (Bandura, 1977), which evolved into the current model with the addition and refinement of constructs, particularly the inclusion of Bandura's central concept of self-efficacy, which is typically targeted as a key factor in behavior change.

Central to social cognitive theory is the idea of *reciprocal determinism*, which describes the bidirectional relationships between environmental factors, individual factors, and behavior; in short, a change in one element will produce changes in the others (Bandura, 1986). From a child health and development perspective, environmental influences (e.g., parenting, family support) can create opportunities, introduce barriers, teach skills, and provide reinforcement for behavior and behavior change; individual factors, such as self-efficacy beliefs, outcome expectations, and knowledge, can have direct, causal effects on an individual's behavior; and enacted behaviors can strengthen or modify an individual's existing beliefs, and also have a direct influence on their immediate environment (Bandura, 2004).

From Parenting Behaviors and Beliefs to Child Health

The strengths of context-based models lie in their ability to explain the impact of broad and varied elements in an individual's environment on their health and development. It follows that almost anything in an individuals' immediate or more distal environment could affect their health status either directly or indirectly. Taking the social ecological model as an example, a parent may believe that providing their school-aged child with a variety of nutritious foods will be beneficial for their health and development, and therefore adds a generous selection of fruit and vegetables to the weekly groceries and makes

these available to their child in the home (microsystem). However, a change to the parent's working hours (exosystem) means the family now arrives home an hour later than usual on weekday evenings (mesosystem interaction between home and parent's work), resulting in the family opting for convenience and consuming fast food meals several evenings per week (microsystem). As this example shows, parenting beliefs and behaviors can be triggered by a multitude of environmental influences, with either positive or negative repercussions for their child's short- and long-term health and well-being.

Focusing on the microsystem level of environmental influence, it is important to consider the role that parents play as agents of socialization in the child health context. Parents not only influence the child's environment by the choices they make for their child, as the previous example illustrated, but also exert influence in their capacity as their child's earliest health promoter, health educator, and role model (Case & Paxson, 2002). Thus, parents play an instrumental role in the process by which children acquire skills, behavior patterns, values, and motivations that will influence their health behaviors in the short- and longer-term (Bandura, 1986, 2004).

Within the socialization literature, research examining the influence of parenting behaviors on child outcomes differentiates between two related but distinct concepts: *parental practices*, which are defined as specific behaviors that parents use to socialize their children and might include providing guidance to their child about health behaviors; and *parenting style*, which refers to the general emotional climate in which parental practices are situated (Darling & Steinberg, 1993). Parenting styles have typically been characterized by the dimensions of parental responsiveness (e.g., warmth and support) and demandingness (e.g., supervision, rules/structure, and disciplinary actions; Baumrind, 1967; Maccoby & Martin, 1983). These dimensions can then be combined to produce the most common typology of parenting styles: (1) an authoritative parent who balances high levels of demandingness with high levels of responsiveness; (2) an authoritarian parent who demonstrates high levels of demandingness but low levels of responsiveness; (3) a permissive parent who demonstrates low levels of demandingness but high levels of responsiveness; and (4) a neglectful parent who is low in both demandingness and responsiveness (Maccoby & Martin, 1983).

In general, the authoritative parenting style has been associated with more positive child outcomes across a range of domains (e.g., Botello-Harbaum, Nansel, Haynie, Iannotti, & Simons-Morton, 2008; Park & Walton-Moss, 2012); however, there is evidence that a number of different parenting styles may be more or less effective in promoting different child health behaviors and health outcomes under different circumstances (Vollmer & Mobley, 2013). Current research is only just beginning to untangle the complex relationships between parenting practices, parenting style, and child health outcomes. With this caveat in mind, we will now consider a relatively straightforward example of a parenting practice that can directly affect child health, and briefly consider the role of parenting style in moderating the effect of parenting practices on child health outcomes.

Parental Modeling and Healthy Eating

As previously discussed, children begin to express their own food preferences from an early age, and often require encouragement to increase variety in their diet and expand their repertoire of tolerated foods. Family mealtimes provide an invaluable opportunity for parental modeling of healthy eating behaviors that can result in improved nutritional outcomes for children. Modeling by parents in the context of the development of children's eating behaviors refers to the process whereby the child observes an influential role model—in this case, their parent—engaging in particular eating behaviors. Observations of the parent's behavior can then influence the child's own beliefs about what, when, and how much to eat, resulting in the child imitating or adopting the behaviors that they have observed, whether they are desirable or not.

Parental modeling effects have shown strong and consistent associations with both healthy and unhealthy food consumption by children, regardless of child age (Yee, Lwin, & Ho, 2017). From the perspective of social cognitive theory, parental modeling of healthy eating can affect children's eating behavior by the passing on of attitudinal, norms-based, and self-efficacy beliefs (Bandura, 2004; Yee et al., 2017). Research suggests that, at the most basic level, modeling effects can be accomplished by parents' consumption of particular foods or food groups (e.g., van Ansem, van Lenthe, Schrijvers, Rodenburg, & van de Mheen, 2014; Van Lippevelde et al., 2013). However, modeling of healthy eating behaviors has also been operationalized as the frequency with which parents not only eat healthily themselves, but also explicitly demonstrate the benefits and enjoyment of healthy eating to their children (Yee et al., 2017). Thus, modeling is frequently used as an intentional parenting strategy to encourage children to adopt specific attitudes towards particular foods and food groups, enabling children to learn vicariously through their parents' example, and thereby influencing children's eating behaviors.

We must bear in mind, however, that specific parenting practices such as modeling are strongly context-specific. It may be hazardous to examine the relationship between a given parenting practice and a hypothesized outcome without considering the broader parenting context. To this end, parenting styles have most recently been conceptualized and tested as potential moderators of the effect of parenting practices on child health outcomes (e.g., Hennessy, Hughes, Goldberg, Hyatt, & Economos, 2012; Ray, Kalland, Lehto, & Roos, 2013; Rodenburg, Oenema, Kremers, & van de Mheen, 2012). Continuing with our example of the effect of parental modeling on children's nutrition, there is some evidence that the relationship between parental modeling and child behavior in this context may be moderated by general parenting style (Rodenburg et al., 2012). For example, high levels of behavioral control by parents (i.e., regulation of the child's behavior through firm and consistent discipline) appear to have a positive impact on children's fruit consumption behaviors, strengthening the positive relationship between parental modeling of high fruit intake and high fruit intake by children. In contrast, high levels of psychological control (i.e., regulating behavior through psychological means, e.g., love withdrawal, guilt induction) seem to have a negative impact, strengthening the relationship between parental modeling of low fruit intake and low fruit intake by children (Rodenburg et al., 2012). This suggests that parenting practices can have different effects on child health depending on the broader parenting context, such as general parenting style—that is, it is not only *what* the parent is doing that is important, but *how* they are doing it.

Integrating Biological Mechanisms

The introduction of biopsychosocial models into parenting and child health research represents a leap forward in our understanding of how biological, psychological, and social influences can influence child health. A relatively recent example of this type of model is Wood's Biobehavioral Family Model (Wood, 1993; Wood et al., 2008; Wood, Miller, & Lehman, 2015). This multilevel, systemic, biopsychosocial model proposes that bidirectional influences between parent–child and parent–parent relationship quality, family emotional climate, and children's own biobehavioral reactivity affect child health by collectively buffering or triggering psychobiological pathways that lead to illness symptoms. This model is particularly salient when applied to child health conditions where stress may play a role in pathogenesis, and rests on the assumption that relational, emotional, and physiological processes are interdependent.

Wood's model was developed in response to criticisms and conceptual limitations of earlier attempts to integrate biological, psychological, and social individual- and family-level predictors of child health and illness (Wood, 1993), and two reformulations of the original model (Minuchin et al., 1975) resulted in the current framework.

At the family level of the model, *family emotional climate* describes the balance and intensity of family-level emotional exchanges on a continuum from positive (e.g., warmth, affection, support) to negative (e.g., hostility, criticism). A second family-level construct deals with parents' relationship quality (from supportive, understanding, and adaptive to hostile, rejecting, and high-conflict), which contributes to family emotional climate but also impacts directly on the child's emotional functioning and physiological stress responses via the parent–child relationship and parenting behaviors. The impact of stress on the child's psychological and physiological processes may be mediated and/or moderated at the level of the parent–child relationship by the degree of parent–child relational security. Finally, at the level of the child, the child's level of *biobehavioral reactivity* is seen as the key determinant that links the preceding elements of the model to the child's physiological disease processes. Biobehavioral reactivity refers to an individual's ability to regulate their stress response, which is mediated by hypothalamic–pituitary–adrenal axis and autonomic nervous system activation processes that are implicated in disease pathophysiology.

Taken as a whole, the model posits that families who lie at the positive ends of each construct would tend to buffer the effects of stress on the child, while families who lie at the negative ends could potentiate stress for the child, leading to an increase in disease processes and illness symptom severity (Wood et al., 2015). Research to date has applied the model to the study of pediatric asthma severity, finding that negative family emotional climate, parental depression and conflict, parent–child relationship difficulties, and negative parenting behavior predict child anxiety and depression, which in turn worsen asthma symptom severity (Wood et al., 2008). In general, results have provided at least partial support for the model, and although further research is needed to elucidate pathways of effect, the tentative conclusion seems to be that multilevel interventions that target family and parent–child relationships, child psychological functioning, and adherence to the child's medical management plan are likely to be promising approaches for use in future research and clinical practice (Wood et al., 2008).

Evidence for Effects of Parenting on Specific Areas of Child Development

As discussed earlier, there is a multitude of factors that can affect child outcomes across these domains, ranging from the biological level to the broader social context, and the effects of parenting are embedded within this network. In this section, we will provide some illustrative examples of the effects of parenting on child outcomes; however, it is beyond the scope of this chapter to address all of the interactions within the broader system that affects children. There are numerous examples in the literature of the connection between parenting and child outcomes, and in order to facilitate an understanding of the type and strength of the existing evidence, this section is organized by the type of evidence that has been used to support the link between parenting and child health, nutrition, and physical activity. For the sake of brevity, for each type of evidence, we will illustrate research on just one or two of the constructs of interest rather than covering each construct in detail. It is also the case that some constructs have more established evidence of one type but not another.

Clinical Observations

Clinical observations provided stimulus for some of the early explorations of the relationship between parenting behavior and child health. For example, incidental findings from one of the first family-based studies of child obesity hinted that parenting attitudes and behaviors could directly contribute to differences in energy intake and physical activity between obese and nonobese children (Waxman & Stunkard, 1980). Likewise, early clinical observations of hospitalized

children with asthma noted that separation of parent and child appeared to drive recovery. While we have, fortunately, moved beyond the days of *parentectomy* (Robinson, 1972), when removal of parents was thought to be an appropriate and effective treatment action for chronically ill children, these types of early observations provided the initial hints that something within the parenting and family context contributed to children's health.

Correlational Studies

The greatest number of studies demonstrating the effects of parenting on children's health, activity, and nutrition are correlational, examining links at a single time point. For example, in the context of chronic child health conditions, greater use of positive parenting strategies is associated with better illness management (e.g., Davis et al., 2001), and illness control (e.g., Jaser & Grey, 2010; Sullivan-Bolyai, Knafl, Deatrick, & Grey, 2003), and greater use of health-related behaviors (Park & Walton-Moss, 2012). In contrast, low parental self-efficacy (e.g., Mitchell, Fraser, Morawska, Ramsbotham, & Yates, 2016; Streisand, Swift, Wickmark, Chen, & Holmes, 2005) and use of less effective parenting strategies such as overprotection (e.g., Gustafsson, Kjellman, & Bjorksten, 2002) have been associated with more severe symptoms and poorer child health.

In terms of physical activity, parent screen time is highly correlated with child screen time (Lauricella, Wartella, & Rideout, 2015), and parent physical activity is correlated with child activity levels (Fuemmeler, Anderson, & Mâsse, 2011). These effects may be moderated by a number of factors, such as gender; for example, higher levels of sedentary parent behavior have been associated with higher levels of sedentary behavior for girls but not boys (Jago, Fox, Page, Brockman, & Thompson, 2010). In terms of child nutrition, parents' own consumption behaviors are associated with what their children eat, as noted in the previous section, and likewise parental beliefs can influence their own and therefore their child's behaviors. For example, one study found that the more that a parent's choice of food for their child was driven by what they *perceived* their child wanted, the less children liked vegetables and fruit, and the less likely they were to try new foods (Russell et al., 2014).

Correlation studies are important in demonstrating links between different factors; however, they are unable to provide evidence for causality. That is, they cannot answer the question of which factor came first. Did the child's reluctance to cooperate with medical management lead to the parent's greater use of coercive parenting strategies, or did the style of parenting result in child noncompliance? Or was there another factor, such as illness severity or family stress, confounding this relationship? Other methodologies are needed to answer this type of question.

Longitudinal Studies

Longitudinal studies can provide evidence of causal effects, as they track both parent and child behavior, and child health outcomes over time. However, there is a relative paucity of such studies providing evidence for the causal links between parenting and child health, activity, and nutrition. Longitudinal evidence does show that parent characteristics contribute to the onset and course of chronic health conditions (Mrazek et al., 1999; Rohan et al., 2014; Tibosch, Verhaak, & Merkus, 2011). Moreover, an emerging literature is beginning to demonstrate the links between parenting in childhood and adolescence with longer-term health outcomes, including investigations of the moderating effect of parenting on child health outcomes. For example, one study found that higher levels of childhood and adolescent stress predicted poorer health outcomes at age 32, but the effects were buffered by higher maternal sensitivity (Farrell, Simpson, Carlson, Englund, & Sung, 2017). That is, if a child experienced high levels of stress, but also high levels of maternal sensitivity, their health outcomes as an adult were better, compared to those who experienced high stress levels, but low levels of maternal sensitivity. Another study found that

that risky family processes (i.e., parent–child conflict, chaos in the home, and low parent support) at age 17 led to heightened negative emotions at age 18 and diminished telomere length (a marker for premature cellular aging) at age 22 (Brody, Yu, & Shalev, 2017). Finally, a longitudinal study of men in their early thirties found that Black men exposed to positive parenting during adolescence had better cardiovascular health compared to those who had experienced lower levels of effective parenting (Matthews et al., 2017). It is worth mentioning that while these findings appear robust, the *mechanisms* by which these relationships affect health outcomes are still poorly understood. That is, while there is increasing strength of evidence to demonstrate a causal effect of parenting on adult health outcomes, how parenting leads to these outcomes is just beginning to be explored.

Studies of Physiological Markers

A relatively new body of research is examining links between parenting and biological markers of health and disease in an attempt to understand some of these mechanisms, and again, findings suggest that parenting is an important moderator of relationships between adversity in childhood and future health outcomes. Firstly, retrospective studies of adults who had experienced low socioeconomic status during childhood demonstrated that maternal warmth was associated with reduced pro-inflammatory signaling activity (Chen, Miller, Kobor, & Cole, 2011), and high levels of maternal nurturance buffered the risk of metabolic syndrome (Miller et al., 2011). Likewise, experience of higher levels of emotional and instrumental support during childhood was associated with lower allostatic load (a physiological marker of cumulative wear and tear on the body) during mid-life (Slopen, Chen, Priest, Albert, & Williams, 2016). Prospectively, studies have found that children who experienced greater levels of exposure to physical and psychosocial risk factors showed higher allostatic load, however, the effect occurred only when children also had a mother low in responsiveness (Evans, Kim, Ting, Tesher, & Shannis, 2007). Similarly, higher allostatic loads were shown in youth residing in a high poverty neighborhood, but the effect was ameliorated by supportive relationships (Brody, Lei, Chen, & Miller, 2014).

Multiple other recent studies demonstrate the links between parenting and biological markers of health. For children with asthma, harsh interactions with parents have been associated with downregulation of key anti-inflammatory signaling molecules and more severe asthma symptoms (Ehrlich, Miller, & Chen, 2015). Poor parental monitoring and supervision have been associated with higher levels of inflammation in children (Byrne et al., 2017), as has lower consistency in the affective and temporal aspects of parent–child interactions (Manczak, Leigh, Chin, & Chen, 2017). Higher levels of maternal aggression have been linked to slower brain maturation in adolescents (Whittle et al., 2016), and poorer parent–child relationships with weaker immune response to vaccination (O'Connor et al., 2015). Importantly, experience of maltreatment has been associated with higher levels of inflammation in children (Cicchetti, Handley, & Rogosch, 2015). These studies provide evidence of the neurobiological effects of parenting on children, and are an exciting new avenue to better understand the mechanisms which underpin healthy child development.

Reviews and Meta-Analyses

Several reviews and meta-analyses have attempted to provide summaries of the evidence linking parenting factors to child health, nutrition, and activity. The greatest number of these is in the area of children's overweight and obesity. These have generally shown that early parental feeding practices appear to play an important role in child weight (for a review see Anzman, Rollins, & Birch, 2010). For example, the interactions between children and their parents (e.g., low parental support, high control, and low levels of parent–child communication), are associated with children's weight status and may play a

role in children's weight regulation (Skouteris et al., 2012). Similarly, nonresponsive feeding in infancy has been associated with various indicators of child weight (Hurley, Cross, & Hughes, 2011), as has poorer early mother–infant relationship quality (Woo Baidal et al., 2016).

In the context of activity, reviews suggest that parent support for their child's physical activity is associated with the child engaging in higher levels of physical activity (Beets, Cardinal, & Alderman, 2010; Trost & Loprinzi, 2011), but parental modeling and parenting style are not (Trost & Loprinzi, 2011). In contrast, other reviews have found an association between parental modeling with child and adolescent physical activity (Edwardson & Gorely, 2010). Overall, there is strong evidence that parenting influences children's physical activity; however, the exact nature of the association needs unpacking (Biddle, Atkin, Cavill, & Foster, 2011).

The effects of parenting on children's health and illness have been reviewed less often, but there is some preliminary evidence for the role of parenting in the development, trajectory, and management of children's chronic health conditions (Morawska, Calam, & Fraser, 2015). Overall, the existing reviews of the literature suggest that parenting plays an important, if often not well understood, role in children's health, nutrition, and activity.

Intervention Research

Studies of interventions can provide experimental evidence of change in specific child outcomes as a result of parental participation in a parenting program, and thus demonstrate a causal role for the effects of parenting on specific child outcomes. While the intervention research holds some promise, in general there is still a paucity of studies examining parenting interventions in the context of children's health, nutrition, and physical activity. For example, while specific parenting interventions have shown efficacy in the context of chronic health conditions (e.g., Morawska, Mitchell, Burgess, & Fraser, 2016), a recent systematic review identified only eight randomized controlled trials of parenting interventions for parents of children with a chronic health condition (Morawska, Mitchell, & Mihelic, 2018), confirming that the development and evaluation of parenting interventions in the child chronic illness context is still in its infancy.

Similarly, in the context of child overweight, specific parenting interventions have led to reductions in child weight (e.g., West, Sanders, Cleghorn, & Davies, 2010), however reviews of the literature have found a scarcity of studies, with mixed findings (Hingle, O'Connor, Dave, & Baranowski, 2010; Showell et al., 2013; Skouteris et al., 2011; Sung-Chan, Sung, Zhao, & Brownson, 2013). Likewise, parenting interventions aimed at changing children's activity levels have shown limited effects (e.g., Laukkanen, Pesola, Finni, & Sääkslahti, 2017).

What is notable about the intervention literature across these areas is that a number of significant methodological weaknesses exist which limit the conclusions that can be drawn. For example, there is no consistency in how parenting interventions are defined, delivered, and evaluated. Some studies use very brief interventions, while others use intensive multicomponent programs which often include elements which are not parenting specific. Integrating the outcomes across these methodological and intervention differences to draw meaningful conclusions is fraught with difficulty.

Intriguingly, some studies have begun to look at physiological markers of change following intervention. For example, Miller, Brody, Yu, and Chen (2014) found lower levels of inflammatory cytokines in youth following a parenting intervention delivered 8 years earlier. Another recent study found that an intervention designed to enhance supportive parenting when children were aged 11 ameliorated the association between adverse childhood events (ACEs) and prediabetes at age 25 (Brody, Yu, Chen, & Miller, 2017). These types of studies have the potential to link the change in parenting to the neurobiological mechanisms which, in turn, determine child and later adult health outcomes.

Strengths and Limitation of the Evidence Base

In general, there is consistent evidence across a number of health constructs, and encompassing multiple methodological approaches, demonstrating the influence of parenting on child health, nutrition, and activity. The evidence is compelling that parenting plays an important role in these domains of child development; however, there are also many inconsistencies in the literature, as well as a number of gaps in the research and a multitude of limitations in the evidence base.

Much of the research across the health constructs we have discussed is cross-sectional and correlational (Skouteris et al., 2012; Trost & Loprinzi, 2011) which makes establishment of causality difficult, if not impossible. However, the increasing attention to longitudinal and intervention studies has demonstrated that parenting is causally linked to a number of child health outcomes. Critically, understanding of the mechanisms linking parenting to child health and activity outcomes is still lacking. The literature is only just beginning to explore the naturally evolving interactions between parenting, neurobiology, and child outcomes and mechanisms of change as a result of interventions which will lead to a better understanding of *how* parenting affects these domains of children's functioning, and how these effects play out over the course of development.

Another significant limitation of the existing research is the lack of a systematic approach to measurement (e.g., Pinard et al., 2011; Skouteris et al., 2012; Trost & Loprinzi, 2011; Trost, McDonald, & Cohen, 2013). Many studies use self-report or parent report; however, there is a lack of consistent use of standardized, well-validated self-report measures, which makes it difficult to compare results across studies even within the same construct or domain. In addition, there has also been limited use of objective assessment of health, nutrition, and activity outcomes. In part, this is due to the expense and difficulty of data collection and analysis, but may also reflect differences across disciplines. For example, parenting beliefs and practices are often examined by psychologists where self-report and observational studies of behavior are the norm, while health and nutrition are the domain of medical practitioners and other health professionals who may tend to rely more on objective measures of symptoms, but be less familiar with psychosocial measures. Clearly, a mix of approaches to assessment is needed within this multidisciplinary field.

Finally, the majority of research has been conducted in a small number of western countries (e.g., Hurley et al., 2011; Sung-Chan et al., 2013), often with specific subgroups of the population. This makes generalization of findings to other groups, cultures, and settings problematic.

Future Directions for Research

Past research has provided an important foundation for understanding the ways in which parenting can influence children's health, nutrition, and physical activity behaviors. Available empirical evidence does seem to provide support for theoretical models that place parents and parenting behaviors in a prime position to influence child health behaviors and health outcomes. To date, however, the majority of studies linking parenting behaviors to child health outcomes have employed cross-sectional and correlational study designs, and there is a notable paucity of studies using robust longitudinal or experimental study designs to test potential mechanisms by which parenting influences child health outcomes. Thus, a myriad of factors in the child's proximal and distal environments which have the potential to moderate or mediate these relationships need to be explored using longitudinal study designs with a view to better understanding the causal mechanisms at play. For example, there is a scarcity of research examining relationships between parenting behaviors, child health outcomes, and children's cognitive processes, such as motivation, self-regulation, self-efficacy, or reactivity, all of which have been shown to have direct causal effects on an individual's behavior. The possibility that these and other child, parent, and family variables may mediate or moderate the effect of specific parenting practices on child behavior and health outcomes remains to be tested.

Likewise, improved integration of the concepts of general and domain-level parenting styles with

the literature on parenting practices in the context of child health may contribute to a better understanding of the mechanisms by which parenting influences child health. For example, the potential for parenting style to moderate the relationship between parenting practices and child health behaviors may be important in the case of parenting strategies that could be interpreted by the child as either extremely controlling (e.g., limit setting by an authoritarian parent) or more nurturing (e.g., limit setting by an authoritative parent) depending on the broader parenting context (Patrick, Hennessy, McSpadden, & Oh, 2013). Thus, the potential for parenting style to have a moderating effect on the relationship between parenting practices and child health behaviors needs to be examined. More broadly, testing of moderators and mediators of the relationships between parenting practices and child health, nutrition, and physical activity is essential to inform the future development and testing of intervention approaches to improve child health outcomes via targeted parenting interventions.

Innovative research efforts are progressing knowledge in the field of child chronic illness management with the development and ongoing refinement of biopsychosocial models, most recently via the integration and testing of plausible biological mechanisms by which parenting behavior and the family environment impact on pathophysiological processes in child chronic illness (e.g., Wood et al., 2015). Future research will seek to disentangle the complex relationships between the social, psychological, and biological influences that underpin the impact of parenting on child health outcomes, and use what is learned to develop and test new clinical approaches to parent-led illness management and health promotion in childhood. Perspectives that integrate these broad individual and environmental influences into socio-psycho-biological models (e.g., Wood et al., 2015) will serve as a starting point for researchers to examine multilevel system models that may provide an insight into the way that mind-body connections influence children's physical health.

In general, systematic reviews and meta-analyses of studies examining the effect of parenting on children's health, nutrition, and physical activity have highlighted the lack of consistency between studies in terms of outcomes, with mixed results even in cases where similar study designs have examined comparable constructs in the same clinical population or child age group. An important consideration for future research is therefore the development of a more systematic approach to measurement. First, reliable and valid theory-based measures of parenting practices that are relevant to specific domains of parenting are needed, given that the current lack of uniformity in measuring parenting behavior and child health variables hampers comparability between studies. Second, moving towards routine inclusion of measures that assess children's perceptions of parenting practices and child health behaviors is essential to enable a multi-informant approach to the measurement of parenting behaviors, and provide the opportunity to examine the unique role that child perceptions of parenting practices plays in explaining child health behaviors and outcomes. Finally, future work in this area will need to address the potential moderating effect of culture. Most studies examining the link between parenting and child health are limited to populations from western, English-speaking countries; however, there is compelling evidence that differences in parenting behaviors and parent–child relationships exist across cultures, and that a given parenting behavior or parenting style may be associated with better child health outcomes in one culture but not another. Thus, we cannot assume that study findings are generalizable, and future research is needed to examine differences in parenting behaviors and child health outcomes from a cross-cultural perspective.

Implications for Policy and Practice

The increasing prevalence of child chronic health conditions, particularly overweight and obesity, as well as low levels of adherence to recommendations around healthy lifestyle habits which are now well acknowledged as being essential to good health and well-being, clearly point to the need for a preventative, rather than reactive, approach. When one in three children is

overweight or obese, the cost of intervening at the individual level in an attempt to reduce ongoing risk factors for children is prohibitive to parents, services, and communities. Children who are already living with a chronic health condition clearly need access to effective, evidence-based interventions to support their health and well-being, while the widespread child health and lifestyle problems discussed in this chapter clearly demand a different approach. Preventive efforts, which tackle multiple, intertwined determinants of children's health and focus on ensuring that the child's immediate family environment is supportive of healthy lifestyle habits, are sorely needed. Such efforts should be multidisciplinary, theoretically driven, and embedded in an ecological context which supports families and communities in promoting healthy and supportive home environments. Preventive efforts are often targeted at specific diseases or problems, but it is increasingly clear that many of the same factors play a role in affecting child health, nutrition, and activity outcomes, and future endeavors should attempt to incorporate some of these central determinants of child health into intervention programs. Parenting and the family environment are one of the core common factors which, while certainly not alone in their effect, play a consistent role in determining children's health outcomes.

Evidence suggests that behaviors and decision-making processes learned and habituated from a young age are more likely to be sustainable over time (Kelder, Perry, Klepp, & Lytle, 1994). Thus, parents who help their child establish healthy behaviors from birth and during their early years may help lay the foundation for lifelong healthy lifestyle habits and improved long-term child health outcomes. Targeting early parenting behavior may therefore be a more efficient and effective way to improve health across the lifespan as opposed to attempting to change the established health behaviors of adults. For example, nutritious food, regular physical activity, and sufficient sleep all support the normal growth and development of children and reduce the risk of developing chronic lifestyle-related diseases later in life. Parents are in a prime position to help children develop the knowledge, skills, attitudes, and confidence needed to make healthy choices in their daily life.

In past decades, approaches to improving child health via parent-focused interventions relied heavily on improving parents' knowledge about child health and illness management and prevention from a biomedical perspective. We now know that simply educating parents about child health and disease prevention is not always sufficient to drive the changes in parenting beliefs and behaviors needed to improve child health outcomes. A systemic approach to child health intervention that incorporates parenting as one of the most important social determinants of child health is needed to progress clinical practice and innovation in this area. Health professionals who care for children and families must consider not only whether the parent knows *what* needs be done to improve their child's health, but also *how* they can do this (see Box 1). What changes in child, parent, and family behaviors are needed to improve the child's health? Do parents have the skills and confidence to do this? What evidence-based parenting strategies would support parents in making the changes that they want to see for their child and family? Thus, parent-focused child health education should be routinely accompanied by evidence-based parenting support to ensure that parents have the necessary knowledge and skills to put child health recommendations into practice.

Conclusions

Extensive evidence indicates that the early health, nutrition, and physical activity habits that children develop lay the foundation for a lifetime of behaviors that promote or undermine their health and well-being. Numerous examples of challenges to children's health and well-being have been documented, and there have been rapid changes in some indicators of health and lifestyle in recent decades (e.g., overweight and obesity). While numerous interacting factors contribute to children's health and well-being at the individual, family, community, and global level, this chapter focused on describing the role that parents play in supporting children's health, nutrition, and

Box 1 The Rise of Social Media: A New Influence on Parenting Practices and Child Health?

Over the past 10 years the use of social media platforms has increased exponentially. Around two-thirds of adults are now using social networking sites, representing a tenfold increase in usage over the past decade (Perrin, 2015). Given that the majority of adults now use social media on a regular basis, with young adults aged 18–29 years (closely followed by the 30- to 49-year age group) the most frequent users (Perrin, 2015), it is important that we begin to routinely consider social media as an important part of the social and environmental context within which parenting takes place.

It is likely that social media has the potential to influence parents' beliefs and behaviors as do other elements of their day-to-day environment. As previously discussed, social cognitive theory proposes that individuals acquire attitudes, beliefs, and behaviors via observation of others within social groups (Bandura, 2004). Thus, social media provides a clear opportunity for social influence by enabling individuals to readily observe and reinforce the attitudes and behaviors of others in their social network (Doub, Small, & Birch, 2016). Research examining the role of social norms in shaping parents' beliefs and behaviors around their child's nutrition and physical activity suggests that parents' child feeding practices are both influenced by, and contribute to, the norms that exist within their social group (Davidson, Jurkowski, & Lawson, 2013). Whether similar effects are found when the social group exists in a virtual online environment remains to be tested.

The effect of social media on parenting behaviors also extends beyond that of social influence, however. Parents cite social media as an important direct source of child health-related information and parenting-related social support. Mothers, in particular, seem to be highly engaged with the online environment, including social media, and frequently use these avenues to seek information in the areas of parenting and child health (Asiodu, Waters, Dailey, Lee, & Lyndon, 2015; Dworkin, Connell, & Doty, 2013). However, in an arena where content and opinions are contributed by sources of variable reliability, it is not surprising that parents may have difficulty in discriminating between credible and trustworthy information, and that which is less reliable (Dworkin et al., 2013).

Work is needed in this area to better understand how social media, as a potent shaper of individuals' opinions, preferences, and attitudes, affects parents' beliefs and behaviors around child health, physical activity, and nutrition. Better understanding of the way the content and presentation of information on social media engages parents, influences parenting behavior and behavior change, is needed to lay the foundation for the development of social media-based strategies to promote parenting behaviors that will improve children's health outcomes.

physical activity. Parenting is embedded within a broader socioecological framework, and there is a steadily increasing knowledge base of theories and empirical evidence which attempt to explain how parents influence children's outcomes in these domains. A range of studies, their limitations notwithstanding, provide compelling evidence that parenting is an important influence on children's health, nutrition, and activity, which presents significant opportunities for the development and testing of interventions which bring together education and skills training for parents, alongside broader socioecological interventions to set healthy foundations for children's development for a lifetime (Box 2).

Box 2 Integrating Parenting Support into Routine Child Health Care

The rapid increase in lifestyle-related health risk factors among children requires an intervention approach that takes into account the numerous interconnected factors that exist within a child's ecological environment that can affect their health and well-being. From a public health perspective, the development of cross-disciplinary approaches that strategically address those factors most likely to support parents to positively guide their child's health and development is both a challenge and an opportunity.

Primary health care professionals are in a prime position to influence the parenting beliefs and behaviors that will lead to positive changes in the family environment and better child health outcomes. They see children and their parents regularly, have extensive health-related knowledge and professional expertise, and are generally perceived as accessible and trustworthy by parents. Many primary health care professionals routinely provide information about child health and risk factors to parents. We know, however, that simply telling parents what they *should* be doing to improve their child's health is frequently inadequate to elicit behavioral change. Rather, we need to explore parents' experiences and perspectives to identify barriers to health-promoting behaviors, such as a child's refusal of vegetables, and help parents develop the knowledge and skills to manage the problem. For example, providing the parent with education about children's developmental stages (e.g., the young child's need for many and frequent exposures to new foods) combined with evidence-based parenting strategies to encourage desired child behaviors (e.g., modeling, praise) would be more effective in building parents' confidence and lead to long-term behavioral change.

In decades past, parenting support and parent skills training was traditionally the domain of psychologists and child and family therapists. However, contemporary approaches to parenting intervention increasingly emphasize the importance of flexible, multidisciplinary delivery across a broad variety of contexts—from child health clinics, to family medical practices and tertiary pediatric health services. Parents' help-seeking behaviors seem to support this model of care delivery, with family doctors and pediatricians among those most frequently consulted by parents with child behavior concerns (Sanders, Markie-Dadds, Rinaldis, Firman, & Baig, 2007). This adaptability in terms of intervention content, context, and mode of delivery is a tremendous and as yet underutilized resource that can be used to improve a wide range of parent and child health-related behaviors and child health outcomes, such as in the context of improving difficulties with children's mealtimes (Morawska, Adamson, Hinchliffe, & Adams, 2014), childhood obesity (West et al., 2010), or pediatric chronic illness management (Morawska et al., 2016).

The evidence base for the effect of parenting interventions on child health outcomes is slowly but surely accumulating. The next challenge is to incorporate easily accessible, wide-reaching, early intervention parenting support into routine pediatric and child health practice. This will demand the upskilling of health care professionals who routinely provide care to children and their families. Although most primary health clinicians regularly provide information and advice to families about child health (e.g., feeding, sleeping, child behavior), not all have had formal training in pediatrics or child health, and many lack the confidence to provide accurate, best-practice advice to parents who seek help for child health issues (Walsh, Barnes, & Mitchell, 2015). Thus, the successful translation of parenting support into routine child health care will require that clinicians are provided with formal training and ongoing professional support to ensure that they are appropriately prepared to provide parents with the knowledge, skills, and support they need to make positive changes in their children's lives, and set them up for a lifetime of better health.

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Children with Developmental Disorders

Kate Sofronoff, Koa Whittingham, and Felicity L. Brown

Introduction

The terms *developmental disorders* or *neurodevelopmental disorders* refer to a group of conditions that originate and are diagnosed in childhood, and involve significant impairment in a variety of areas, including brain function. There are many different presentations encompassed by the terms. The most commonly diagnosed developmental disorder is intellectual impairment (approximately 1 in 100 in the USA), cerebral palsy (CP) is the second most common, followed by autism spectrum conditions. If we think about these three most prevalent conditions, it is apparent that there will be significant differences for parents in managing a child in their day-to-day routines compared with a typically developing child.

To look at these three most common disorders is, of course, the tip of the iceberg, and although developmental disorders are increasingly widespread, they are still quite poorly understood by most people. On top of a poor understanding, comes the stigma that is often associated with a diagnosis. It is imperative that parents are able to educate themselves about both the disorder and the best available interventions to give their child the optimal opportunities to reach their potential.

In general terms, we know from extensive research that a child diagnosed with a developmental disorder is three to four times more likely than a typically developing child to also present with behavioral and other emotional disorders (Brereton, Tonge, & Einfeld, 2006; Einfeld & Tonge, 1996). This means that it is extremely likely that these parents will be faced with challenging behavior, such as frequent tantrums, higher rates of anxious behavior, and more difficulties with peer and sibling relationships. At the same time, we know that parents of a child with a developmental disorder are themselves more likely to be extremely stressed, to suffer symptoms of grief and loss, and to feel that they are not well supported in their parenting role. In the following sections, we will illustrate and discuss these issues in greater detail.

The Process of Diagnosis

While some developmental disorders are diagnosed quite early, even prenatally (e.g., Down syndrome), others emerge more slowly as a child fails to meet milestones, or parents become

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concerned about unusual behaviors. For some families, the process of diagnosis may first be set in motion by their child beginning school (e.g., attention deficit hyperactivity disorder [ADHD], autism spectrum conditions). For others, such as a family of a child with a traumatic brain injury (TBI), the diagnosis can occur after a sudden accident with the implications for the child only becoming clearer with time after the injury. Whatever the journey, it is likely to be painful for the parent, and often there is a period of uncertainty prior to receiving a formal diagnosis. The diagnosis itself may also be part of a larger journey, including several complex losses. For example, at the point of receiving a formal diagnosis of CP, the family may have already experienced a traumatic preterm birth, a lengthy hospital stay during the first several months of their child's life as well as a period of anxiously waiting, watching for developmental milestones and signs of delays. Similarly, the family of a child with a TBI may experience traumatic events surrounding the accident leading to the injury, lengthy hospital stays, and significant uncertainty around recovery and prognosis. Other disorders such as autism only become noticeable when the child fails to use language, and a disorder of movement, such as CP, might not be diagnosed until motor milestones (e.g., walking) fail to be reached. Some parents can spend years trying to establish why their child is different from peers, even seeking answers from professionals and feeling unheard. For other parents the diagnosis can come rapidly as a shock.

For many parents, the implications of the diagnosis for their own child may not be immediately clear. Firstly, many parents will not have background knowledge of the specific disorder their child has been diagnosed with and will face a steep learning curve to understand the implications for their child. Secondly, all of the neurodevelopmental disabilities occur on a spectrum, with wide variations in the functioning and presentation of individual children with the same diagnosis. For many parents, it is questions of prognosis and quality of life, rather than diagnosis per se, that are most crucial. Will my child talk? Will my child walk? Will my child have friends? As an adult, will my child live independently? Complete schooling? Have a job? Form relationships? Have children of their own? At the point of diagnosis, many of these prognostic questions, so important to parents, may remain elusive. And so, even the diagnosis itself may not remove the sense of anxiously waiting for answers.

Features of Some Developmental Disorders

Autism Spectrum Disorders (ASD). Both parents and professionals can find autism spectrum disorders quite confronting. ASD is a neurodevelopmental disorder and a child will demonstrate persistent difficulties with social interaction and communication, as well as restricted, repetitive patterns of behavior. The use of the term spectrum is very important because the condition occurs across a wide range of symptoms and behaviors with much individual variation—each child with ASD is different. One child by the age of 4 years might have no speech, engage in few independent activities, and spend a lot of time in stereotypic behavior, such as rocking or flapping. Another child by age 4 might have well-developed speech, engage willingly in independent activities of his own choice (e.g., lining up toys), but be unable to spend time outside the home due to sensory issues that he finds overwhelming. Children with ASD are also likely to show symptoms of anxiety (van Steensel & Heeman, 2017) and in some instances this will be exacerbated by sensory issues and result in challenging behaviors for parents to cope with. Managing a child with ASD and achieving optimal outcomes for the child and their family requires frequent input from professionals.

Attention deficit hyperactivity disorder (ADHD). This is another very common neurobehavioral disorder that is characterized by problems with inattention, overactivity, and impulsivity, or a combination of these. The behaviors that a parent of a child with ADHD experiences are challenging and can seem unrelenting. Parents can often feel that they are being judged as poor parents when people look disapprovingly as the child tantrums spectacularly in a public place. Parents can become defeated and start to

believe that there is no way to successfully manage their child's behavior or that they are simply bad at parenting. A child with a diagnosis of ADHD will typically show oppositional behaviors and parents will benefit from learning skills to set boundaries for the child. Best practice in the treatment of ADHD in children includes parent training, school and environmental accommodations, and stimulant medications (Subcommittee on Attention-Deficit/Hyperactivity Disorder, Steering Committee on Quality Improvement and Management, 2011). Parent training is considered the first line intervention because it provides parents with skills and strategies that can be used to teach their child to best manage their difficulties (Chacko et al., 2015).

Cerebral palsy. Cerebral palsy (CP) is the most common physical disability of childhood (Rosenbaum, 2003). It is caused by a nonprogressive disturbance to the developing fetal or infant brain causing disorders of movement and secondary musculoskeletal problems. As with all of the neurodevelopmental disorders, there is a wide spectrum of motor functioning. Although the hallmark of CP is motor impairment and the resulting activity limitations, children with CP commonly experience cognitive, sensory, perceptive, and communication impairments. Like other children with neurodevelopmental disabilities, they are also more likely to experience behavioral and emotional problems, with one systematic literature review showing that one in four have a behavioral disorder (Novak, Hines, Goldsmith, & Barclay, 2012). One particular challenge for families of children with CP is that, for this disorder, the accompanying cognitive impairments and behavioral challenges are often unacknowledged and overlooked, with services focusing solely on the motor impairment itself.

Down syndrome. A child with Down syndrome can have mild to severe intellectual impairment and is usually recognized at birth from physical characteristics. Some children with Down syndrome will also have medical problems, such as eye and visual problems, ear and hearing problems, heart defects and respiratory problems that will further affect their condition (Pikora et al., 2014). Parents are often unsure of how much to expect of their child, and how much s/he can learn to do for him/herself. It is important for each child to be allowed to develop the necessary skills to enable them to participate as fully as possible in activities that will enrich their lives.

Williams syndrome. This is a genetic disorder where the child also has specific physical characteristics and mild to moderate intellectual impairment. Children with Williams syndrome also display high rates of anxiety and phobic behavior as well as inattention and hyperactivity (Riby et al., 2014). The child can also show poor social judgement, and the effect on the family is often traumatic with issues of grief and loss, along with much greater care requirements as the child ages. If the child can learn skills of self-care this will allow for greater potential independence as s/he grows into adulthood.

Traumatic brain injury (TBI). When a child receives a traumatic insult to the brain there is likely to be a significant impact on development in all domains—cognitive, behavioral, and emotional. The literature suggests that up to 50% of children with TBI will show severe behavioral and emotional difficulties and these will persist over time (Li & Liu, 2013). The disruption to family functioning is also likely to be great with parents experiencing very high levels of psychological distress, which can also deteriorate with time (Wade et al., 2006). Parenting style and parenting practices have been found to mediate the relationship between parent distress and child functioning (Wade et al., 2011).

Issues Related to the Parent

Grief and loss. Parents of children with neurodevelopmental disabilities may experience grief in relation to their child's diagnosis, the implications of that diagnosis for their particular child (as those implications become clear), and in relation to loss events related to the diagnosis itself. A grief and loss framework is de-pathologizing and universally applicable, and is hence, the best first framework for understanding and responding to expressed distress by parents of children with neurodevelopmental disabilities.

Contemporary understandings of grief and loss see grief as a normal, natural, and healthy reaction to a loss event (Murray, 2016). In popular culture, grief is often understood as synonymous with sadness. In fact, grief is a multifaceted experience that may include diverse experiences such as: sadness, anxiety, feeling overwhelmed, difficulty sleeping, preoccupation with the loss, avoidance of the loss, isolation, drug or alcohol use, heart palpitations, nausea, and changes in values. Another myth in the popular culture understanding of grief is that it involves stages. In fact, grief is simply multifaceted, with grieving varying from person to person, loss to loss, and even from day to day. The process of grief is no longer thought to culminate in a full resolution. Instead, grief is integrated. This may be expressed metaphorically by saying that integration does not mean that the hole in your heart heals, rather it means that you learn how to live and thrive with a hole in your heart.

Some loss events are nonfinite losses. That is, the loss event itself continues to unfold in some sense, requiring re-grieving and reintegration throughout one's lifespan. This pattern of grief is sometimes referred to as chronic sorrow and it is a common pattern in parents of children with neurodevelopmental disabilities: the full implications of the child's disability emerge gradually over the course of time and so the grieving may be ongoing. Grief may be retriggered as the child passes through specific developmental stages and as particular milestones are not reached. For example, the parent of a child with ASD and delayed language may experience initial grief and integration at the point of diagnosis and may go on to grieve again as it becomes apparent that their individual child will never fully develop language. Parents of children with cerebral palsy may find that their grieving is retriggered when they see their child participating in school events, such as sports day for the first time. As parental reactions will be triggered by different events, the process of grieving may be highly idiosyncratic.

Murray (2016) presents a framework for grief support involving three key components: (1) *respect*: interacting with positive regard and acceptance of a person's unique experience and individuality; (2) *understanding*: understanding grief/loss as a universal part of the human condition and understanding the unique way that grief is experienced by this particular individual; and (3) *enablement*: supporting a person's recognition of their loss and their ability to live in a way that is meaningful, healthy and offers personal quality of life. This framework is highly relevant to all professionals working with parents of children with neurodevelopmental disabilities. It is also consistent with an Acceptance and Commitment Therapy (ACT) approach discussed later in the chapter.

Expectations. For parents of children with neurodevelopmental disabilities it is crucial that parental expectations are neither too high nor too low. Expectations of their child must be sufficiently modified in line with their child's diagnosis and the individual way that diagnosis manifests in their specific child. Yet if expectations of the child are too low, then the child may not be sufficiently challenged and may not reach their full potential. This is particularly challenging as parents of children with neurodevelopmental disabilities are not able to use the common shortcut that parents of typically developing children enjoy—they cannot simply ask fellow parents of similarly aged children about their expectations and take the behavior of peers as a benchmark.

Attributions. It is common for parents to ponder why their child behaves in a particular way. The attributions that a parent ascribes to behavior can play a significant role in how a parent responds to the behavior and how the parent feels towards the child. For example, if a parent believes that a child is whining and noncompliant because she is tired and hungry, the parent is more likely to attempt to respond to that with food and some rest. If a parent attributes the same behavior to the notion that she is *always dissatisfied* and *never does as I ask* then the parent is less likely to respond positively to the child and more likely to feel irritated by the child's behavior. For parents who have a child with a developmental disability this can be even more complex. A parent might attribute a child's inability to follow instructions to his disability and as a consequence not give the child the opportunity to learn how to follow instructions (e.g., learning how to dress

himself). A parent might also incorrectly attribute aggressive behavior to a disability and expect that others will accommodate the child by taking care to never cause him frustration. The types of attributions that parents have for their child's behavior can result in some problematic behaviors not being appropriately addressed.

Greater effort. Parenting a child with neurodevelopmental disabilities is simply a more effortful task than parenting a typically developing child. Parents of children with neurodevelopmental disabilities often have extra tasks to fit into their parenting role, such as ensuring their child follows the advice of their occupational or physical therapist or advocating on behalf of their child in their community. Many transitions that a typically developing child of a similar age could be expected to simply adjust to (with minimum preparation on the parent's part) may require extensive consideration, planning and preparation for parents of children with neurodevelopmental disabilities. For example, for parents of children with autism spectrum disorders even positive and desired changes, such as a family holiday, may require extensive preparation on the part of the parent, including: the creation of social stories, planning for access to special interests while travelling and considering how their child's dietary restrictions may be managed in a foreign environment. Parents of children with non-ambulant cerebral palsy and traumatic brain injuries need to consider wheelchair access for all family events and routines. It is also the case that many skills that a typically developing child of similar age could be expected to simply pick up with modelling and incidental teaching, may, for a child with a neurodevelopmental disability, require conscious teaching, backed up with tangible rewards.

The Impact of Parenting on Development

The Theoretical Perspective

The work that has shaped the theory linking parenting practices with positive child outcomes dates back more than 50 years and includes the work of developmental psychologist Diana Baumrind (1966). Maccoby and Martin (1983) extended Baumrind's work and identified four types of parenting styles—authoritative, authoritarian, permissive, and uninvolved parenting, as well as two dimensions of parental responsiveness and demandingness (see Fig. 1).

Parenting style describes the emotional climate in which parents raise their children (Darling & Steinberg, 1993), and authoritative parenting is consistently shown to lead to the best outcomes for children and adolescents (Majumder, 2016; Pinquart, 2017; Steinberg, Lamborn, Dornbusch, & Darling, 1992; Yeung, Cheung, Kwok, & Leung, 2016). An authoritative parenting style, as described by Baumrind (1991), "refers to the claims parents make on children to become integrated into the family whole, by their maturity demands, supervision, disciplinary efforts and willingness to confront the child who disobeys" (p. 61). Responsiveness is defined as "the extent to which parents intentionally foster individuality, self-regulation, and self-assertion by being attuned, supportive, and acquiescent to children's special needs and demands" (p. 62). This style of parenting is often described as "positive parenting" and has its foundations in social learning theory and developmental psychology.

Social learning theory was proposed by Albert Bandura (1977) and combines the behavioral learning theories of classical and operant conditioning

	Responsiveness	
Demandingness	High in responsiveness	Low in responsiveness
High in Demandingness	Authoritative parenting	Authoritarian parenting
Low in Demandingness	Permissive parenting	Uninvolved parenting

Fig. 1 Classification of parenting styles

with cognitive processes such as observational learning or modeling. Observational learning occurs when a child observes an influential model such as a parent or peer and imitates the behavior seen. In some developmental disorders a child is less likely to imitate (e.g., autism) and a parent will need to learn to adopt other strategies to encourage learning—this might include *chaining* or breaking tasks and activities into small manageable chunks and it might also include the use of visual cues and schedules. The theory also suggests that a child is more likely to engage in behavior that is reinforced (either by attention or by tangible reward) and is less likely to engage in behavior that receives no attention or results in the withdrawal of attention (e.g., removal from a preferred activity). Again, some children with a developmental disorder might not be responsive to social reinforcement including praise and will need tangible reinforcement. In addition, the items or activities she finds engaging might also be quite different from those that a typically developing child will find rewarding. Reinforcement, such as praise for playing nicely with a sibling, which is an external reinforcer, might well result in a positive feeling in a child—internal reinforcement. A child might also see a sibling being rewarded or praised for a behavior (e.g., helping with a chore) and this might lead to the child choosing to engage in that behavior himself—this is known as vicarious reinforcement. Once again, this might not happen automatically for children with developmental disorders and parents may need to use trial and error to establish what will work best for their child.

Another theory of parenting that is consistent with the adoption of an authoritative parenting style is attachment theory (Ainsworth, 1973; Bowlby, 1969). Attachment theory is founded in the belief that an integral part of infant development is the emotional bond that is formed with the primary caregiver. The strength of this bond is seen in the behavior of the infant in situations where the caregiver leaves—the Strange Situation task (Ainsworth & Bell, 1970)—and styles of attachment are determined based on this behavior—secure, avoidant, resistant, and disorganized attachment. Studies have demonstrated better outcomes for infants displaying secure attachment (Majumder, 2016), and the literature suggests that an authoritative style of parenting where parents provide a secure and responsive environment but also demand much of their child will facilitate this (Siegel & Hartzell, 2004). The responses of children with a developmental disorder to the Strange Situations might not be the same as those of typically developing children and a range of studies have found varied responses by children with autism (Rutgers, Bakermans-Kranenburg, van Ijzendoorn, & van Berckelaer-Onnes, 2004).

Despite differing theoretical approaches, however, parents universally seek to achieve the best for their children and this is no different if the child has a developmental disability. Sensitive and responsive caregiving predicts positive child outcomes across many domains including cognitive, behavioral, social and emotional (Eshel, Daelmans, Cabral de Mello, & Martines, 2006; Sroufe, 2005). Sensitive caregiving is warm, but not merely warm. It is also *in sync* with the child (Biringen & Easterbrook, 2012). A sensitive parent is able to *read* their child's cues and to flexibly adjust their own responses accordingly. Importantly, sensitive parenting is apparent not just in parental response to a child's cues of distress, but also in how the parent responds to positive cues from the child as well. Sensitive parent–child interactions feel open, authentic, *in sync*, flexible and mutually enjoyed. Parental responsiveness can be understood as evolution's dose-control system for stimulation, ensuring that the child's developing brain receives the right *dose* of the right type of stimulation at the right time for neurodevelopment.

The cultivation of sensitive parenting may be more difficult for parents of children with neurodevelopmental disabilities. Parents may have experienced challenging and traumatic circumstances early on in their parenting journey, for example, an unexpected traumatic preterm birth and a lengthy early hospital stay, making the formation of a sensitive and responsive parent–child bond more difficult. Children with neurodevelopmental disabilities may be more difficult to *read* as their cues may be more subtle and atypical. They can also be less skilled at eliciting parental responses to their needs; for example, they may be less likely to initiate interactions. Finally, parental anxiety about their child's development

may itself interfere with sensitive caregiving. Parents may feel pressured to prioritize teaching at the expense of relating, falling into a pattern of repeatedly ignoring their child's cues, instead favoring an agenda of *promoting development*. For example, parents may prompt children to follow the advice of their physical or occupational therapist in a manner that is intrusive and interferes with child-led play. As sensitive caregiving itself is an important predictor of child developmental outcomes across many domains, this is, in fact, a false dilemma. It is important for parents of children with neurodevelopmental disabilities to be supported in finding ways to actively promote their child's development while continuing to be responsive and sensitive at the same time.

Parenting Practices and Child Development

Not only do parents adopt a style of parenting that determines the emotional climate in their family, but within that style parents will use a range of parenting practices or strategies. The majority of parents have not participated in a parenting program while their child is an infant, are unlikely to have anticipated the types of parenting challenges they will face, and have not considered how they will respond to challenges or how they will cope with a child with a developmental disorder. Parents of children with developmental disorders are faced with many tasks and challenges that parents of typically developing children do not face (see Table 1).

Building a safe secure environment. Most parents strive to provide a safe and secure environment for their children. When a child has a developmental disability, parents can have difficulties in creating this. How can skills be taught to a child with an intellectual impairment? Is it fair to expect a child with a developmental disability to learn to manage to do activities of daily living? What about discipline? Is it fair to have rules for a child with an intellectual impairment? There is a strong literature base, especially in education, to support the capacity of children with an intellectual impairment to learn skills such as literacy (Ainsworth, Evmenova, Behrmann, & Jerome, 2016) and to manage the activities of daily living (Morse & Schuster, 2000). Such skills will often form part of a school-based education program but parents will necessarily have a role to play in fostering emotion regulation and a level of compliance that allows a child to participate in social situations. This is where a parenting program is invaluable.

Teaching new skills. All children will need to learn new skills as they grow and parents have the task of deciding when the child is ready to learn and how best to teach their child. Parents of children with neurodevelopmental disabilities can benefit from learning strategies such as *chaining*, the ability to break down a more complex skill into smaller, teachable steps first used with children with autism (Lovaas, Koegel, Simmons, & Long, 1973) and now used effectively with many children both with autism and with other disabilities to positive effect (Eldevik, Hastings, Jahr, & Hughes, 2012). This strategy, along with others such as incidental teaching and activity-embedded instruction, is typically included in Early Intensive Behavioral Interventions (EIBI; see Howlin, Magiati, & Charman, 2009 for a systematic review). These intensive interventions, usually for children with autism, require many hours per week of demanding one-to-one work with a child. There are considerable barriers to such interventions for families and while the findings of efficacy studies show positive results, the outcomes for individual families are variable (Howlin et al., 2009).

It is often important to use both visual as well as verbal modes of teaching with children with developmental disorders, and so the use of visual schedules can be very useful with studies showing positive outcomes for on-task behavior in the classroom (Schneider & Goldstein, 2010). In many cases a combination of strategies will be needed for each child, and while these strategies are frequently employed in a school setting, it is the parent who best knows their child and can incorporate effective strategies into daily activities and extend their child's repertoire. Children with developmental disorders might also struggle with communication and the quality of parent interactions and teaching can have a direct and lasting effect on language development (Pickles et al., 2016).

Table 1 Some challenging parental tasks and responsibilities at different stages of development for parents of children with a developmental disability

Developmental period	Parenting tasks and challenges	Why these tasks are stressful or challenging	What can help parents to cope and manage
Infants	Attachment difficulties	It can be difficult to bond with an infant in a hospital setting when the infant is clearly unwell. Bringing an infant home from hospital is a different experience for parents of a child with a disability—the attachment experience can be disrupted by concerns for the child's welfare and fear of what might occur.	It is important for parents to stay connected to family and other sources of support during these times. It is also important for parents to begin to learn about the developmental disorder and any sequelae of the disorder that might influence their care of the child. From quite early on it is important for parents to think about how they will take care of themselves, their relationship and other children in the family. Some families do find that support groups can help and many parents will benefit from professional help.
	Grief and loss	Parents have not anticipated that their child will have developmental issues and will grieve the loss of the child they believed they would have. This process will take time and the feelings will likely recur at other times in the child's development.	This process is normal and healthy and will be different for each person. It is important for parents to learn to accept that their child is integral to their lives. Some parents might choose to seek professional help with this process.
	Getting an accurate diagnosis	In some cases the diagnosis will come early, e.g., when there are clear physical markers for a condition. In many cases, a diagnosis will come after many years as symptoms become more clearly defined. In some cases, this will follow misdiagnosis and parents being told that their concerns are unwarranted.	It is possible for parents to access information to become knowledgeable about signs and symptoms of developmental disorders. When seeking a professional opinion it is important to be prepared—to know the questions that need to be answered. It is also important that parents realize that they are the experts on their own child and to persist in seeking second opinions if they remain concerned about their child's development. Parents might need help with this process and in learning which treatments have an evidence base and which do not.

(continued)

Table 1 (continued)

Developmental period	Parenting tasks and challenges	Why these tasks are stressful or challenging	What can help parents to cope and manage
	Communication with doctors and other health professionals	When parents first receive a diagnosis for their child, they might also receive a lot of information. Many parents report that they did not receive such information and felt alone and abandoned. Even when sound information has been provided, parents might not be ready to take this information in or proceed with recommendations. In many cases, there will be continued appointments with a range of practitioners and this is an ongoing burden for parents of a child with a developmental disability.	Parents can sometimes find the process of meeting multiple professionals overwhelming. It is helpful to be prepared for such meetings, to write a list of questions to be answered and to start to build a file of information that parents can use going forward. It can be helpful for parents to have support for some of these meetings—a friend or family member might be willing to attend some meetings. This can be helpful not just in terms of support but also in recalling the information accurately afterwards. Going to a park or for coffee afterwards can ensure that appointments are not simply a burden.
Toddlers and preschoolers	Accessing early intervention	Literature consistently supports the importance of early intervention for children with developmental disorders. The challenge for parents is knowing what they should access—what will work for their child. Many parents will not know the concept of evidence-based interventions. When parents do choose programs they are then faced with adding the burden of attending such programs to the other tasks that go along with raising their child.	Attending a group program is often of great benefit to parents. Starting with a parenting program can empower parents and also link them with other parents who are also learning to manage to create the optimum environment for their children. Staying connected to others can also help to foster a sense of hopefulness and accomplishment—parents can stay connected to what is important in their lives.
	Hassles of daily living	The need to attend more appointments than parents of a typically developing child is also likely to be exacerbated by additional hassles with for example a wheel chair, a greater level of fussiness, and often greater noncompliance. Many parents will also experience difficulties with food and sleeping that can then become a cumulative issue with poor behavior.	It is important that parents are encouraged to take care of themselves so that they are able to best care for their child. Parents do need to think about taking time out for themselves and their own relationships. It is important to stay connected to friends and family otherwise parents can feel isolated. It may be beneficial for parents to realize that taking care of themselves is part of taking care of their child in the long term.

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Table 1 (continued)

Developmental period	Parenting tasks and challenges	Why these tasks are stressful or challenging	What can help parents to cope and manage
	Teaching children to communicate	Many children with developmental disorders are slow to communicate verbally or do not communicate verbally at all. This is an additional challenge for parents to find a communication system that they can teach to the child. When children are not able to adequately communicate their needs they are likely to show frustration and this will be seen in challenging behavior such as shouting and screaming, banging and even self-harming behaviors such as biting or scratching.	When parents are connected to practitioners and other parents, they will be able to access the necessary programs to assist their child. An evidence-based parenting program will alert families to the importance of teaching their child to communicate effectively.
	Teaching independence and self-care	It can be challenging for parents to know if or when they should try to teach their child to engage in independent activities as well as activities of self-care such as toileting, brushing teeth, and dressing. It is important that all children should be able to reach their potential in terms of being independent but sometimes parents can feel that it is unkind or unfair to ask their child to do this.	All parents teach their children self-care skills and independence. For children with developmental disabilities this is likely to require the parent to learn some additional strategies. It is helpful for families to be connected with others who are learning similar strategies. The process of sharing successes is important. It can be helpful to take a flexible and experiential approach, using the child's response to gentle teaching as the guide to what the child is ready for. It is useful if parents of children with developmental disabilities have skills in chaining and scaffolding.
Elementary school children	Choosing the right school	Some children will be able to attend a specialized school. Parents might be unsure if this is the best environment for their child or whether s/he would benefit from attending a mainstream school. In some areas a special school might also not be available. In some areas it might also be possible to attend a mainstream school that caters for children with specific conditions. Again the challenge is deciding what is best for the child. Trying to make decisions about schooling can also bring back some feelings of grief and loss for parents. If the child attends a mainstream school it is important that the disability is identified so that the child can obtain the extra support available such as teacher aide time.	Parents will benefit from talking with other parents, from having support from family and friends, and perhaps from talking this through with a practitioner.

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Table 1 (continued)

Developmental period	Parenting tasks and challenges	Why these tasks are stressful or challenging	What can help parents to cope and manage
	Advocating for the child	Parents of typically developing children generally do not need to do more than enroll their child in a school. Parents of children with a developmental disability will need to meet with school staff and explain the child's disorder and also explain the child's needs in a school setting. This will be an ongoing process for parents as teachers change each year and the demands of the classroom increase.	Parents can manage this best when they are confident in the skills and strategies that they themselves have learned, when they have a good idea of why their child behaves in a particular way, and how best to prevent or manage difficult behaviors. In some instances, parents will themselves feel anxious about speaking up for their child and will benefit from assistance from a professional.
	Positive communication with school staff	Many children with a developmental disability will struggle with the demands of school and it is often important for parents to interact with teachers on a weekly if not daily basis. This is an added burden for parents and if a child is experiencing difficulties settling or behavior issues then this can also be aversive for parents.	Once again, this is a skill that can be built by parents themselves gaining confidence in their own ability to both understand and manage their child.
	Interactions with peers	All parents hope that their child will engage in positive interactions with peers. Sometimes this can pose difficulties for children with developmental disorders and parents might need to facilitate such interactions.	Once parents have some confidence in being able to manage their child's behavior it can be useful to extend a child's skills to interacting positively with peers. For some children, there will be programs that are useful to help the child to learn the skills that they find challenging and parents can then extend these skills through practice at home or at a park or playground.
	Homework tasks	Many children with developmental disorders will find homework tasks challenging and parents will need to find a way to manage this issue so that the child does achieve their potential academically.	If parents have learned what is motivating for their child then these reinforcers can be used to encourage tasks that are burdensome. This might mean that a parent breaks homework tasks into smaller chunks and offers a reward (such as a game or treat) on completion of each chunk. A visual schedule can also be used to show a child how much time remains on a particular task.

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Table 1 (continued)

Developmental period	Parenting tasks and challenges	Why these tasks are stressful or challenging	What can help parents to cope and manage
Adolescents	Managing behavior as the child becomes bigger	If challenging behavior is an issue at this stage, the work of a parent can be a great burden and if not resolved can lead families to relinquish the care of their child.	The strategies that can be easily used when a child is small can often not be used as the child grows. It is most helpful for parents when intervention begins early so that patterns of positive behavior are established and a good relationship is fostered between parent and child. As the child grows into adolescence, it is important for parents to learn new skills and strategies, to become aware of how their child is changing, to facilitate greater independence and new skills so that the young person gains a sense of greater maturity. At this stage, it might also be beneficial for parents to access some help.
	High schools	Attending a high school is very different from an elementary school where a child generally does not need to move from class to class and teacher to teacher. Parents are often faced with a difficult choice again about where to place their child and this can also be another time when issues of grief and loss emerge for the parents. This can also be a time when a young person faces the problem of bullying.	It is important for parents to seek information and help about the best placement for their child as they transition to high school. In this new setting, the adolescent is likely to be faced with new challenges and parents will benefit from support in learning how best to manage.
	Sexuality	Parents can be fearful about how they will manage this with a young person with an intellectual disability or poor emotion regulation or impulsivity or challenges in reading social cues. Parents might also have fears about their child being victimized or behaving in an inappropriate manner. This has often been a source of concern for parents for a long time.	Adolescents will start to see physical changes in their bodies and parents might choose to seek help in learning how best to communicate with their child about the changes and sensations that they will experience. Talking with professionals can be helpful and there are also some good resources that parents can access to help with this.
	Bullying	Many young people with a developmental disorder will experience bullying and many will not have the capacity to let their parents know that this is occurring. This is often a great concern for parents as their child grows and enters the more adult world where the parent feels they can no longer protect them.	If parents have established open communication with their child this can make concerns about issues such as bullying less challenging. If parents have some confidence that their teen will let them know of any unpleasant events that occur they will have more chance to be able to help.

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Table 1 (continued)

Developmental period	Parenting tasks and challenges	Why these tasks are stressful or challenging	What can help parents to cope and manage
Young adults	Employment	Will my child be able to contribute to society, to have a meaningful life and work? This is a question that parents often raise when their child is still very young.	There is no easy answer to this question. Some young people with developmental disorders will be able to work and will have a social network. The best predictor of this outcome is whether the teen has social interaction skills, has interests in common with others, and is relatively free from serious mental health problems.
	Skills for independent living	Another fear that parents have for their child with a developmental disorder as they grow to adulthood is that they will remain at home dependent on parents engaging in isolated, nonproductive activities.	The skills necessary for independent living begin in childhood. If parents have themselves developed the skills to teach their child and then their teen, they will already have the skills to develop greater independence in the young adult.

Managing behavior. In order to manage behavior, parents of children with developmental disabilities can benefit greatly from cultivating skills in functional analysis, and being able to identify the likely function of their child's behavior. The methods used in functional analysis identify those factors that influence the occurrence of problem behaviors. The aim is to identify those contingencies that are currently maintaining the problem behavior. This has become the gold standard approach to behavioral assessment (Beavers, Iwata, & Lerman, 2013; Hanley, Iwata, & McCord, 2003) and is used in Early Intensive Behavioral Interventions (EIBI) to assist in determining where the emphasis of an intervention should be placed (i.e., what skill does the child need to learn to have their needs met and replace a less functional behavior).

For typically developing children, parents without highly developed functional analysis skills will most likely still successfully manage their child's behavior much of the time if they have learnt reasonable *rules of thumb* about child behavior. For example, the rule of thumb "when children misbehave it is usually for attention, best to ignore it" will serve the parent of a typically developing child quite well. However, for children with neurodevelopmental disabilities the function of their behavior is likely to be more complex than a rule of thumb can usefully describe. Unusual behaviors, including misbehavior, may have a sensory or an emotional regulatory function. If this is the case, then ignoring the behavior will not produce the desired behavioral change and what might be required is a modification to the environment, steps taken to prevent the need for the behavior, or new behaviors taught to meet the need that are more acceptable. In addition, consideration of the child's skill deficits is often crucial to managing misbehavior in children with disabilities. For example, addressing the temper tantrums of a child with neurodevelopmental disabilities may involve not merely withholding the contingencies reinforcing tantrum behavior but also considering and addressing through active teaching, skill deficits in alternative behaviors. For example, deficits in communication, emotional regulation, or social abilities may need to be overcome before the parent can see a reduction in tantrum behavior. What is important in managing behavior is for parents to develop a clear picture of what it is that they would like their child to do, rather than focus on what they want to stop. Studies have demonstrated positive outcomes for children's classroom behavior when functional assessment and positive behavior support (i.e., teaching new behaviors) have been used in a school setting (e.g., Gettinger & Stoiber, 2006).

Evidence Base for the Impact of Parenting on Child Development

As stated earlier, there is a long-standing literature that supports the influence that parenting has on child outcomes. What is important to acknowledge is that most of the literature in this field comes from work done with families of typically developing children. A relatively recent US trial using multimethod observational measures collected data from a large sample of mother–child dyads at age 2 years and follow-up data from teachers and child assessment at age 7.5 years (Waller et al., 2015). The inclusion criteria for the sample indicated that the families must meet the criteria of having a child aged 2 years and having socioeconomic, family, and/or child risk factors for future behavior problems.

Although these children did not have developmental disabilities, there is no reason to believe that the outcomes for the disability population would be substantially different with the results suggesting that a parent's use of positive parenting at age 2 years is important to children's adjustment and achievement at age 7.5 years. The parenting behaviors observed and measured were related to child behavior at age 7.5 years as well as social development, emotional development, and academic achievement. This in turn suggests better outcomes for these children going into adolescence and young adulthood (Fergusson, Horwood, & Ridder, 2005; Hartup & Stevens, 1997; Rothbart, Ahadi, & Evans, 2000).

Experimental studies assessing the effect of a parenting intervention on child outcomes provide evidence of the impact of parenting on child development outcomes. The literature concerned with social communication and child developmental disability, which is mainly focused on autism, shows some clear gains in communication and understanding for children who participated in social communication interventions (Morgan et al., 2014). Many of the studies included in this systematic review employed parents and caregivers in the delivery of an intervention. A more recent paper describes a long-term follow-up of a parent-mediated social communication program for young children with autism (Pickles et al., 2016). While prior evidence has suggested short-term gains for early intervention, this study demonstrated that gains in autism symptoms and social communication were maintained after 6 years. Slaughter, Peterson, and Macintosh (2007) evaluated the Theory of Mind (ToM) understanding of children with autism before and after their mothers had used wordless storybooks with their child. The children whose mothers talked about emotional states using explicit clarifications (e.g., "he's getting quite angry because dogs don't like cats" or "she's happy now because she is going to the beach"), performed better on the ToM tasks. Taken together these studies suggest that parents could potentially be taught to increase the communication skills and social understanding of their child with a developmental disorder.

The parenting literature also suggests good behavioral outcomes for children of parents who complete a parenting program as indicated in the meta-analysis reported by Skotarczak and Lee (2015) looking across several different programs for parents of children with developmental disabilities and, the meta-analysis by Tellegen and Sanders (2013) looking specifically at the Stepping Stones Triple P system of programs.

In an early trial with parents of children with autism spectrum disorders (Whittingham, Sofronoff, Sheffield, & Sanders, 2009) concerns were expressed by parents about the usefulness of parenting in managing challenging child behaviors and about whether the strategies would be useful for a child with autism. Fifty-nine families with a child diagnosed with ASD by a pediatrician participated in a randomized controlled trial of the Stepping Stones Triple P—Positive Parenting Program (SSTP; Sanders, Mazzucchelli, & Studman, 2004). Following the intervention parents reported significant improvements in child behavior, and also reported significant improvements in their own parenting style. These effects were maintained at 6-month follow-up. Despite initial reservations, parents did find strategies useful and this ranged from parents who increased the communication capacity of their child using a Pictorial Exchange Communication System (PECS; Frost & Bondy, 2002), those who found success in teaching new skills, and those who learned to better manage child behavior both by teaching the child how to communicate more effec-

tively, but also using some strategies to increase emotion regulation such as quiet time and time out.

In a mixed disability trial of SSTP with families of children with ASD, cerebral palsy (CP), and Down syndrome (DS; Roux, Sofronoff, & Sanders, 2013) there was an emphasis with the families of children with CP and DS on teaching new skills rather than a focus on managing challenging behavior, which is a more common focus of ASD. Following the SSTP intervention parents reported significant improvements in child behavior, and significant improvements in their own parenting style and psychological functioning. These improvements were maintained at 6-months follow-up. What is interesting to note is that despite ASD, DS and CP being very different disorders, the strategies used were not dissimilar. For example, all parents were positive about the use of rewards, incidental teaching, and Ask Say Do (breaking tasks down) to increase behaviors that they wanted to see more often (e.g., playing cooperatively, helping with chores, or learning a new skill). Most parents also introduced the use of visual schedules to help their children to learn new skills or tasks and paired this with either rewards or praise or both. A majority of parents found that having a few simple ground rules for behavior was useful and avoided the need to nag or consistently remind children, and also meant that tackling rule breaking was more straightforward and less likely to lead to raised voices and threats. All parents reported that as the strategies began to work for them and their children the relationship between parents and children improved and parents felt more positively about their role as a parent. Many parents had held a belief that there should be a specific program for the disorder that they are working with, however, the findings of these studies show that this is not the case and when working across disabilities there are many more similarities than differences. Indeed, there may be just as much diversity within a specific disability.

Focus on Parents Taking Care of Their Own Needs

In many cases when working with parents of a child with a developmental disorder we are also dealing with parents facing their own challenges and difficulties that might not yet be resolved. The expectation that a parent will have the capacity, emotional and/or physical resources, to take on new learning and implementation of strategies that will likely be effortful might be unrealistic. For this reason, we decided in some more recent trials of the SSTP program to include sessions for parents to help them deal with their own feelings about being a parent of a child with a developmental disorder.

Introducing Acceptance and Commitment Therapy (ACT). ACT is a form of Cognitive Behavioral Therapy (CBT) that is grounded in a behavioral theory of language and cognition called Relational Frame Theory (RFT). The aim of ACT is to increase psychological flexibility: our ability to change or persist in our behavior according to what is workable, with full awareness of our context and internal state in the present moment, in the service of valued ends (Hayes, Strohsal, & Wilson, 2003). For parents, psychological flexibility supports parental flexibility: this means approaching the role of parenting with flexibility, being present and accepting our own direct moment to moment experiences in interacting with our children. A flexible parent, can shift attention smoothly between their child and other competing demands, can take their child's perspective, holds parenting rules lightly and can be both persistent and adaptable in their parenting, depending upon what is working with their child. For example, a parent might be busy preparing dinner when a child indicates difficulty or asks for help with a task. The parent might not be able to abandon the meal preparation but could take a few minutes to offer help or teach the child enough to move forward and reinforce this with praise or a reward that is meaningful for the child. Small moments such as these can be positive rather than intrusive, and they can build a pattern of interactions going forward.

According to RFT (Hayes et al., 2003), human language and advanced cognition has come at a cost, and that cost is that our psychological flexibility may be undermined. To put it simply, what makes humans unique as a species is that we can relate to our internal, symbolic, psychological world, as though it were the actual, physical world. For example, take a moment to think about

your favorite food. Remember what it looks like, what it smells like, the taste and the sensation of putting the food into your mouth. Now, notice how you have responded. Are you feeling hungry? Feeling like eating that food? Salivating, even? You have just responded to a collection of *thoughts* about food as if it were the real thing. An unfortunate side effect of this ability is that we can get "stuck" with our own thoughts, feelings, memories and sensations, both stuck "inside" them and stuck trying to avoid them.

When our behavior is under the control of our own verbal cognitions and this is not workable, this is termed cognitive fusion (Coyne & Wilson, 2004). In particular, we may become fused to verbal rules. Not all rule-following is problematic. Rule-governed behavior is likely to become problematic when the function of the behavior is under the control of socially mediated consequences identified in the rule ("pliance") or when the rule describes naturally occurring consequences in a manner that is factually inaccurate or unworkable (inaccurate or unworkable "tracks"). For example, if a parent's behavior has the function of obtaining social approval or if the parent is following a verbal rule that is inaccurate, for example, "spare the rod and spoil the child" this is likely to become problematic. While fused with verbal rules, the parent is less likely to learn from their direct experience or to be creative. This may be particularly problematic for parents of children with neurodevelopmental disabilities, as common parenting rules, even sensible evidence-based parenting rules, may not always apply to a specific situation with their child. For example, a sensible rule for parents taking a child to a shopping center is that the child stay close, do as asked, and perhaps be involved in helping with the shopping. A child with ASD and sensory issues with respect to noise and lights might simply not be able to manage to stay calm in this setting. If a parent is fused with the thought that their child ought to be able to do this that is likely to be problematic. The ability to be flexible, creative and learn from direct experience is even more important when parenting a child with a neurodevelopmental disability.

Cognitive fusion also makes experiential avoidance possible. As we treat our internal experiences like real phenomena, we may attempt to eliminate or escape them, just as we would do with real phenomena. We all engage in experiential avoidance at times, and it is not always problematic. For example, using distraction during an uncomfortable medical procedure is likely to be helpful. However, we cannot control our internal experiences in the same way that we control our physical world. Experiential avoidance may, paradoxically, increase our suffering. At times, experiential avoidance can lead to a rebound effect, with the very thoughts and feelings we are attempting to avoid actually occurring more frequently. Experiential avoidance may also control our behavior in a manner that leads to further harm in the long-term. For example, for a parent with a child with neurodevelopmental disabilities currently grieving the diagnosis, the symptoms of grief are likely to be triggered by contact with the child themselves. If the parent attempts to avoid their own thoughts and feelings about the grief, this is likely to compromise parental ability to be fully psychological present with their child. At times, parenting that is harsh, intrusive, or lax may not be the result of parenting skills deficits, but rather, may serve the function of experiential avoidance. Thus, addressing experiential avoidance can both support parental wellbeing and facilitate optimal parenting.

A randomized controlled trial of SSTP plus an ACT workshop for families with a child with a TBI (Brown, Whittingham, Boyd, McKinlay, & Sofronoff, 2014) found significant improvement in child behavioral and emotional problems, and reductions in parental symptoms of anxiety and stress, and improvements in parenting style. Overall, the trial suggests that ACT+SSTP achieved reliable positive change (whereas there was no improvement seen in the care as usual group), and that these changes were maintained at 6-month follow-up. Box 1 illustrates the parenting challenges and the process of a family working through this intervention. This study was not able to evaluate the relative contributions of ACT and SSTP to improvement reported by parents.

A recent three-arm trial of SSTP combined with ACT for parents of children with cerebral palsy (Whittingham, Sanders, McKinlay, & Boyd, 2014, 2016) can answer this question. In this trial the additive benefits of ACT could be

Box 1 Case Study of Traumatic Brain Injury

Katja is the mother of Jessica (7 years old), who sustained a traumatic brain injury at the age of 6 in a motor vehicle accident. Katja had been driving in the accident, but was uninjured. Jessica was diagnosed with a severe traumatic brain injury and stayed in hospital for a total of 6 weeks. During this time, Katja was able to take time off work to care for Jessica in the hospital. However, she worried constantly that her ongoing employment would be compromised. During the hospital stay, Katja received support from Jessica's father Brendan from whom she had divorced 1 year ago, however her family and close friends lived interstate. Katja described that both her and Brendan were in severe shock and emotional pain, yet felt unable to comfort each other emotionally. She experienced severe stress and was demonstrating signs of posttraumatic stress and grief and was seen by a psychologist during the hospital stay.

Upon discharge, Jessica returned to live with Katja, who also returned to work. Jessica experienced some memory problems, attentional difficulties, and emotional outbursts or tantrums, and she received outpatient occupational therapy, physiotherapy, and neuropsychology assessment and treatment. With the burden of these appointments as well as juggling childcare for Jessica who had a staged return to school, Katja did not continue to see her psychologist, and experienced ongoing insomnia, anxiety, severe feelings of guilt around the accident, and frequent crying. This persisted for the following year.

Katja sought assistance from the group SSTP and ACT program because she was unsure how to best parent Jessica and especially how to manage her emotional outbursts, as these were distressing for both Jessica and Katja, and she was worried this would lead to difficulties in school. An assessment at the beginning of the program

Box 1 (continued)

indicated that Katja was experiencing severe depression, anxiety, and stress symptoms, and that Jessica was demonstrating significant behavioral and emotional symptoms.

Although Katja reported that she was reluctant at first to attend the ACT sessions focusing on parent stress, she later reported these sessions were a useful aspect for her. She noted that she had spent so much of her time and energy focusing on Jessica's recovery, and that she had not taken care of herself, or processed her thoughts and feelings about Jessica's injury. When she tried to take time for herself, she was overcome with guilt ("how could you take time for yourself when your daughter is still struggling?") and fear about how Jessica was doing when she was out of her sight. Katja also reported experiencing severe guilt and distressing thoughts about the events surrounding the accident ("It was all my fault," "if only I'd been driving more slowly," "I've done this to my daughter and it's my fault she's struggling so much"), and in particular, the fact that she had been uninjured while Jessica had sustained such an injury ("it should have been me"). She reported that these thoughts and feelings often arose during difficult interactions with Jessica, and "consumed" her and made it difficult for her to focus on anything else. Sometimes she lost track of what Jessica was doing, or snapped at Jessica. This lead to more guilt, and fear that she is not parenting how she wants to, and that this may lead to worse outcomes for Jessica.

Through the ACT sessions she first identified her values around parenting—these were to be attentive and supportive for Jessica to help her through her difficulties, and to look after her physical and emotional health in order to remain calm and responsive around Jessica. Next, she was able to learn strategies for noticing her difficult

(continued)

Box 1 (continued)

thoughts as just thoughts, and guilty feelings as painful but not dangerous. For example, she practiced visualizing the feeling of guilt, picturing where it was in her body, what it looked like, and what it felt like to touch, and then visualized making space for that emotion, breathing around the emotion and noticing herself expanding around it. She slowly learned to approach the emotion of guilt from a stance of acceptance and even kindness—noting that it was painful and uncomfortable, but that she could allow it to be there and still take actions towards her parenting values. Similarly, she found the strategy of labeling her thoughts to be extremely useful to gain some distance from these thoughts. For example, during difficult parenting situations with Jessica she would often have the thought "This is all my fault"; however, she practiced saying to herself "I'm noticing that I'm having the thought that 'it's all my fault.'" This helped her to "unhook" from this thought, and respond to the parenting situation in front of her with more present moment awareness rather than being caught in the difficult thought. Through the program she also began to allow herself to do small things that were meaningful for her, such as reconnecting with old friends that she had largely lost contact with since the accident. She was able to do this while Jessica stayed with her father.

Katja's main concern about Jessica's behavior was her emotional outbursts that seemed to arise out of the blue, and were much more intense and longer in duration than Katja had ever remembered experiencing with Jessica, even when she was a much younger child. In the SSTP program, Katja was initially taught to monitor Jessica's behavior, noting what happened before and after incidences of the behavior. Through this monitoring, Katja had noted that Jessica's outbursts tended to be during a transition in activities (e.g., moving from the living room to the dinner table), and she noticed that her response was often to provide whatever it was that Jessica wanted in order to stop the outburst as quickly as possible—for example she would allow the initial activity to continue longer, or would provide a special treat (e.g., a candy at the dinner table). Katja also noticed that Jessica's outbursts were particularly upsetting for her, as they often triggered her guilt around the accident, and fears for Jessica's future. She noticed that she tended to act in a way that lead to the behavior ending quickly in the moment, and therefore quieting the difficult thoughts and feelings that came up for her. Yet she realized that her actions actually perpetuated and exacerbated the behavior in the long term since they rewarded it, and she was not teaching Jessica how to manage these situations appropriately.

While Katja had initially thought that she had given Jessica adequate warning before these transitions, after the monitoring she hypothesized that Jessica had probably not heard, or paid attention to the initial warning and was unprepared when the transition occurred. Although Katja's approach was the same as she had used before the accident, she realized that Jessica may need more support around these transition times now, due to some of the attentional and emotional difficulties she was experiencing. Katja focused on providing more warning to Jessica before a transition (getting close, ensuring that she had Jessica's attention by making physical contact and gaining eye contact), providing a clear instruction during the transition, and providing immediate reinforcement when Jessica made the transition without fuss, via praise and fun activities. This helped reduce the incidence of these outbursts significantly. However, on the early instances of outbursts, Katja practiced the strategies she had learned for managing the difficult thoughts and feel-

(continued)

Box 1 (continued)

ings that arose, tried to remain calm and supportive of Jessica, while being careful not to unintentionally reward the outburst. From the ACT sessions, Katja had also learned the skill of mindfulness, and practiced being more mindful during brief moments of quality time with Jessica. She noticed a big difference—whereas previously she felt like she was always distracted by some fear or worry or another task that needed to be done, the more she practiced these mindful parenting moments, the more she noticed moments of joy and connection and felt more satisfaction from her parenting role.

After the intervention, Katja reported that she was experiencing less stress, depression, and anxiety, sleeping better, connecting more with her friends, and experiencing more pleasure from parenting. She felt better able to connect with Jessica in parenting moments, and able to monitor Jessica's behavior to determine and alter factors contributing to problematic behavior. She felt more confident about her ability to support Jessica through future difficulties she might face. Jessica's behavior improved as well, both at home and at school.

identified, as parents were randomly assigned to one of three groups: SSTP, SSTP and ACT, or a waitlist control group. Consistent with the existing evidence on the efficacy of SSTP, the SSTP alone group, compared to waitlist, showed improvements in child behavior and emotional symptoms. The SSTP and ACT combined group, compared to waitlist, showed improvements in child behavior, child hyperactivity, child functional mobility performance, child quality of life, parenting style and parental adjustment.

The fact that the SSTP alone group, but not the SSTP combined with ACT group, showed improvements in child emotional symptoms was an intriguing result as it is difficult to understand how the addition of ACT could undo a treatment effect of Stepping Stones in this area. One explanation is that ACT, with a focus on acceptance of emotions, enhanced parental ability to recognize and report child emotional symptoms, thus masking the intervention effect for the combined group. If this is the case, then ACT may have the potential to enhance parental emotional availability. This requires more research. Overall, it was concluded that the ACT components brought additional benefits to families, above and beyond the established behavioral parenting intervention of SSTP.

Conclusion

Parenting a child with a developmental disability can present significant challenges, and these challenges can be seen both in the types of behaviors that the parents face and in the parents' own reactions to having a child with a disability. Parents often hold a belief that they ought to be able to manage to parent their child without the assistance of a program or professional. Sometimes this is indeed the case, but frequently parents face difficulties that they cannot manage alone. Most parents who attend a group parenting program report that they feel (often for the first time) that others in the group understand their experience. This occurs with mixed disability groups as well as with those conducted for a specific disorder. Many parents learn that they are doing a fine job as parents when they thought they were not doing well, and this promotes even better skill development. Some find that with just a few new strategies small changes occur that make a significant difference to family life, and some learn to manage very challenging behaviors. Almost all parents find that they have gained from taking part in a parenting program, some find that their own sense of hopelessness lifts and some find greater cooperation with a partner.

While we know that short-term outcomes for children with a developmental disability are generally positive following their parent/s completing a parenting program (Brown et al., 2014; Tellegen & Sanders, 2013; Wade et al., 2006, 2011; Whittingham et al., 2009, 2014, 2016), we do not

have consistent evidence to comment confidently on how these changes in child behavior, parenting style and confidence, and parent–child relationship impact on child development in the longer term. There is evidence to suggest that when parents deliver social communication programs to young children with ASD the positive effects are maintained after 6 years (Pickles et al., 2016) and this is promising. What is still needed is longer follow-up of families who have participated in parenting programs to monitor the maintenance of gains, and also to determine what works for which families under what circumstances. It is important to know which families still struggle despite having participated in programs, so that further work can be undertaken to remediate the barriers to the successes achieved by other families.

The challenge that we face in service provision is not in having effective programs to offer to parents, rather it is in being able to encourage all parents to attend an effective evidence-based program. Many families struggle for too long without seeking help when we know that strategies started early will produce excellent outcomes. The implication for government policy is clear to those who work in this area—a public health approach whereby programs are available to all parents and parents are actively encouraged to attend, would reduce the burden both on families who struggle and on the communities in which they reside. Without access to parenting support it is unfortunately the case that some families will find it necessary to relinquish their child to the care of others (Nankervis, Rosewarne, & Vassos, 2011). This comes at a great emotional cost to a family and a significant financial cost to the community. There is a real possibility that evidence-based parenting support could be used preventatively to reduce the incidence of relinquishment of adolescents and young adults with developmental disorders.

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Part III

Determinants of Parenting

Child Characteristics and Their Reciprocal Effects on Parenting

Ann V. Sanson, Primrose L. C. Letcher, and Sophie S. Havighurst

Introduction

This chapter considers the ways in which child characteristics impact on parenting, and how they may interact to affect child outcomes. It seeks to address questions including the following: To what extent is a child's development determined by their intrinsic characteristics; and how much is influenced by their environment, especially the parenting they receive? Does the same style of parenting work for all children, regardless of their individual characteristics? Do parenting and child characteristics interact to impact on development, and if so, how? And lastly, how should interventions take into account child individuality and does this make a difference for child developmental outcomes? In particular, this chapter uses an extensive examination of the research on child temperament to consider these questions.

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Changing Conceptualizations of Child Development and Parenting

In order to consider the significance of differences between children in relation to parenting, it is useful first to consider our assumptions about child development. In the first half of the twentieth century, there were several polarized views of child development. One major strand followed the arguments of the British empiricist philosopher John Locke (1632–1704) who considered that a child came into the world as a *tabula rasa* or blank slate. The child's experiences in the world determined what was written on this *slate* and shaped the person they became. This mechanistic worldview saw the child as essentially passive in the developmental process, and the environment as the active agent. The behaviorist formulations first of Watson (1924) and later of Skinner (1953) are the most famous examples of this view. This worldview sees child development as a unidirectional process, from the child's social environment—in which parents occupy a central place—to the child (Sanson & Wise, 2001).

A somewhat related perspective on childhood came from Freud's psychoanalytic theory. For Freud, a child was driven by the *id*, the repository of desire and animal passions as well as the source of creativity, which needed to be governed by the ego and the superego so that social

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relations could be established. After the Second World War, psychoanalytic theory formed the basis for Erikson's theorizing about a child's changing sense of identity (Erikson, 1950), as well as Bowlby's (1969) attachment theory, which placed responsibility for a child's well-being principally on the mother, and *maternal deprivation* was seen as the source of a wide range of later disturbances, even severe ones like autism. Here again, child development is principally a unidirectional process, from parent to child.

The French philosopher Henri Rousseau (1712–1778) propounded an alternative vision—of the child as a *noble savage* with natural virtues and an innate capacity for reason. From this viewpoint, the role of parents and others was to nurture and encourage the child in the natural process of growth, with the child as the critical active agent in their own development, unless and until *ruined* by the adult world. Much later, Piaget's genetic epistemology was compatible with this alternative vision of childhood. His work, from the 1920s to the 1970s, emphasized how development (particularly cognitive development) occurs through the natural progression of biologically encoded stages. For Piaget, the environment was less central to development, simply playing a facilitatory or impeding role. Hence, *nature* played a stronger role than *nurture* in shaping a child's development.

At the turn of the twentieth century, and in contrast to Rousseau's positive image of childhood, there was also a common but not universal belief that the child was inherently flawed, derived in part from a reading of the Christian notion of original sin, and in part from an early form of social Darwinism which embraced the ideas of *born criminals* and *bad breeding*, such that inherited makeup could lead to poor outcomes. Here again, *nature* was seen as a strong force in a child's development.

By the 1970s, these *nature-* and *nurture-oriented* viewpoints appeared to be competing and entirely incompatible paradigms (Reese & Overton, 1970). Since then, however, there has been a coming together, and a recognition that nature and nurture are inextricably linked in the developmental process. One seminal paper in this rethinking was Bell's (1968) reconceptualization of research on parental influences on children. He pointed out that much of this research could equally well be interpreted as showing children's influence on their parents, thus leading to consideration of their mutual interactive influences on each other.

At much the same time, Thomas and Chess's work on the New York Longitudinal Study was becoming influential (Thomas & Chess, 1977; Thomas, Chess, Birch, Hertzig, & Korn, 1963). These pediatricians reacted against the dominant environmentalist perspectives of the time in drawing attention to child temperament as an important contributor to development. They demonstrated that children receiving very similar parenting could develop well or poorly, and that this could be explained in part by their temperamental characteristics. Hence poor child adjustment was not necessarily the *fault* of parents. What is more, the *fit* between a child's temperament and their social and physical environment appeared to play an important role in their development. For example, a shy child might only experience difficulties if their parents were very outgoing; an active child might encounter no difficulties in a spacious house but experience conflict in a more cramped environment. Thus, like Bell (1968), they stressed the importance of bidirectional influences between parents and their children, and introduced the notion that there may not be one *right* way to parent every child. This growing recognition of the child's active part in their own development led to new interest in the impact of individual differences in shaping children's developmental pathways.

A further conceptual development that has relevance for thinking about how child individuality relates to parenting is the growth of ecological, systems and transactional models of development. These all posit that understanding the process of development requires analysis of the ongoing interaction among intrinsic child characteristics and aspects of the environment. Thus, a child's characteristics, such as temperament, health status, and cognitive capacities, together with parent and family circumstances and the

wider sociocultural context, all interconnect to explain and predict developmental pathways. One such theoretical formulation is Sameroff's (1987) transactional model of development which argues that developmental outcomes are a result of the continuous dynamic interplay between the child's behavior, the caregiver's response and the environmental variables that may influence both the child and the caregiver. However, the most influential of these models is Bronfenbrenner's, variously labeled as a biopsychosocial, bioecological, or ecological systems model (Bronfenbrenner & Morris, 2006).

Bronfenbrenner's model places the child at the center of an environmental *onion* of nested concentric systems of influence. The innermost layer is the microsystem containing contexts, such as family, school, and peers, which directly influence the child, and which themselves interact to influence development (these interactions making up the mesosystem). These proximal influences are themselves embedded within and influenced by broader exosystem and macrosystem factors, such as community, societal, and sociocultural factors. All these systems need to be considered in the context of time, or the chronosystem, which incorporates both personal lifetimes and societal epochs. The most elaborated form of this theory is the Process–Person–Context–Time model, which involves synergistic reciprocal interactions among proximal processes, person characteristics, context, and time. While the family is seen as a central part of the microsystem and proximal processes are considered the main engines of development, Bronfenbrenner emphasized that "the properties of the person and of the environment, the structure of environmental settings, and the processes taking place within and between them must be viewed as interdependent and analyzed in system terms" (Bronfenbrenner, 1979, p. 41). Hence, Bronfenbrenner offered compelling arguments that the contribution of the environment extended beyond the direct family: the child is also affected, directly or indirectly, by what goes on in the community, society, and culture in which the family is nested. Hence, changes in social and cultural contexts (such as the rise in maternal work outside the home, a trend towards smaller and more mobile families, liberalized divorce laws, increasing acceptance of diverse family forms, shifts in the responsibility of the family and the state for educating and supporting children, and increasing cultural diversity of the population) can all impact on the child.

Along with these theoretical advances, there has been a burgeoning neurobiological literature which is increasing our understanding of how genetics and neural systems are implicated in individual differences including temperament. Further, epigenetic research is starting to shed light on how the environment *gets under the skin*.

Arising from these various strands in thinking, there is now widespread acceptance that both the child and the environment contribute, in ongoing, complex and interactive ways, to the child's development. This has directed attention to *how* child individuality plays out in this interactional process, with a major focus being on its impact on interactions between parents and children. This includes research on how child characteristics affect parents and parenting, and the growing evidence that the effect of particular parenting styles differs for different children. There are many aspects of child individuality which could be considered and these have received varying amounts of research attention. By far the greatest effort has gone into understanding how child temperament or personality interacts with parenting, so this is our principal concern in this chapter. However, we also discuss individual differences in child age, gender, and chronic illness.

The following section discusses these aspects of individuality, and provides an overview of current conceptualizations of child temperament and personality. This is followed by a brief discussion of the ways in which researchers have conceived of and operationalized the notion that *one size does not fit all* when considering parenting for children with different characteristics. The next section provides a review of the research evidence relating to this notion. Then we outline parenting interventions that have explicitly aimed to take child individuality into account. The final section brings together the current state of

knowledge to draw conclusions about the extent to which aspects of individuality impact on parenting, and the processes by which this occurs, and suggests some areas for further research as well as implications for parenting interventions.

Child Individuality

Here we introduce the aspects of child individuality discussed in this chapter in relation to parenting. Some aspects of individuality are conceptually straightforward, while others are more complex both conceptually and methodologically. Similarly, the ways in which they impact on, and/or are impacted by parenting, differ in complexity.

Age

Child age and developmental stage are conceptually clear-cut. In this chapter, we review findings about the ways in which age interacts with other aspects of individuality in connection to parenting. Age and stage are here broadly characterized as infancy, early childhood, middle-late childhood and adolescence.

Gender

Gender is another relatively straightforward category. Much of the available research has simply considered differences between boys and girls in characteristics like temperament. For example, a meta-analysis by Else-Quest, Hyde, Goldsmith, and Van Hulle (2006) found that effortful control tended to be higher in girls, whereas positive affect or *surgency* was higher in boys. There is increasing interest in the possibility that gender may also moderate associations between temperament and social adjustment, although little consistency has emerged to date in the nature of such gender effects. Gender is also relevant to the extent that it affects and frames the responses of those around children (including their parents). The research on differential parental responses to the emotional and behavioral expressions of boys and girls is reviewed later in this chapter. This section also briefly discusses how mothers and fathers may respond differently to their child's temperament, in part due to child gender. More complex issues around gender identity and the impact of varying cultural meanings of gender have not been explored in this literature.

Individual Differences in Temperament and Personality

The vast majority of the research on child individuality and parenting has been concerned with differences in temperament and personality. Since these are complex notions that have been conceptualized and operationalized in various ways, here we discuss them in some detail.

Conceptualizations of Temperament

In broad terms, *temperament* refers to early emerging individual differences in emotional, motor and attentional reactivity to stimulation, and in patterns of emotional, behavioral and attentional self-regulation (Bates, Schermerhorn, & Petersen, 2014; Rothbart & Bates, 1998; Sanson, Hemphill, & Smart, 2004; Shiner et al., 2012). These dispositions are the product of complex interactions among genetic, biological, and environmental factors across time (Shiner et al., 2012). Within this broad consensual framework, however, several theoretical models of temperament have been developed which vary in the number and nature of temperament dimensions they specify and their relative emphases on its biological bases, stability, and links to personality and maladjustment.

While notions of temperament have been around for millennia (at least from the time of Galen, 131–201 AD), modern interest in *child* temperament can largely be dated to the New York Longitudinal Study of Thomas and Chess (Thomas et al., 1963). As noted earlier, this work reflected the start of a paradigm shift from a predominantly environmentalistic, unidirectional

perspective on child development, to one which acknowledged the child's own active part in the developmental process. Their work with infants and children demonstrated clear differences between children in such qualities as their responsiveness to stimulation and capacity to regulate their emotions and attention that impacted upon their subsequent socioemotional development. Their nine dimensions of temperament sought to describe children's behavioral styles across contexts, and were labeled as activity (physical activity levels), regularity (predictability of behavior), adaptability (response to changes in the environment), approach-withdrawal (responses to novelty), threshold of responsiveness (amount of stimulation necessary to evoke reaction), intensity of reaction (energy level of a response), quality of mood (amount of positive and negative emotional reactions), distractibility (effectiveness of external stimuli in altering the child's behavior), and task persistence (length of time and maintenance of activity pursued by the child).

Concerns about conceptual overlap and low internal consistency of these nine dimensions have led to empirically and theoretically based attempts to refine them (Rothbart & Bates, 1998; Sanson & Rothbart, 1995). For example, in one of the few studies which has gathered detailed information on temperament from infancy to early adulthood, the Australian Temperament Project (ATP) built on measures framed on the Thomas and Chess model to identify a core subset of temperament dimensions from infancy to adolescence, including approach-withdrawal (sociability, shyness), negative reactivity-emotionality (intensity, negative mood, low flexibility/adaptability), and persistence (regulation of attention) (Vassallo & Sanson, 2013).

Thomas and Chess also developed an *easy-difficult* categorization system, which groups children on the basis of their temperament profiles (see Thomas et al., 1963). *Difficult* children are typically negative in mood, withdrawing, non-adaptable, highly intense, and arrhythmic, whereas *easy* children have the opposite characteristics and *slow-to-warm-up* children are low in adaptability. Failure to replicate these temperament clusters has led to them now being rarely used in research settings, although they are still used clinically. However, more recent work using person-centered analytic techniques has identified *types* or *clusters*. For example, using behavioral ratings on 3-year-old children from the Dunedin Multidisciplinary Health and Development Study, Caspi and Silva (1995) identified five clusters labeled Undercontrolled, Inhibited, Reserved, Confident and Well-adjusted. Using four waves of data from infancy to 4 years in the ATP, Sanson et al. (2009) found four clusters named Nonreactive/outgoing, High attention regulation, Poor attention regulation and Reactive/inhibited. Others have substituted more descriptive labels for the term *difficult*, such as Resistant to control (Bates, Pettit, Dodge, & Ridge, 1998) or High maintenance (McClowry, 2002), in recognition of the fact that particular constellations of traits are not necessarily *difficult* for all parents (Paulussen-Hoogeboom, Stams, Hermanns, & Peetsma, 2007).

An alternative conception of temperament is that of Buss and Plomin (1984), who adopted three criteria for considering a trait an aspect of temperament: evidence that it was heritable, relatively stable during childhood and retained into adulthood, and a developmental precursor of adult personality. On this basis they developed the EAS Inventory to tap Emotionality (emotional expression and arousal), Activity level (tempo and vigor, similar to Thomas and Chess' activity dimension), and Sociability (preference for being with others), with Shyness (feelings of discomfort in social situations) being included in some versions of the scale. Impulsivity (levels of emotional and behavioral control, persistence, and planfulness) was included in early versions, but later deleted from the model because it did not appear to be genetically influenced, although recent findings suggest that some components of impulsivity are heritable and could thus meet their criteria (Gagne & Saudino, 2010). The 18-year Tracking Opportunities and Problems (TOPP) study in Norway used the EAS inventory over multiple waves and has established its validity and reliability (see Mathiesen, Sanson, & Karevold, 2018); using person-centered analyses

with four waves of EAS data from 18 months to 8 years, Janson and Mathiesen (2008) identified clusters labeled Undercontrolled, Confident, Unremarkable, Inhibited and Uneasy.

A third and influential model is Rothbart's psychobiological model of temperament, which rests on the assumption that temperamental differences are largely determined by the responsiveness of underlying psychobiological processes, with reactivity referring to physiological excitability of neural systems, and self-regulation referring to the processes enabling the modulation of this automatic, involuntary reactivity (Rothbart, 2012). The model was originally developed to describe temperament in infancy but was later expanded to include age groups from toddlers to adulthood. Factor analyses of age-specific instruments designed to tap these underlying neural processes provide evidence that the structure of temperament in any age group can be covered by at least three broad factors, with each factor having smaller subcomponents: to tap self-regulation, Effortful control (attention focusing, persistence, inhibitory control); and to tap reactivity, Negative affectivity (fearful distress, irritability emotionality, sadness), and Surgency (activity, approach, sociability, smiling/laughter, and, negatively loaded, shyness; Rothbart & Bates, 1998). Although considerable cross-sectional research supports these three dimensions, the age-specific measures consist of only partially overlapping temperament facets. This heterogeneous content poses major problems for longitudinal research.

In conclusion, there is now a well-established consensus around the core temperament dimensions. For example, the parallels between the major factors emerging from the ATP and Rothbart's work are notable (see Sanson & Rothbart, 1995). Thus, despite differing views on temperament and differences in terminology, three broad aspects of child temperament are gaining wide acceptance: *Reactivity or Negative Emotionality*, referring to irritability, negative mood, and high-intensity negative reactions, and which can be differentiated into distress to limitations (irritability, anger) and distress to novelty (fearfulness); *Self Regulation*, which has three subcomponents: the effortful control of attention (e.g., persistence, non-distractibility), of emotions (e.g., self-soothing), and of behavior (e.g., delay of gratification); and a dimension variously labeled *Approach-Withdrawal*, *Inhibition*, *Sociability*, or *Extraversion* which describes sociability versus social inhibition, and includes aspects of positive emotionality. Mervielde and Asendorpf (2000) propose that Activity is a fourth factor, which appears in the Buss and Plomin model and incorporates Surgency from Rothbart's model. Other narrower-band factors, such as adaptability, activity level and rhythmicity, are examined in some studies (see Rothbart & Bates, 2006, for fuller discussion).

Stability of Temperament Over Time

The concept of temperament implies that it is relatively stable over time. As noted above, there is now evidence of substantial continuity in the structure of temperament from childhood through adolescence, with the same key temperament dimensions appearing at each age. There is also some evidence of normative changes in temperament over this period, with children tending to show more sociability, activity, reactivity and regulation from infancy to preschool (Shiner, 2015). Increases in self-regulation continue from early childhood through the school years, while other traits show a more variable pattern. For example, mean levels of negative emotionality tend to decrease in elementary school, then increase in girls in early adolescence but reduce again in later adolescence (Shiner, 2015).

Assessing the stability of individuals' temperament styles over time is complicated by the fact that the behavioral manifestations of temperament vary with age, so it is difficult to ensure that identical constructs are assessed across age. Measurement error hence reduces estimates of stability (Pedlow, Sanson, Prior, & Oberklaid, 1993). Nevertheless, the literature indicates that individuals tend to show moderate rank order stability in temperament from childhood to adolescence, but this stability is far from absolute, with some level of change being the norm. A

meta-analysis by Roberts and DelVecchio (2000) found modest stability for temperament in the first 3 years of life (around 0.35), but higher stability in later childhood (0.50 on average), perhaps reflecting the development of self-regulation and effortful control in early life. Studies of early temperament typically find that stability is due to genetic factors and change is largely environmental (e.g., through parents' behavior); however, for some dimensions there is also evidence of genetic contributions to developmental change (Saudino & Wang, 2012). It is also now clear that neural systems underlying attentional aspects of temperament continue to develop into adulthood (Shiner et al., 2012).

Overall, then, the conclusion is that temperament shows meaningful continuity over time, but this does not mean invariance, leaving open the possibility of change in temperament, whether through maturation or experience.

Biological Underpinnings of Temperament

Temperament is generally assumed to have biological underpinnings; early definitions implied that it is biologically influenced at birth and then relatively stable but able to be shaped by experience. More recent work shows that such a sharp dichotomy between biological and environmental influences is not warranted (Shiner et al., 2012). Before birth, the intrauterine environment influences the expression of each child's genetic material (Huizink, 2012), and gene expression continues to be shaped by experience after birth (Champagne & Mashoodh, 2009). Thus, temperament should be conceptualized as the result of biological and environmental factors working together throughout development.

Twin and adoption studies suggest that heritability of temperament is generally in the range of 0.4–0.6 (Braungart, Plomin, DeFries, & Fulker, 1992; Pike & Atzaba-Poria, 2003), although some aspects appear to be more strongly influenced by heredity than others, for example activity more than attention span (Schmitz, Saudino, Plomin, Fulker, & DeFries, 1996). There has been a recent increase in molecular genetic studies of temperament-related behaviors (see Saudino & Wang, 2012), with mixed results and many failures to replicate, but genes linked to dopaminergic and serotonergic functions have been associated with temperament (Shiner et al., 2012). It appears that some new genetic influences on temperamental traits arise later in development (Saudino & Wang, 2012).

Psychobiologists have identified neural systems that might underlie variability in temperament dispositions (Rothbart, 2012). For example, the temperament factor of Surgency, including high-intensity pleasure, shyness, and fear, has been linked to brain circuits involved in Gray's Behavioral Inhibition System (BIS; e.g., Oldehinkel, Hartman, De Winter, Veenstra, & Ornel, 2004) and to dopamine systems (Rothbart & Posner, 2006). Other research identifies particular brain regions in relation to specific aspects of temperament, such as research by Posner and Rothbart (1998) which points to the role of the anterior cingulate in the effortful regulation of attention. Kagan and colleagues have linked threshold to arousal in the amygdala with motor activity, reactivity, and inhibition, with a low threshold linked to higher levels of these temperament traits (e.g., Schwartz, Wright, Shin, Kagan, & Rauch, 2003). Other researchers have argued that greater right than left frontal brain activity is associated with withdrawal tendencies and the expression of negative affect (e.g., fear, sadness), while greater left than right frontal brain activity is associated with approach tendencies and the expression of positive affect (Fox, Henderson, Marshall, Nichols, & Ghera, 2005).

There is thus a range of biological mechanisms under active consideration for their contribution to temperament, and these promise further advances. Given the complexity of the human brain and bodily systems, it is likely that interconnections between several systems underlie particular temperament characteristics. Bates et al. (2014) note the phenotypes of temperament behavior patterns are far from simply mapped onto biological markers, and that the neural systems underlying reactivity and self-regulation are intricately balanced. Hence, effortful

self-regulation allows management and redirection of both approach- and avoidance-producing emotions, while emotional responses can help shape cognitive regulation (Barkley, 2012; Lewis & Todd, 2007). In any case, it is clear that temperament is not solely biologically determined, and that experience—including parenting—can affect its expression.

The Measurement of Temperament

The optimal means of assessing temperament has been a contested issue. Temperament refers to a child's overall behavioral style over time and across contexts. Hence observational measures which are restricted in both the time period and contexts of assessment, have significant limitations, and the observational context can itself change child behavior. Since parents have a unique opportunity to observe their child in multiple contexts and over time, their ratings have greater ecological validity and they have been considered appropriate informants, especially in infancy and childhood. However, parents may lack a normative basis for rating their child, and mothers' temperament ratings have been found to be affected to some extent by their depression and stress levels (e.g., Mednick, Hocevar, Schulsinger, & Baker, 1996), raising questions about their reliability. These concerns have been allayed by research which has confirmed that there is a strong objective component in parental ratings (Allen & Prior, 1995; Bates, Schermerhorn, & Goodnight, 2010; Kochanska, Murray, & Coy, 1997), and findings of a number of points of convergence between different parent report scales with other reports, observations, and biomeasures. The overall conclusion in the field is that parent ratings are useful in studies of development, especially for young children (Bates et al., 2014).

From late childhood onwards, self-report becomes feasible, and in the personality literature self-report has been the predominant method of assessment. Self-report also carries its own limitations (e.g., social desirability effects, the affective state of the rater, memory biases), and relatively few self-report measures of child and adolescent temperament are currently available. While multiple-method assessments are often recommended (Rothbart & Bates, 1998), until recently few studies have adopted this methodology. For large-scale studies, questionnaire methods are usually the only feasible alternative (Lahey, 2004).

Associations Between Temperament and Personality

The constructs of temperament and personality overlap considerably. Typically, researchers use the term *temperament* to refer to individual differences in infancy and childhood, and the term *personality* to refer to similar individual differences in adolescence and adulthood (Sanson, Letcher, & Smart, 2008). Over the last 25 years, the Five-Factor Model has become the dominant model of personality. The five factors are conceptualized as bipolar dimensions and are typically labeled: Extraversion (versus introversion); Agreeableness (versus antagonism); Neuroticism (versus emotional stability); Conscientiousness (versus negligence); and Openness to experiences (versus closedness) (De Pauw & Mervielde, 2010). As noted above, while parental ratings are typically used to assess temperament, self-ratings are almost always used in personality research.

Some consistent trends are emerging on the connections between temperament and personality factors (e.g., De Pauw & Mervielde, 2010; Prior, Sanson, Smart, & Oberklaid, 2000; Rothbart, Ahadi, & Evans, 2000; Shiner & Caspi, 2003). Extraversion has been linked to temperamental surgency, including dimensions such as activity, inhibition/approach, and positive emotionality, as well as persistence. Neuroticism is closely related to negative reactivity and affectivity, as well as approach. Conscientiousness is related to effortful control and persistence, as well as reactivity. Intellect/openness has been linked to inhibition/approach, and weakly to reactivity and persistence. Antecedents of Agreeableness are much less evident, although in the Australian Temperament Project (ATP),

Agreeableness at 16 years was associated with lower negative reactivity and higher persistence at 11–14 years (Prior et al., 2000).

Traditionally, temperament has been assumed to lay the foundation for later personality traits which emerge through learning, life experiences and cognitive development, but until recently, the actual processes by which early temperament may shape or become elaborated into later personality structures have received little attention. Shiner and Caspi (2003) discussed various developmental processes which may be involved. For example, temperament may shape older children's choices about their environment and reinforce and sustain certain characteristics; hence a child high in inhibition/shyness may seek to minimize social interaction, which serves to shape introversion. However, some now suggest that temperament traits in childhood and the Big Five traits in adulthood may be manifestations of the same basic dimensions (De Pauw & Mervielde, 2010). From this point of view, personality traits are broader in content because biological maturation and expanding experiences permit the expression of new facets of the underlying traits. Recent research has also suggested that personality factors, like temperament dimensions, appear early in life and have substantial heritability, strengthening the suggestion that personality, like temperament, has a biological basis (De Pauw & Mervielde, 2010).

Given this overlap, some now argue that, at least from preschool age onwards, temperament and personality traits are more alike than different (Caspi, Roberts, & Shiner, 2005). Most of the research on interrelationships with parenting has considered temperament, but our review of the evidence later in the chapter considers the research on both these aspects of individuality.

'One Size Fits All'?

There is a common saying that parents don't come to believe in temperament until they have their second child. Until then, parents may think there is one *correct* way to parent, and tend to have *behaviorist* views that children's adjustment is simply a reflection of their parenting. With the birth of their second child, they often find that the strategies and approaches they used with the first child are ineffective or counter-productive, and that they need to adapt their parenting. This idea is at the heart of the research concepts of *goodness of fit* and *differential susceptibility*, which seek to explain the child's contribution to their own development in interaction with their environment (principally parenting).

As discussed earlier, Thomas and Chess (Chess & Thomas, 1984; Thomas & Chess, 1977) argued that temperament affects development primarily through its *goodness of fit* with the child's environment. They defined goodness of fit as the consonance between a child's temperament and the demands, expectations, and opportunities of the environment, which facilitates healthy development—whereas a mismatch compromises development. The onus of intervention, as originally conceived by Chess and Thomas, was on advising parents and other caregivers to modify the environment (including their parenting) to create a better fit with a child's particular temperament.

Goodness of fit has proven difficult to operationalize in research (Paterson & Sanson, 1999). However, the transactional models discussed earlier posit that a child's characteristics, such as temperament, health status, and gender, together with parent and family circumstances and the wider sociocultural context, all interconnect to explain and predict developmental pathways. It is these more complex models which resonate most with the everyday notion of *one size does not fit all*. Hence, particular combinations of parenting and temperament (along with other variables) would be expected to predict different outcomes, evident in the form of multiplicative or nonlinear interaction effects (Putnam, Sanson, & Rothbart, 2002).

Findings that temperament can moderate environmental influences (e.g., the findings of Stright, Gallagher, & Kelley, 2008, that infants with lower levels of supportive parenting had poorer first-grade academic adjustment if they had difficult temperament) have given rise to models of individual differences in environmental

sensitivity. The *diathesis-stress* model (Monroe & Simons, 1991) posits that individuals with early-life vulnerability factors (such as difficult temperament) are more likely to experience problem outcomes if exposed to adversity (such as poor quality parenting). The model is broad, with vulnerability factors ranging from genetic through physiological to behavioral, and adversity including any negative environmental influences. This model thus predicts that poor parenting will have the greatest impact on those with such vulnerabilities. According to the *differential susceptibility* hypothesis (Belsky, Bakermans-Kranenburg, & Ijzendoorn, 2007; Belsky & Pluess, 2009), children with more extreme temperament characteristics are more susceptible to socialization experiences such as parenting, for better or for worse. Thus, individuals at most risk from environmental stressors may also benefit the most from environmental support. For example, negatively emotional children may be more adversely affected by poor parenting than those with less negative affect, but they may also benefit more from positive parenting. Hence, a trait like infant irritability (typically seen as *difficult*) may confer especially positive development in response to good environments and negative development in bad environments (Belsky & Pluess, 2009). Belsky et al. (2007) proposed that having children varying in their susceptibility to environmental influences made sense from an evolutionary perspective—as the future is always uncertain, nature would hedge its bets by making some individuals more developmentally malleable than others. In an extension of their theory, Pluess and Belsky (2013) proposed the term *vantage sensitivity* to describe individuals who benefit disproportionately from positive features of the environment, as opposed to *vantage resistance* in which individuals receive diminished or no benefit from high-quality environments.

Other theorists (e.g., Bates et al., 2014) are also increasingly thinking of temperament as a component in a dynamic process of transactions between the child and environment, gradually producing adjustment outcomes. They argue that "temperament only probabilistically influences a child's response to a situation, just as situations only probabilistically influence a child's response, but over many encounters, hour by hour, day by day, the child-environment system organises itself" (p. 314). They thus see child outcomes as the products of dynamic, interactive processes, which can involve "dramatically transformative events but most often involve myriad, subtle transactions" (p. 314) between the child and their social environment.

It is these complex notions of transactions between child and environment which are explored in research in temperament–parenting relationships. These, as well as interrelationships between other aspects of individuality and parenting, are reviewed in the next section.

Research Evidence

Temperament and Parenting

Most research on temperament and parenting has been framed to detect their direct effects on a child's development and adjustment, and there is a large body of evidence of both concurrent and prospective linkages. The temperament dimensions most studied are the global *difficult temperament* construct and broadband dimensions of negative emotionality, inhibition, and self-regulation (Rothbart & Bates, 2006). Dimensions of parenting with clear evidence for direct associations with child outcomes are affective components such as warmth, acceptance, and responsiveness, and aspects of parental control including harsh discipline, inconsistent discipline, monitoring, autonomy granting, and inductive reasoning (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000; O'Connor, 2002).

This section starts with a brief overview of studies including both parenting and temperament as direct independent influences on outcomes. We then move to the more interesting question of indirect, mediated effects, including whether temperament or parenting act as mediators in the prediction of adjustment. This section is followed by a review of empirical evidence for

moderation, that is, that parenting and temperament interact in the prediction of child outcomes. Findings are discussed with respect to how they fit with theoretical models such as goodness of fit and differential susceptibility, and how other factors such as age and gender may account for heterogeneity in developmental pathways.

Direct Effects

A large body of empirical evidence demonstrates that temperament and parenting have independent, longitudinal associations with social, emotional, and behavioral outcomes in children. Behavioral inhibition (or fearfulness, shyness), negative emotionality, and lower self-regulation are reliably related to internalizing problems (Rothbart & Bates, 2006). For example, high inhibition is related to later anxiety disorders—which may be interpreted to mean that the extreme end of this temperament dimension is equivalent to the disorder, or that inhibition serves as a predisposition or vulnerability to the disorder and plays a direct causal role (Prior et al., 2000; Rothbart & Bates, 2006). A range of temperament traits including negative emotionality, lower self-regulation or effortful control, and high impulsivity have been shown to consistently predict externalizing problems and substance use (Rioux et al., 2016; Rothbart & Bates, 2006). Furthermore, self-regulation predicts positive social functioning such as social competence and self-esteem (Sanson et al., 2004). As summarized by Shiner et al. (2012), there are well-documented connections between temperament and a wide variety of critical life outcomes at later ages, including relationships, academic achievement, health, and psychopathology. Hence, it is clear that temperament *matters* across the life course.

As amply documented in other chapters in this book, parenting also has clear connections to important life outcomes. Both parental control and affective dimensions of parenting have shown consistent, direct associations with negative outcomes including externalizing problems, internalizing problems, and substance use (Rioux et al., 2016; Yap & Jorm, 2015; Yap, Pilkington, Ryan, & Jorm, 2014). For example, Lansford et al. (2009) reported that children who experienced higher levels of physical discipline in middle childhood showed higher levels of antisocial behavior in adolescence. Positive parenting is also considered key to healthy child adjustment, contributing to a wide range of emotional, social and academic outcomes (e.g., Kochanska, 2002; Sanson et al., 2004). Parental responses to children's emotions that are supportive and scaffold emotional learning have also been found to have direct effects on children's emotional competence (over and above factors such as parental warmth), and contribute to a range of positive social and behavioral outcomes (Eisenberg, Cumberland, & Spinrad, 1998; Morris, Silk, Steinberg, Myers, & Robinson, 2007).

While many studies have examined temperament and parenting separately as independent predictors of outcomes, it should be noted that sometimes what appear to be direct effects of temperament and/or parenting on adjustment may in fact be shown to be indirect or interactive, once attention is directed towards third variables and more complex interrelationships.

Indirect Effects

Fewer studies have explored whether temperament may exert an indirect, mediated effect. Mediational models suggest that temperament has an effect on adjustment through the influence of a third variable (often parenting or a family process factor). Alternatively, temperament itself may act as a mediator and increase the likelihood of particular behaviors from others which may lead to risk factors or psychopathology. For example, Hemphill and Sanson (2001) found that highly reactive children who showed higher externalizing problems at 4 years had experienced poorer parenting (low warmth, high punishment, or low induction) at 2 years than similarly reactive children who did not show later externalizing problems. Investigating child temperament as a mediator, Chang, Olson, Sameroff, and Sexton (2011) found that low levels of parental warmth and frequent corporal punishment

predicted higher levels of externalizing problems in boys, with this link being mediated by lower levels of effortful control. Unexpectedly, positive parenting (induction) was not related to effortful control or behavior problems. Furthermore, effortful control did not mediate the effect of parenting on girls' problem behavior. These findings highlight the importance of exploring gender differences in pathways to problem outcomes.

Bidirectional Effects

In bidirectional, interactive, and transactional models, temperament and parenting mutually shape each other over time. While some studies testing bidirectional processes between temperament and parenting investigate developmental outcomes, others focus only on the extent to which temperament might shape parenting and vice versa.

Evidence of temperament characteristics eliciting parenting behaviors, and the opposite direction (parenting affecting the expression of temperament) has been found. Negative emotionality tends to evoke higher levels of parental control and power assertion (Clark, Kochanska, & Ready, 2000; Kiff, Lengua, & Zalewski, 2011) and lower levels of affection (Kiff et al., 2011). As an example of parental behavior affecting temperament, Scaramella, Sohr-Preston, Mirabile, Callahan, and Robison (2008) found that harsh parenting predicted increases in negative emotionality in toddlers (but not vice versa). In another study using observational measures of parenting and a longitudinal design, Clark et al. (2000) reported that mothers who were high in empathy and high in extraversion were more likely to show power assertion if their children were higher rather than lower in negative emotionality.

Overall, while effects are generally modest and the body of evidence from longitudinal studies investigating bidirectionality is not large, findings generally support a cyclic and escalating pattern of child negative emotionality and negative parent–child interaction which may develop and subsequently lead to persistent child adjustment problems. This is consistent with work by Patterson, Reid, and Dishion (1992) who argued that children with *difficult* temperamental traits are more likely to elicit harsh and inconsistent parenting, which can develop into *coercive cycles* of mutually antagonistic behavior, resulting in child externalizing behavior. Similarly, Martorell and Bugental (2006) found that mothers who felt less powerful tended to use more harsh parenting with a difficult child, but not with an easier child. In a review of effects of temperament and parenting, Kiff et al. (2011) noted empirical support for bidirectional associations between the fine-grained temperament trait of frustration and parenting, such that rejecting, inconsistent, and harsh parenting is both elicited by and increases child frustration and irritability; these behaviors are in turn linked to internalizing and externalizing problems (Lengua, 2006). On the positive side, van den Boom's (1989) parenting intervention study targeted 6-month-old irritable babies and their mothers, who were randomly assigned to a 3-month control group or intervention designed to enhance maternal sensitivity and improve mother–infant relationship quality. At the end of the intervention, compared to controls, mothers in the intervention group were more responsive, visually attentive, and stimulating. Notably, intervention infants showed higher levels of sociability, self-soothing, and exploration than control infants. Thus, the parenting intervention appeared effective in both improving parental behavior and reducing infant irritable temperament.

The relationship between child fearfulness or inhibition and parenting appears more complex. For example, in one study of toddlers, oversolicitous parenting predicted increased inhibition (Rubin, Burgess, & Hastings, 2002), while in another study, parental intrusiveness predicted decreased inhibition (Park, Belsky, Putnam, & Crnic, 1997). Furthermore, in some studies examining parental affective qualities, child fearfulness was maintained or increased by parental warmth and acceptance in early (Arcus, 2001; Kochanska, Friesenborg, Lange, & Martel, 2004) but not middle childhood (Lengua & Kovacs, 2005). Lengua (2006) reported that fearfulness in

children was related to decreases in parental rejection (on the opposite end of a continuum with acceptance). Temperament may also elicit particular styles of parenting: Rubin, Nelson, Hastings, and Asendorpf (1999) suggested that fearfulness and inhibition in children may foster parental protective and supportive behaviors and reduce negative parental responses. Overall, however, it appears that the nature of links between inhibition and parenting is variable, and in part dependent on child age.

Self-regulation and effortful control appear to be fostered by higher levels of consistent discipline and warmth and lower levels of power assertion and rejection in studies of infants and young children. Eisenberg et al. (2005) reported parental warmth and positivity predicted increases in effortful control, which in turn predicted lower levels of externalizing problems; effortful control did not predict changes in parenting in this study. Overall, few studies have explored the extent to which self-regulation may influence parenting and evidence is mixed. One three-wave prospective study reported that effortful control predicted decreases in parental rejection but it did not predict changes in inconsistent discipline over time (Lengua, 2006). In a laboratory study of dyadic interactions using a community-based sample, Wilson and Durbin (2012) found that higher quality parental responsiveness and less parental control was evident for children higher in effortful control. As noted by Kiff et al. (2011), the extent to which self-regulation predicts parenting is unclear, and while parents appear to have a role in shaping self-regulation in earlier childhood this influence seems to wane by preadolescence.

Interactional Effects

Moderational models suggest that the impact of temperament on outcomes is affected by a third variable such as parenting; or temperament moderates the impact of this other factor (Klein, Wonderlich, & Shea, 1993; Letcher et al., 2004). Such interactional influences imply multiplicative effects (i.e., the co-occurrence of particular temperamental and environmental variables create an effect which is greater than their separate additive contributions).

Since Thomas and Chess (1977) first proposed a *goodness of fit* approach to temperament, numerous studies have examined whether the effect of parenting on the child depends on the child's characteristics. Findings from the growing body of work on parenting and child temperament interactions in the prediction of various child outcomes (including internalizing and externalizing problems, and social and cognitive competence) have been mixed. Some studies have found support for the notion that associations between parenting and child outcomes vary according to child temperament, while others have not. Slagt, Dubas, Dekovic, and van Aken's (2016) meta-analysis of longitudinal and experimental studies examining parenting by temperament interactions among children aged 0–18 years included 84 studies, with temperament grouped under the broadband factors of negative emotionality, surgency, and effortful control. Illustrative examples of multiplicative findings are presented here for each broadband temperament dimension, along with the meta-analytic results. As difficult temperament and negative emotionality are often used interchangeably in the literature, findings on these are discussed together.

Difficult temperament and negative emotionality. In Slagt, Dubas, Dekovic, et al.'s (2016) meta-analysis, both difficult temperament and negative emotionality interacted with parenting in predicting adjustment in a manner consistent with a differential susceptibility model. Children with a more difficult temperament or higher negative emotionality were more vulnerable to negative parenting than children with an easier temperament or lower negative emotionality, and they also experienced greater benefit from positive parenting. Most associations were small in magnitude. Notably, differences in susceptibility were evident for a range of outcomes (externalizing, internalizing, and cognitive and social competence) but for negative emotionality, the differences were only present when it was assessed in infancy.

Kiff et al.'s (2011) earlier narrative review also found support for negative emotionality or difficult temperament placing children at increased risk of maladjustment when parents are less responsive or sensitive, or higher in psychological control. For example, in a study of 5- to 6-year-olds, Paterson and Sanson (1999) found that the combination of temperamental inflexibility (including negative reactivity) and punitive parenting predicted parent-reported behavioral problems. Following a Canadian sample from 2 to 4 years, Rubin, Burgess, Dwyer, and Hastings (2003) reported that low regulation (social fearfulness and anger proneness) more strongly predicted externalizing problems when mothering was hostile and intrusive at age 2. Stright et al.'s (2008) findings support the differential susceptibility model—compared to less difficult infants, infants with difficult temperament who experienced lower levels of maternal emotional support showed lower levels of first-grade academic adjustment, while difficult infants were more likely to have better adjustment in the presence of high levels of maternal emotional support. Also demonstrating that at-risk children may benefit from more positive parenting, Maziade et al. (1990) found that 7-year-old children with difficult temperaments who experienced more clarity of rules and consistent discipline were less likely to be diagnosed with a behavioral disorder at adolescence. Studies following children into later adolescence are less common. Using data from the ATP, negative reactivity and parental warmth at 13–14 years did not interact in the prediction of depressive symptoms at 19 years, after accounting for previous depressive symptoms (Lloyd et al., 2017). Negative reactivity and, for females only, low parental warmth directly predicted later depression. Taken together with previous findings (Letcher et al., 2004), results suggest parental warmth for negatively reactive children provides only concurrent protection against depressive risk.

Evidence for multiplicative effects of parenting and more fine-grained aspects of child negative emotionality, namely frustration and anger, has been less consistent, particularly for older samples (e.g., Xu, Farver, & Zhang, 2009). Some studies show that children high in frustration experiencing higher parental control are at increased risk of externalizing outcomes (Degnan, Calkins, Keane, & Hill-Soderlund, 2008; Morris et al., 2002). However, overall, support appears stronger for parenting and children's irritability having direct, additive effects on adjustment rather than an interactive one (Kiff et al., 2011; Xu et al., 2009). For those findings that were interactive, a diathesis-stress model had most support, whereby high frustration in the context of suboptimal parenting leads to negative outcomes, although few studies allowed comparison with alternative interactive models such as differential susceptibility (Kiff et al., 2011).

Surgency, inhibition and fearfulness. The complexity of processes involved in relations between temperament and parenting are perhaps best demonstrated in the findings for the temperament trait of surgency and its obverse, inhibition or fearfulness. Overall, intrusive and harsh parenting appears to be linked to maladjustment for those high in fear (Colder, Lochman, & Wells, 1997). Kochanska's body of research (Kochanska, 1995; Kochanska, Aksan, & Joy, 2007; Kochanska et al., 1997) shows that temperamental fearfulness can have both direct (main) and interactive effects on children's developing internalization of moral rules. Children high in fearfulness respond well to gentle discipline which elicits sufficient arousal to allow the child to internalize parents' goals. Gentle, low-power discipline, however, appears to yield insufficient anxiety in more fearless children to create behavior change; these children process parental messages more effectively when they experience a mutually responsive, positive parent–child relationship. Gender differences in interaction effects indicate that boys may be more sensitive to parenting behaviors regardless of fear levels (Kiff et al., 2011). While the interaction of fear and parental control has been examined in a number of studies, findings are inconsistent and may depend on gender, the domain of parenting involved, the developmental period, and whether fearfulness or fearlessness is studied.

Slagt, Dubas, Dekovic, et al.'s (2016) meta-analysis found inconclusive results for the broad

construct of surgency (which includes activity, impulsivity, and sociability), with low surgency constituting a vulnerability factor in some studies (supporting a diathesis-stress model), and other studies finding no interactions. Better understanding of processes may be achieved with studies using fine-grained aspects of surgency in conjunction with abovementioned factors such as gender.

Self-regulation and effortful control. While effortful control does not appear to consistently interact with parenting in predicting child adjustment, Slagt, Dubas, Dekovic, et al. (2016) found that associations between positive parenting dimensions and negative child adjustment were stronger for children with low levels of effortful control. For example, in a Dutch longitudinal study of 6- to 11-year-olds, children low on effortful control showed lower levels of externalizing problems compared to children high on effortful control when parental responsiveness was high (Slagt, Dubas, & van Aken, 2016). However, some studies have found that negative parenting behaviors moderate associations between effortful control and outcomes. In a large study of Chinese third and fourth graders (Xu et al., 2009), indulgent/permissive parenting was associated with proactive aggression for children who had low but not high levels of effortful control. Kiff et al.'s (2011) review concluded that, overall, low self-regulation appeared to constitute a direct risk regardless of parenting. When interactions are evident, they have generally been consistent with the broader models such as Bronfenbrenner's biopsychosocial model and have not supported more specific predictions of the diathesis-stress, differential susceptibility, or vantage sensitivity models (Slagt, Dubas, & van Aken, 2016).

Almost all studies examining parenting-temperament interactions have explored mothering rather than fathering. The few studies that have focused on fathering, or compared mothering and fathering, have suggested some differential effects, but without revealing a clear pattern of findings. Examining the predictors of child self-concept at 4 years, Brown, Mangelsdorf, Schoppe-Sullivan, and Frosch (2009) found that fathers' parenting interacted with child temperamental proneness to distress to predict agreeableness, while mothers' parenting interacted with child temperamental boldness to predict timidity. The authors suggested fathers may play a key role in management of emotions, as well as fostering social competence and peer interactions. However, as noted by Fields-Olivieri, Cole, and Maggi (2015), evidence for associations between child temperament and paternal behavior is mixed, with some finding no association, and others finding associations which did not depend on parent gender. In their observational study of 18-month-olds, fathers' positive parenting (sensitivity and positive affect) was related to toddler positive affect but not toddler temperament (as rated by mothers). By contrast, for mothers, sensitivity was lower for children rated as higher in negative affect. These mixed findings highlight the need for high quality longitudinal research on both maternal and paternal behaviors and their relations with temperament and child development.

Several studies have found evidence of more than one type of process occurring simultaneously. For example, investigating moderated mediation, maternal warmth and intrusiveness were tested as mediators of the association between maternal depressive symptoms and toddler internalizing behavior, with toddler temperament and gender tested as moderators of the mediated relation (Hummel & Kiel, 2015). Increasing maternal depressive symptoms were related to lower maternal warmth, which in turn was related to higher toddler internalizing difficulties. Results suggest even mild maternal depressive symptoms may contribute to the development of child internalizing difficulties for those temperamentally at-risk. Findings of associations between maternal intrusive behavior and other variables were unexpected and complex. However, such studies highlight the need for incorporating a number of parent, family and environmental factors, in conjunction with intrinsic child characteristics, in understanding influences on development.

Gender

The gender of both the child and the parent has been found to influence the way in which parents respond to children in terms of parental emotion socialization, discipline style, and overprotectiveness.

Within the area of emotion socialization, such as the way in which parents respond to, coach and model expression and regulation of emotions (Eisenberg et al., 1998), parents may respond differently depending on the gender of the child and parent as well as the emotion expressed. Fathers in Western countries, where this research has been centered, have been found to be more likely to engage in gender stereotyped responses to girls and boys—encouraging greater expression of negative-submissive emotions of sadness and fear in girls but not in boys, but being more encouraging of negative-dominant emotions (anger) in boys than girls (e.g., Chaplin, Cole, & Zahn-Waxler, 2005; Garside & Klimes-Dougan, 2002). Further, mothers and fathers have been found to use more emotion dialogue with their 4-year-old daughters than their sons (Aznar & Tenenbaum, 2015). Emotion discussion by parents has been found to be an important determinant of children's emotional knowledge—a key component of emotional competence (Denham, 1998; Saarni, 1997).

These different responses to the emotions of boys and girls appear to reflect a shaping process consistent with the roles that fathers and mothers take in raising children. In Western countries, despite changes in the recent decades, men are still typically the main economic providers while women are the principal caregivers (Huerta et al., 2013; Lamb & Lewis, 2010). Mothers tend to be more nurturing around children's emotional needs while fathers are more rational and stoic (Shields, 2013). Fathers may have fewer opportunities for engaging in emotion discussion because they have less time with their child, while mothers are expected to be relationship-oriented in their role as *nurturers* (McIntyre & Edwards, 2009).

Discipline style may also differ depending on the gender of the child. Lysenko, Barker, and Jaffee (2013) found that boys experienced harsher discipline than girls, which accounted for 10–20% of the sex difference in the prevalence in conduct problems. This study found that boys also tended to have more difficult temperaments than girls, which may have contributed to parents' harsher response. The harder to manage, negative behaviors associated with difficult temperament can evoke harsh, aggressive, and controlling parenting, or alternatively overly permissive parenting, both of which reinforce these difficult behaviors (Frick & Morris, 2004). Negative emotionality in a child may also heighten punitive parenting, further intensifying the child's emotion and contributing to a negative coercive cycle (Patterson et al., 1992)—a pattern more commonly seen with boys than girls.

Child gender has also been found to act as a moderator of parental responses to children's inhibited or fearful temperament (Kiel, Premo, & Buss, 2016). Fearfulness and withdrawal occur slightly more often in girls than boys (Sanson, Hemphill, Yagmurlu, & McClowry, 2011), and may elicit overprotective, oversolicitous parenting that reinforces fearful responses, thereby perpetuating avoidant and anxious behaviors. These aspects of parenting have been found to affect girls and boys differently. A lack of encouragement of independence has been found to intensify social fears and anxiety in boys (Coplan, Prakash, O'Neil, & Armer, 2004), while protective parenting may have benefits for girls but lead to more negative outcomes in boys (McShane & Hastings, 2009). Hastings, Rubin, and Mielcarek (2005) found that maternal protectiveness was most strongly related to children's prosocial behavior in highly inhibited girls, but was related to less prosocial behavior in less inhibited girls. No relationships were found for inhibited boys.

Chronic Illness

Other factors within the child also affect the way parents cope and respond to their children. One such example is chronic medical conditions that may vary in type and severity and include diseases such as asthma, bowel disorders, cystic fibrosis, diabetes, epilepsy, metabolic disorders, and rheumatoid arthritis. These conditions often

have no known cure and are characterized by periods of stability interspersed with episodes of acute medical intervention (KyngÄs, Kroll, & Duffy, 2000; Young, Dixon-Woods, Findlay, & Heney, 2002). Chronic illness in children can have a significant impact on all family members because of the stress of coping with the condition (Drotar, 1997; Fiese & Everhart, 2006), creating a more dependent parent–child relationship as well as greater parental overprotectiveness (Phillips & Jones, 2014). Often, this dependent relationship is accompanied by intense and distressing shared emotional experiences secondary to the illness and its management (Coffey, 2006).

Chronically ill children may require greater help from parents than their healthy peers to understand and regulate these strong feelings, while parents may also find it harder to respond in emotionally supportive ways due to the increased psychological and practical pressures associated with having an ill child. In families with a chronically ill child, there is often greater conflict and distress as families adhere to treatment regimens that may be unpleasant and interfere with the child's normal developmental milestones (Coffey, 2006; Young et al., 2002). Not surprisingly mental health problems, especially internalizing difficulties, occur at up to twice the rate compared to non-ill populations (Gortmaker, Walker, Weitzman, & Sobol, 1990; Kronenberger & Thompson, 1992; Timko, Stovel, & Moos, 1992) and the level of *burnout* in parents from supporting a child with such a condition is much higher than the general population (Lindström, Aman, & Norberg, 2010; Waylen & Stewart-Brown, 2010). Little research has explicitly looked at the role of parenting behaviors in explaining these associations.

Summary

Of the research on individual differences in children and parenting, by far the majority has been on temperament which has clear direct effects on child development and adjustment, but also interacts with parenting in complex ways, including via bidirectional, mediated, and moderated effects. In general, children who are more negatively reactive are more challenging to parent, and tend to elicit more negative parenting characterized by punitive, power assertive, or controlling behavior. Children high in withdrawal or fearfulness, and/or low surgency can elicit overprotective parenting. Further, combinations of parenting and temperament characteristics can account for additional variance to each of these alone, although these additions tend to be small in size. More interestingly, there is evidence that parenting can have differential effects on children with different temperamental characteristics. The major theoretical models to explain this are goodness of fit and differential susceptibility. In Slagt, Dubas, Dekovic, and et al.'s (2016) meta-analytic study, the differential susceptibility model received most support when the broadband concept of *difficult* temperament was used, and also for the specific temperament trait of negative emotionality but only in infancy. Results for surgency and effortful control were inconclusive; with these traits not consistently moderating associations between parenting and child outcomes. As psychological research has been dominated by a focus on vulnerability to adversity (Pluess & Belsky, 2013), few studies include the full range of parenting dimensions and outcomes, from negative to positive. Yet comprehensive evaluation of these theoretical models requires assessment of both negative and positive parenting, and negative and positive child adjustment. To fairly compare the various models, more high quality studies are needed using longitudinal data sets which assess the full range of environments and outcomes.

Inconsistent support for the various models may be due to a range of factors including the developmental period assessed, the exact temperament and parenting dimensions being explored, gender and other contextual factors, and methodological factors (e.g., informants, assessment method). One limitation in this literature derives from the use of the different constructs with differing operationalizations within both the temperament and parenting literature, with little consensus as to the relative impact of specific factors on specific outcomes (Ge, Best, Conger, & Simons, 1996). Statistically, interaction terms are difficult to detect and in psycho-

logical research they tend to be small in magnitude. For example, in Slagt, Dubas, Dekovic, et al.'s (2016) meta-analysis, only modest effect sizes were found. However, this does not necessarily imply that they are unimportant.

Besides temperament, the gender of both the parent and the child is significant in understanding parenting behavior. Gender differences in child temperament tend to be small in magnitude, but responses to temperamental characteristics differ by gender of child as well as gender of parent. A number of studies have found that parents respond differently to the emotions of boys and girls (favoring expression of anger in boys, fear/sadness in girls), and fathers are less likely than mothers to engage in parenting that scaffolds children's emotion learning. Further, we have used chronic illness as another example of child individual differences which can have an impact on parenting, with overprotectiveness and greater parental stress due to caring for an ill child both found to occur at higher rates.

An overall implication of these findings is that parenting programs following a *recipe book* approach on *the right way* to parent may do a disservice to families. Better understanding of the transactional processes involved can help practitioners to tailor interventions to individual child characteristics. Interventions aimed at supporting this more nuanced approach to parenting are reviewed in the next section.

Interventions Focusing on Child Individuality

The findings of bidirectional and interactional processes in temperament, parenting, and child outcomes reviewed in the previous section suggest that both child characteristics and parent behaviors are potential targets for interventions. Parents of temperamentally at-risk children in particular are likely to need help in understanding the unique nature of their child, and may require additional support in finding positive ways of parenting for that child. Children with temperaments characterized by behavioral inhibition and negative reactivity, or with specific conditions like chronic illness are at increased risk for adjustment difficulties, as well as problems within the family (Gortmaker et al., 1990; Lindström et al., 2010; Rothbart & Bates, 2006). As a result, some interventions directly target children who are identified as being at risk due to their temperament or specific conditions like chronic illness. Parenting programs are a common method of indicated prevention, whereby the intervention is delivered based on the identification of child risk factors (Mrazek & Haggerty, 1994). Other interventions are early intervention or targeted prevention programs where children are identified on the basis of specific mental health conditions (such as separation anxiety, social phobia, or oppositional defiant disorder). Finally, some parenting programs may indirectly address child risk factors or problem behaviors by offering universal prevention programs to all interested in participation. The following outlines interventions that more directly target child risk factors such as difficult temperament.

Temperament-based prevention and intervention programs generally aim to foster positive child adjustment by enhancing goodness of fit. This may be achieved by changing the way parents, teachers and other caregivers interact with the child based on temperament or by modifying the child's environment to enhance fit (McClowry & Collins, 2012). However, remarkably few evidence-based intervention programs focus on temperament. *INSIGHTS into Children's Temperament* (INSIGHTS) is a temperament-based preventive intervention developed by McClowry and colleagues (O'Connor et al., 2012) for primary school-aged children involving students, parents, and teachers. The focus of the program is on prevention or universal intervention, so the program may be offered to all families of students in a school or other setting. The INSIGHTS manualized intervention involves three key components: (1) recognizing temperament and its influence on behavior; (2) using temperament-based behavioral management strategies; and (3) encouraging strategies that foster self-regulation and social competence. Caregivers are encouraged to reframe perceptions of their child's behavior to recognize the influence of temperament and respond more sensitively, appreciating the pros and cons of their child's temperament traits.

The efficacy of the INSIGHTS program has been evaluated in a series of United States (US) studies. McClowry, Snow, and Tamis-LeMonda (2005) reported that children participating in INSIGHTS showed significantly greater reductions in behavior problems at home compared to children participating in a read aloud after school control program. Comparing two versions of INSIGHTS, O'Connor et al. (2012) found that a collaborative model involving joint parent and teacher workshops appeared to be more effective than a parallel model with separate workshops for parents and teachers. While children enrolled in both models showed a decrease in disruptive behavior problems over the course of the intervention, children in the collaborative model with *high maintenance* temperaments (low task persistence, and high negative reactivity and activity) showed the most rapid rates of decline. Follow-up mediational tests suggested that the mechanism through which INSIGHTS reduced child disruptive behavior was through increases in parenting efficacy, with improvements in perceived competence being related to lower levels of disruptive behavior.

Another preventive intervention program evaluated by Cameron, Rice, Sparkman, and Neville (2013) provided individualized temperament guidance to parents of preschoolers in a health management organization (Kaiser Permanente, Northern California). Parents in the intervention were provided general information about child temperament together with individualized information about management issues that may arise for their child based on their specific temperament profile. Compared to the control group, parents of boys in the intervention group sought fewer subsequent consultations for behavior-related issues. No significant differences were found for girls. As expected, the intervention effect was greater for those with harder-to-manage versus easier-to-manage temperaments. This suggested the individualized guidance was most effective for those parents who may have otherwise had the most trouble understanding and managing their child's unique characteristics.

Other temperament-based interventions are targeted to at-risk populations, such as Rapee, Kennedy, Ingram, Edwards, and Sweeney's (2010) Cool Little Kids (CLK) program, developed to prevent anxiety disorders in children identified as high in behavioral inhibition. Their group program, based on a cognitive-behavioral model of anxiety, aims to improve outcomes through development of enhanced parenting skills and child coping skills. Several studies have provided empirical support for the program. In one study of parents with anxiety disorder, preschoolers who completed the CLK program showed reduced behavioral inhibition compared to waitlist controls (Kennedy, Rapee, & Edwards, 2009). A pilot evaluation of an online version of the program showed that the Internet program with or without clinician support reduced child anxiety symptoms (Morgan, Rapee, & Bayer, 2016). A follow-up randomized controlled trial of 3- to 6-year-olds with an inhibited temperament found that compared to controls, those in the intervention group showed lower rates of anxiety disorders and significantly reduced anxiety symptoms and life interference from anxiety (Morgan et al., 2017). However, there were no differences between groups on overprotective parenting and overall internalizing symptoms, and a sizeable minority did not experience improvements, suggesting that further work needs to be done to explore which families are likely to benefit from the program and the mechanisms through which changes are effected.

Another selective intervention program, named TOTS, has involved an adaptation of Parent–Child Interaction Therapy to include the assessment of temperament and the role it may play in parent–child interactions (Pade, Taube, Aalborg, & Reiser, 2006). Evaluation of the program when offered to families of 2- to 5-year-old children with problem behaviors indicated that child behavior outcomes improved post treatment, but not all improvements were maintained in longer term follow-up (Pade et al., 2006). Neither the specific impact of the temperament component of the program nor changes in parenting behavior were evaluated, and long-term follow-up was hampered by low response rates. Sheeber and Johnson (1994) reported favorable preliminary findings for a temperament-focused psychoeducational intervention for mothers of 3- to

5-year-olds with difficult temperament which was based on a goodness of fit model. Compared to waitlist controls, at the completion of the group program, mothers reported greater satisfaction in the parent–child relationship, and higher levels of perceived competence and feelings of emotional closeness to their child. Mothers also reported reduced anxiety and depressive symptoms, rated their children lower on internalizing and externalizing problems, and reported experiencing fewer family lifestyle disruptions.

A parenting program that targets children with more difficult temperaments and parent emotion socialization is the *Tuning in to Kids* (TIK) parenting program. Given the moderate heritability of temperament, parents may have either a similar temperament leading to a *personality clash* (in cases where both parent and child have high intensity, frequency or duration of negative expressed emotion) or a very different temperament and have difficulty empathizing and responding in an attuned way to their child (for example, a more extroverted parent with a behaviorally inhibited child). TIK aims to teach parents emotion coaching skills, that is, how to recognize, understand, and manage their own and their children's emotions, especially if the child has more intense emotionality or a difficult temperament (Havighurst & Harley, 2007). The 6-session group program teaches parents five steps of emotion coaching (Gottman, Katz, & Hooven, 1997), namely: noticing the emotion, seeing it as an opportunity for intimacy and teaching, communicating an understanding and acceptance of the emotion, assisting the child to use words to describe how they feel, and, if necessary, assisting with problem solving and/or setting limits around behavior. The program, first developed for parents of preschoolers, has been adapted and extended for fathers-only groups, as well as for parents of toddlers, primary-school aged children and adolescents, and for parents of children with anxiety, behavior problems, and chronic illness (Duncombe et al., 2016; Havighurst et al., 2013; Havighurst, Kehoe, & Harley, 2015; Havighurst, Wilson, Harley, Prior, & Kehoe, 2010; Wilson, Havighurst, Kehoe, & Harley, 2016; Yang, 2017).

As reviewed earlier, some research has found that children are more adversely affected by negative parenting when they have a more difficult temperament or negative emotionality, in line with the differential susceptibility model (Slagt, Dubas, & van Aken, 2016). A substantial portion of the TIK program gives parents psychoeducation about temperament differences and how these manifest, and teaches parents skills in responding to intense emotions and challenging behavior that may occur at greater frequency and intensity in such children. For example, parents of younger children learn how to assist the child to regulate intense emotions (until this skill is internalized) and to down-regulate when they are *emotionally flooded*. Children with greater emotionality often take longer to learn these skills. TIK thus helps parents to recognize their child's individual learning needs around understanding and regulating emotions.

In summary, there is emerging evidence that parent interventions which include education about temperamental differences and parenting approaches to sensitively manage unique child characteristics can be effective in both changing parenting behavior, and improving child outcomes. Child-focused interventions, when developmentally appropriate, may also be effective when they help children to manage temperament-related issues such as self-regulation difficulties, which may then serve to improve the parent–child relationship. Establishing the effectiveness of child-focused interventions that are targeted to those at risk due to temperament or other specific conditions is still in its infancy. Future evaluation studies using randomized controlled designs must also examine more specific questions about the moderators and mediators of intervention outcomes. Rather than just demonstrating whether an intervention works, addressing such conceptual and statistical questions enables individual child factors such as temperament to be considered when selecting whether those low or high on a particular characteristic gain more or less from an intervention. Further, establishing the mechanisms responsible for intervention outcomes both enriches theoretical knowledge about the malleability of temperament, and also assists in directing prevention efforts to mitigate factors such as negative reactivity and low sociability to reduce poor child outcomes.

Discussion

This review of the interplay of child characteristics with parenting has highlighted a number of important considerations of relevance to parenting researchers and professionals as well as to parents themselves. Current evidence clearly demonstrates the active role that children play in their own development, with their individual characteristics shaping their developmental paths directly as well as through their interactions with their environment. There are multiple ways in which these interactions occur, including bidirectional, mediated, and moderated processes. Particular child characteristics can make the task of parenting more complex and challenging, especially when they are a poor *fit* with their environment, and a small but growing number of evidence-based intervention programs aim to alert parents to their child's individuality and support and educate them in ways to take this into account in their parenting behaviors. Box 1 provides an illustration of a treatment approach that focuses on child individuality, while also taking the family context into account.

Box 1 Case Study: Responding to Child Individuality

A single mother presents to a clinical service with difficulties managing her second child, a 5-year-old girl. The mother reports the child has increasing tantrums, does not comply with her requests, and often has intense reactions. The mother says this is in stark contrast to her oldest child (8 years) whom she describes as good-natured and easy-going. The mother is concerned that her parenting efforts seem ineffective, especially since her separation from the children's father 1 year ago. Since then her daughter has become increasingly difficult and she reports she often finds herself responding harshly to her. An assessment based on clinical interviews with both parents separately and the child and observations of parent–child interactions suggested the child had shown high temperamental negative reactivity since birth, and that the mother–child relationship was compromised by negative interactions arising from a mismatch between parental expectations and child characteristics. Conflict between the parents appeared to have exacerbated this. The clinician implemented a temperament-based intervention with the mother as well as addressing grief and changes within the family unit. With the mother (and separately with the father) the clinician highlighted individual differences in temperament and how these could influence child behavior and parenting. Both parents began to understand that their daughter generally felt things more strongly and reacted more intensely. They also recognized that, besides this aspect of her temperament, some of her reactions were also part of her coping with the family conflicts and change. Both were taught skills in responding to her emotions by labelling them, empathizing and helping her with ways of managing her emotions and behaviour. The clinician also worked with the parents to get the right balance of parenting that was assertive, patient, and firm, as well as warm and affectionate. This included a focus on limit setting, maintaining consistency and clear boundaries while at the same time being sensitive to the child's intense feelings. By the end of the course of sessions, both parents reported improvements in the child's behavior and in the quality of the different family relationships. The mother in particular reported that a focus on temperament had helped her to appreciate her daughter's qualities and skills and not to always feel that she, or the parental separation, was responsible for her child's behavior. This allowed her to stop blaming herself and to more directly talk with her daughter about her feelings about the separation while also being able to set limits at the right times.

While being an active and growing arena for research, there are a number of substantive gaps in current knowledge which are ripe for future research. These include the need for research to more clearly locate children and parents within a broader ecological framework, acknowledging and examining the ways in which factors in the various layers of the ecological *onion* impact on parent–child interactions. The most glaring absence here relates to the *macro* level and sociocultural background, with current knowledge almost exclusively based on Western middle class samples. Similarly, the role of fathers has been seriously underexamined. Growing advances in neurobiology will allow increasing understanding of how biology contributes to both child individuality and to child interactions with parents and parenting. Finally, from a methodological viewpoint, it is important to unpack the practical significance of the interaction effects between child and parent factors, which tend to be small in size but may nevertheless be important in practice. These issues are discussed below.

Child Individuality Matters

It is unarguable that children, from birth and throughout development, are unique. From very early on, parents become aware of how outgoing or reticent their child is, how intense or mild their emotional reactions are, how quickly they get irritated and how quickly they can be calmed. These differences are rooted in part in biology, including an inherited component, and are moderately stable over time, but are also shaped from the start by developmental processes and by interactions with the environment. Added to these differences in temperament are other facets of individuality, ranging from gender to health status. The evidence about the linkages between these individual differences and a broad range of positive and negative developmental outcomes establishes that these differences *matter* in terms of the child's developmental trajectory and future adjustment. Helping parents to recognize their own child's individuality, and acknowledge that their child may in fact be more challenging to parent than the average child, can be comforting to parents, serve to reduce guilt and anxiety, and build parenting self-efficacy.

The recognition of the importance of child temperament formed part of a paradigmatic change from predominantly environmentalist or behaviorist explanations for child behavior. Theoretical and empirical developments since then have led to an understanding that *nature* and *nurture* interact in complex ways throughout development, as reflected in ecological and systems models of development. The research on how parenting and temperament interact to influence later development is a paradigmatic example of such *nature by nurture* research.

How Individual Differences Interact with Parenting

Saying that individual differences *matter* does not imply that having a *difficult* temperament nor any other individual difference inevitably leads to negative outcomes for children. Many children with characteristics statistically associated with poorer outcomes do well, while some with characteristics usually associated with good outcomes do poorly. Indeed, the differential susceptibility model posits that a particular characteristic may be associated with both negative and positive outcomes depending on the environment. This reinforces the importance of not labeling children's particular characteristics as *good* or *bad*. Parenting is often an important part of the reason for outcomes that defy statistical trends.

While some research has examined associations between parenting and child factors (such as gender and ill-health), by far the majority has focused on the ways in which temperament and parenting may influence each other. This research started by examining their additive effects, and here the evidence is clear-cut that both contribute to development in important ways. In terms of temperament, negative reactivity consistently predicts a range of negative child outcomes, and higher inhibition is a consistent predictor of internalizing problems. While low self-regulation predicts externalizing, internalizing and sub-

stance use problems, high self-regulation is associated with social and cognitive competencies. Parenting behaviors most clearly connected to child outcomes are those relating to negative aspects of control, including harsh and inconsistent discipline, and those relating to affection, including warm and accepting responses.

In line with theoretical developments, most research has now shifted to investigations of bidirectional and interactive effects. This research tends to be framed around goodness of fit, diathesis-stress or (more recently) differential susceptibility models. As discussed earlier, these models have all received some empirical support. The most compelling evidence to date is that children with more 'difficult' temperament characteristics are more vulnerable to negative parenting behaviors, with some but less consistent evidence that they are more likely to flourish in the context of positive parenting. There are converging findings for some specific temperament by parenting interactions shaping development. Firstly, young children high on negative reactivity are especially sensitive to low parental warmth, poor control strategies (low consistency and boundary-setting), and high levels of harsh control, which increase the chance of developing behavior problems. However, with high warmth (including emotion coaching), effective control and absence of harsh discipline, they may be especially advantaged. Second, young children whose effortful self-regulation abilities are slow in developing may be especially sensitive to positive parenting. If parents can effectively scaffold the slowly developing self-control of the child, those low in self-regulation may be protected from negative outcomes. Thirdly, although the evidence is not so clear-cut, children who are high on shyness and fearfulness may be especially sensitive to the availability of security and protection, and those with too little support or too few growth challenges are especially likely to develop internalizing problems, indicating the importance of both avoiding over-protection and grading exposure to new challenging situations for these children (Bates et al., 2014).

The three broad models of the way in which temperament and parenting together affect adjustment are not necessarily mutually exclusive, and it is likely that there are multiple pathways involved. Further, it is important to recognize that these occur within the context of a multifaceted environment.

There are obviously other aspects of child individuality which have not been discussed in detail in this chapter, largely because there is little research that specifically examines how they impact upon parenting. These include differences in language and cognitive abilities and both physical and cognitive disabilities. Despite the small research base, it can be assumed that here also, it is important for parents to attend to their child's individuality and modify their parenting to fit their capacities and needs.

Temperament-Focused Interventions

As reviewed above, highly reactive, intense, and irritable children are more likely to develop externalizing behavior problems, and may also be more vulnerable to negative parenting. Besides these factors, they are often more demanding to parent, and may easily elicit exactly the sort of parenting that appears worst for them. Similarly, highly inhibited and fearful children are more likely to develop internalizing problems, and their prosocial and competent development appears to benefit particularly from gentle discipline, emotion coaching and supportive encouragement to overcome avoidant behaviors. Child temperament characteristics can also pose a particular challenge to parents if there is a mismatch with parental expectations. For example, a parent may engage in overly permissive and ineffective parenting with a child high on negative reactivity, or show harsh, unsupportive parenting to a more inhibited or fearful child, both of which may result in exacerbation of the child's temperamental disposition. Hence, parents of temperamentally at-risk children in particular are likely to need help in understanding the unique characteristics of their child, and in finding positive ways to parent them.

Good intervention research is grounded in current theory and research findings, at the same

time as providing a strong test of the validity of theoretical models. However, within a vast array of programs to support effective parenting, the number which have incorporated temperament as a focus is small. Nevertheless, these interventions show the value of alerting parents to their child's individuality and helping them to adjust their parenting to support their particular child's development and adjustment. There is a clear role for further well-designed and well-evaluated temperament-based parenting interventions to understand how parental responses can both modify *difficult* temperament characteristics, and adapt to the child's temperament to build their competence. Intervention trials are just beginning to examine the mechanisms responsible for change and, given the infancy of temperament-based interventions, this work continues to be a major empirical challenge.

Just as few evidence-based intervention programs pay serious heed to child individuality, only a few of the multitude of *self-help* books on parenting provide research-based advice on individual differences between children. Among those that do discuss aspects of individuality are McClowry (2003), Kurcinka (2011), and Neville and Johnson (2015).

Limitations and Future Directions

Despite the expanding body of knowledge about how parenting influences, is influenced by, and interacts with aspects of child individuality, there are significant limitations to current knowledge. Some important issues and areas of weakness that should be addressed in future research are outlined below.

Lack of Ecological Focus

Ecological models remind us that not only are there multiple child factors which need consideration in understanding development but also aspects of the child's microsystem, mesosystem, exosystem, and macrosystem. Sitting in the microsystem, parents and their parenting behavior are critical elements in this ecology, and other parent factors such as personality and mental health also need to be taken into account. Wider influences on the family system also need to be considered.

From our review, it is clear that little of the research on parenting and temperament seriously adopts an ecological model—by far the majority is restricted to the microsystem. When the research focus has been broader, it has shown the relevance of mesosystem, exosystem, and macrosystem influences (Sanson, Smart, & Misson, 2011). As an example, having parents who support the school and schoolwork is associated with good academic and social functioning at school (Ray & Elliott, 2006). Similarly, Mathiesen and Tambs (1999) reported that levels of social support given to mothers from family, friends, and neighbors, as well as socioeconomic risk factors, marital distress, chronic stressors, and negative life events in the family, affected problem behaviors among 18-month-old children indirectly, through their effect on the mothers' symptoms of depression which impacted on their parenting capacity. Mothers' social support also had direct effects on children's behavior problems. Further, school and neighborhood factors, and societal systems of child and family support (e.g., childcare, family support payments, health and education systems) all have potential to moderate and mediate the ways that parenting and child temperament impact on child development (Sanson et al., 2008). Furthermore, few studies have explored multiple dimensions of parenting and temperament simultaneously (for notable exceptions see Lengua, 2006; Letcher et al., 2004). Findings of patterns of association may be distorted if all relevant variables have not been taken into account, and it is difficult to determine the functional importance of differences in child characteristics and parenting without accounting for them, since they may covary with one or both of these (Sanson, Hemphill, et al., 2011). We would argue that both research and interventions should adopt more complex models incorporating these broader aspects of the child's ecology, as well as multiple aspects of individuality.

Predominance of Research on Western Middle-Class Samples

The importance of culture in relations between temperament and parenting in child development is understudied (Chen, Yang, & Fu, 2012). A recent review of studies reported in the highest ranking experimental developmental psychology journals from 2006 to 2010 found that less than 3% of the participants came from South and Central America, Africa, Asia, or the Middle East—areas that contain approximately 85% of the world's population (Nielsen, Haun, Kartner, & Legare, 2017). First authors were also disproportionately from Western, educated, industrial, rich and democratic countries (known as WEIRD countries, emphasizing that they account for only 15% of the world's population).

Cultural variations in temperament have been found, although typically small in magnitude. For example, Rubin et al. (2006) found that Chinese and Korean toddlers were more inhibited than their Australian, Canadian, and Italian counterparts. Further, the impact of temperament on individual functioning and development may be moderated by societal and cultural conditions and expectations. As Wachs (1999) points out, the connections between culture, temperament, and social development are likely to be complex, and may not be linear (e.g., there may be larger cross-cultural differences at the extremes). There is also clear evidence of cultural variations in parenting practices; for example, in a large study comparing 4- to 6-year-olds and their parents in China and the USA, Chinese parents were found to be more authoritarian (Porter et al., 2005).

When culture is taken into account, it is clear that there are cross-cultural variations in child socialization and parent–child interactions. For example, Yagmurlu and Sanson (2009) investigated the direct and indirect roles of parenting, child temperament, and sociocultural context in predicting prosocial behavior by comparing 4- to 6-year-old Australian children and Turkish children living in Australia. Turkish and Australian children were similar in their levels of prosocial development, but for Australian children, maternal warmth and child persistence predicted prosocial behavior, whereas for Turkish children, maternal obedience-demanding behavior had a facilitating effect on prosocial development. The results suggest that cultural norms shape parenting practices and hence affect children's development. Such findings reinforce the dangers in generalizing findings from Western samples to non-Western populations. They also emphasize the need to go beyond parent behaviors to their attitudes and values, some of which are influenced by cultural factors, when considering temperament–parenting interrelationships (Sanson, Hemphill, et al., 2011). Such factors are also likely to impact on other aspects of child individuality, including gender.

Neglect of Fathers

As noted above, the vast majority of research on how child individuality interrelates with parenting has considered mothering to the neglect of fathering. The dearth of research on fathers becomes more problematic as sociocultural changes result in them becoming increasingly involved in children's lives. What evidence there is shows differential parenting by mothers and fathers towards boys and girls, including in response to their temperament characteristics—generally in ways that perpetuate gender stereotypes. It is clearly important to address this research gap, as well as ensure the inclusion of fathers in parenting programs focusing on child individuality. Experience has shown that making programs accessible to fathers typically entails modifying programs in content, format, and timing.

Biological Influences

Knowledge is expanding rapidly about the neurobiology of individual differences. As noted earlier, temperament is being studied at neural, neurotransmitter, and genetic levels (Rothbart, 2012). To date, much of this work has been carried out with animal models, but human studies are increasing. There is some evidence that par-

enting can act as a moderator of genetic risk. For example, Sheese, Voelker, Rotherbart, and Posner (2007) showed that the combination of the DRD4 7-repeat allele with low maternal support and autonomy granting was associated with high levels of activity and impulsivity among 2-year-olds, whereas the combination of the same with high maternal support and autonomy granting, activity and impulsivity was associated with normal levels. Studies examining links between specific genetic factors, phenotypic measures of temperament, particular parenting behaviors and child outcomes will shed further light on temperament–parenting interactions, including testing models such as differential susceptibility. Epigenetics, which offers a new window into understanding how the social environment gets *under the skin*, has not yet been explored in relation to parenting and child individuality. Thus, as neuroscience develops, the incorporation of biological measures into research in this area holds substantial promise.

A complication in research in this area is that children share half their genes with each biological parent. Hence, *matches* between child characteristics and parenting behaviors may be due either to genetic similarities or to parents adapting their behavior to fit with their child's needs. Genetically based similarities between parents and children in temperament can lead to a *good* or *poor* fit (e.g., a fearful child with fearful parents may be in double jeopardy, whereas a highly active child with an active parent might work well together). From a research perspective, it can be difficult to isolate impacts of parenting behavior from shared genetic makeup. Further genetically informed research may help to disentangle these factors.

Meaningfulness of Statistical Interaction Terms

As indicated earlier, when significant interactions have been found between temperament and parenting in the prediction of particular outcomes, none have accounted for large amounts of variance in the outcome of interest. Their direct and independent effects typically account for much more variance. Various methodological and statistical challenges may partially explain these small effects, as well as their relative scarcity. Statistically, because the reliability of the interaction term is less than or equal to that of the least reliable independent variable, finding significant interactions is challenging (McClelland & Judd, 1993). Quality of measurement and sampling strategies may inflate or attenuate effect size measurement (Ferguson, 2009). Importantly, Chaplin (1991) and Aguinas, Beaty, Boik, and Pearce (2005) make the point that a small interaction effect found in the context of a well-articulated theory can have a meaningful impact for science or practice.

An alternative explanation for small effect sizes is proffered by Bates et al. (2014), who suggest that such findings may also indicate that, on the whole, parents are adaptable, and typically respond to children's temperament traits in more and less effective ways. This would mean that *mismatches* which lead to poorer outcomes are relatively rare. Recognizing that many parents are insightful about their child's individual characteristics, and inventive in finding ways of supporting their child's positive development in spite of sometimes challenging dispositions, is important. Research into how parents acquire such insights and put them into action (without specific interventions) may be useful for refining interventions for parents who would benefit from greater awareness about child individuality.

Conclusion

Despite the limitations and needs for more research outlined above, the evidence on how child individuality plays out with parenting clearly leads to the conclusion that *recipe book* approaches in parenting, promoting *the right way* to parent, may miss the mark for many children. We cannot presume that the same parenting strategies will work for all children. There is increasing recognition of the active role that children play in their own development, and hence the significance of the individual differences they bring with them. This

results in the relationship between parent and child being a dynamic, bidirectional one. Firstly, a highly reactive, intense, and irritable child, or a highly fearful, non-adaptable, and shy child, is often more demanding to parent. And secondly, if a parent is not tuned in to such individuality, these characteristics may elicit exactly the sort of parenting that appears worst for the child. Parents of temperamentally at-risk children in particular are likely to need help in understanding the unique nature of their child, and support in finding the strategies that work for soothing, controlling, stimulating, and guiding their particular child.

Adding to this complexity are other dimensions of child individuality, and broader aspects of the child's ecology, from the family level to the culture, which all can affect how well the child's characteristics *fit* with their environment, the value judgements that are placed on them, and how they constrain and shape the child's developmental course. Taking all these factors together, both parenting research and parenting interventions are becoming more nuanced and specific. We can therefore hope that the next generation of parents will be better resourced with the knowledge to understand their child's individual differences and the capacity to respond in optimal ways to allow their child to flourish.

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Self-Regulation and Parental Mental Health

Rachel M. Calam and Penny E. Bee

Introduction

This chapter discusses self-regulatory processes and the evidence base in relation to parenting and serious mental illness (SMI). Taking a perspective which regards the quality of life of family members as very important, the evidence in relation to practice, future research, and implications for policy and practice are considered. The importance of hearing the views of children and families in research and service planning is emphasized throughout.

Theoretical Background

Recognizing the processes that are involved in, and facilitated by, close relationships and positive affect in families, and their significance for children's development, is fundamental to understanding the vulnerabilities that can occur when these are disrupted (Ramsey & Gentzler, 2015). Close positive relationships provide individuals and families with strength, confer a sense of well-being, and maximize opportunities for intimacy, affection, shared fun, and responsiveness. They act as a mechanism through which to establish and reaffirm proximity, care and protection, and key elements underpinning secure attachments. Positive affect stems from an expression of constructive attitudes, moods, and emotions, which contribute to enhanced creativity, in thinking and actions. The "Broaden and Build" theory of positive emotion (Fredrickson, 2001), suggests these exploratory thoughts and behaviors precipitate the development of new skills and resources, contributing to upward spirals of individual and family development.

Close dependable relationships, positive affect and positive interactive processes generate a responsive and facilitative home environment for children and promote expressions of love and warmth, conveyed through close parent–child relationships characterized by positive interaction, joy and play (Calam, 2016). Parental warmth and positivity directly contribute to children's capacities to demonstrate effortful control in their own emotional regulation, and reduce the likelihood that children will show externalizing difficulties, typically conceptualized as disruptive or dysfunctional behaviors (Eisenberg et al., 2005). Longitudinal analysis of a substantial sample of families confirms that early positive parenting behaviors can engender long-term stability in children's effortful control, although parenting behaviors through adolescence continue to have an influence (Tiberio et al., 2016). Tiberio et al.

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highlight mutual influences between children's effortful control and parenting, both with regard to positive parenting and poor discipline. Such observations underscore the potential for the evocation and interdependence of self-regulatory behaviors in different family members over time. A comprehensive review of the intergenerational transmission of self-regulation (Bridgett, Burt, Edwards, & Deater-Deckard, 2015), emphasizes the relevance and consequence of the close interplay between parent and child self-regulation, noting that: "nearly all forms of psychopathology can be characterised in part as reflecting one or more aspects of poor self-regulation." (Bridgett et al., 2015, p. 625).

Models of individual self-regulatory and family processes are thus fundamental to advancing our understanding of the development and functioning of both parents and children. Where parents encounter stressors, such as serious and enduring mental illness, the challenges these present to a family's self-regulatory processes must be taken into account.

Self-regulation and parenting in the context of parental mental health, are the primary focus of this chapter. In the following sections, we outline key processes underpinning self-regulation, before considering the important aspects of self-regulation that may be evident in adults with mental health difficulties. We then examine the potential relevance of these to parenting practices and family function, and the likely impact on child development and quality of life. Finally, we explore the perceived needs and different delivery models for intervention.

Definitions and Terminologies

In examining the role of self-regulation in parenting and mental health, we attend primarily to the impact and challenges presented by serious mental illness (SMI). Many children will grow up with a parent who will at some point, have a mild or short-lived affective illness. Without dismissing the emotional and functional experiences of these difficulties, SMIs are, by definition, chronic and less likely to resolve spontaneously. They are associated with marked decrements in mental and physical well-being, economic productivity, and health-related quality of life. It has long been known that adverse experiences in childhood are associated with a wide range of negative outcomes in adulthood (Felitti et al., 1998). Research on the family environment factors associated with the intergenerational transmission of affective illness suggest that children who grow up in homes with more severe and chronic parental illness are at higher risk for psychopathology compared to children of parents who are less severely affected (Bella et al., 2011; Goodman et al., 2011). The burden of living with SMI can be substantial, and is highly likely to extend beyond the individual to encompass other family members.

In the absence of an internationally agreed standard for serious mental illness, there are differences in scope and classification. Umbrella terms, such as SMI or the children of parents with mental illness (COPMI) are used frequently, but can belie a range of definitions with variable reliance on different diagnostic tools or processes. There is considerable variation in how SMIs are prioritized and defined. In some studies, for example, only single diagnostic categories, such as bipolar disorder or schizophrenia, are explored. In others, multiple disorders are considered, sometimes (but not always) including depression. From a clinical perspective, unipolar depression remains diagnostically distinct from bipolar disorder, and dissimilar to other serious and enduring mental health difficulties, such as psychosis. Yet, from an individual's or a family's perspective, depression is not necessarily a milder disorder and different levels of severity and experience exist.

Operationalizing a definition of even a single diagnosis for the purpose of studying SMI can be challenging. A number of different rating scales and screening instruments have been validated for use in research and practice, but limitations in the accuracy of these tools and temporal fluctuations in symptomology can limit their ability to confirm or refute the presence of an enduring mental health disorder. At a population level, symptom severity and degree of functional impairment may correlate highly (Zimmerman

et al., 2008). At an individual level, however, some families may experience marked disruption, and others may, for a period of time at least, maintain adequate parental and family function.

Stakeholder-led definitions of SMI tend towards inclusivity, with mental health service users preferring to prioritize the lived experience of mental illness over specific diagnoses. In this context, SMI is a term used to denote a broad category of diagnosed and undiagnosed mental health difficulties, all of which are characterized by high symptomatology, marked episodic duration, significant functional impairment, and a chronic course of illness. The term SMI has been suggested, from the user perspective, to encompass schizophrenia, psychosis, bipolar disorder, severe affective mood disorders, and personality disorders (Rethink, 2008). The example, in Box 1, gives context to the understanding of the lived experience and quality of life in a family with a mother with bipolar affective disorder, and why this is so important with respect to parenting.

Box 1 Example: A Mother Living in the UK Writes About Living with Bipolar Affective Disorder

I had my first hypomanic and major depressive episode when I was 17. All my adult life my moods have more or less followed a pattern of 2–3 years of reasonable stability followed by 2–3 weeks of hypomania followed by 6 months or more of major depression… I was only diagnosed with Bipolar Affective Disorder at the age of 44. Until then, my depression was treated with anti-depressants and CBT but no one ever asked whether there was a bipolar element to my illness. Since my diagnosis… I finally achieved a stability that I have never before experienced. I feel that I now have a good insight into my condition and am able to manage it with … help...

Having Bipolar has had a major effect on every aspect of my life. I feel that I have never reached my full potential because my illness, particularly the debilitating depression, has caused problems with employment, relationships and education. I have swung from being very high-achieving to being manic to being totally disabled by depression. I am always monitoring my chaotic mind and have now developed coping strategies to prevent myself from relapsing into crisis. I am a single mother with three children, girls aged 16 and 14 and a boy aged 9. Having a parent with Bipolar has, unsurprisingly, had its ups and downs. They have had to cope with difficult situations when I have been so depressed that I have been suicidal and unable to get out of bed. There have been several occasions when the Mental Health Crisis Team have turned up in the middle of the night. They have had to go and stay with friends or with their father [in another city] at very short notice. They saw me vomiting blood when I had a bad reaction to lithium and had to call the ambulance. During times of crisis, it was very unsettling to have CPNs, [community psychiatric nurses] Social Workers, the Psychiatrist and the Crisis Team coming and going. However, I am a very determined person and during stable times I invest everything in the children and it has made us into a strong family unit. The children have learnt to be much more self-reliant and capable than many of their friends. They are able to carry out household tasks and are confident on public transport. My children have responded to my illness in very different ways. My elder daughter is very self-contained, independent, determined and avoids talking about my mental health. My younger daughter is outgoing and confident but can also be sensitive, anxious, and needs lots of reassurance and support. My son has been protected from the worst crises by his sisters. He has spent a lot of time in his bedroom on his iPad and has happily kept out of the way. An emergency trip to stay with his Dad for a few weeks was exciting!

(continued)

Box 1 (continued)

Since my diagnosis, I have been very lucky to have an excellent Psychiatrist who has taken my thoughts and opinions into account when deciding what level of input I needed from the Community Psychiatric Team and have seen either the Psychiatrist, the CPN or the OT at least once per week and more often if necessary. They have seen me through some terrible times and have managed to keep me out of hospital. I have had input from the Mental Health Crisis Team which led to Social Services becoming involved. I have also had Cognitive Behavioural Therapy and training in Mindfulness through the Community Mental Health Team. In addition, I have had a great deal of support from [voluntary groups]. My middle child has had help from the local Young Carers' Group and from the Pastoral Support Team at school.

My worst experience was when I took an overdose and was taken to A&E [accident and emergency] in an ambulance. I found the staff to be very dismissive and, despite being confused and distressed, I was allowed to walk home alone through town at 4.30 am to go home to care for my children. A&E staff certainly need a better understanding of serious mental illnesses. A friend stayed with me while my ex-husband drove up to stay with us. I was surprised that the Crisis Team were happy to hand over my care to him and he now says that he didn't receive any support despite the fact that I really wasn't his responsibility. There seems to be very poor communication. A more coordinated approach would be less chaotic and distressing for the children. They never had a key worker or named person to call in a crisis and were never introduced to any of the professionals involved in my care. On one occasion, it was organised for the children to go and stay with a friend and she was surprised they were just left to pack their own bags and make their own way to her house. There have been times when I would have benefitted from some respite care but there are no beds available in my area. I know when I am dipping into a depressive episode and feel my mental illness could have been prevented from reaching crisis point by earlier intervention and me being taken to a caring environment other than hospital. When I have been seriously ill I have found the responsibility of caring for the children just too much. Despite having wonderful friends, I have no family in the area to offer me any support. I would have been so grateful for someone to just ensure there was food in the fridge and that the children's uniforms were washed. I am very aware that this condition can run in families and my middle child has some recognisable traits that I am quietly monitoring.

In this chapter, we draw on a mix of evidence, distinguishing where necessary between severe depression, bipolar disorder, schizophrenia and psychotic-related disorders. Historically, a division has been drawn between depression and "more serious mental illnesses" and this separation is reflected in much of the research literature. Substantially greater research effort has been directed towards parenting and child outcomes in depressed populations than it has towards schizophrenia or bipolar disorder (Bee et al., 2014). This chapter attempts to redress this balance by focusing specifically on the challenges faced by parents living with enduring SMI. Separate literatures address self-regulation in parenting and SMI, and their integration offer new opportunities to conceptualize the important determinants of parenting in these populations. Key features are likely to include for example, the duration, depth and pervasiveness of mental illness, the impact of these variables on cognitions, behavior and emotions, the rates of fluctuation between different cognitive, behavioral and emotional states, and the degree to which specific perceptions or attributions show particular features or

distortions. These factors are discussed in detail in subsequent sections.

Children Growing Up with a Parent with Mental Health Difficulties

There have been urgent calls to better understand the relationships between parenting, parental mental health difficulties and child outcomes, and to improve service provision for children and families living with parental mental illness (e.g., Bee et al., 2014; Reupert & Maybery, 2007). In the US alone, approximately one in four adults will experience a mental illness in a 12-month period, and many of these will be parents (Kessler, Davis, & Kendler, 1997; Nicholson, Nason, Calabresi, & Yando, 1999). Comparable rates of mental illness are reported internationally. In Australia, approximately 20% of all mental health service users have dependent children, and 23% of all children have a parent with mental health difficulties (Howe, Batchelor, & Bochynska, 2012; Maybery & Reupert, 2009). At any one time in the UK, 9–10% of women and 5–6% of men are believed to be parents with a mental health disorder. Fifty to 66% of people with SMIs are believed to be living with one or more children under the age of 18 (Gopfert & Webster, 1996).

Empirical data indicates that children of parents with SMI are at increased risk of a range of adverse outcomes, including poorer mental and physical health (Goodman et al., 2011; Rasic, Hajek, Alda, & Uher, 2013), and behavioral, social, and educational difficulties (Goodman et al., 2011; Oyserman, Mowbray, Meares, & Firminger, 2000). Meta-analytic reviews suggest parental SMI significantly increases the risk of infant mortality (Webb, Abel, Pickles, & Appleby, 2005), and child maltreatment and neglect (Stith et al., 2009). Longer-term outcomes for children growing up in families with parental SMI can extend into adulthood and include an increased risk of social and occupational dysfunction (Terzian, Andreoli, De Oliveira, De Jesus Mari, & McGrath, 2007; Weissman, Wickramaratne, Moreau, Warner, & Olfson, 1997), psychological and psychiatric difficulties (Weissman et al., 2006), lower self-esteem, and alcohol or substance misuse (Jacob & Windle, 2000; Kessler et al., 1997). Such outcomes highlight potential for the intergenerational transmission of self-regulation difficulties in families living with parental mental illness (Östman & Hansson, 2002), and provide a strong rationale for the theoretical development, delivery and evaluation of effective, acceptable interventions.

Adopting a self-regulatory model enables the identification and study of relevant cognitive and socio-emotional processes, and how these may be affected in parents who are experiencing serious mental health problems. Understanding how these processes interact with family processes and interactions, and in turn, contribute to increased risks for children and young people and affect their quality of life, is central to identifying and establishing the most effective preventative strategies. In order to do this, it is necessary to draw upon, and attempt to integrate, literature from relatively diverse fields. The next sections examine self-regulatory processes, the ways that these may interact with the experience of mental health problems, and their synergistic relationships with family life and parenting.

The Concept and Processes of Self-Regulation

The concept of self-regulation describes fundamental processes defined as the flexible regulation of cognition, behavior and emotion. Research into self-regulatory processes spans molecular to family level systems, and a useful review by Nigg (2017) explains and simplifies some of the terminology and key concepts in what is an extremely well developed but heterogeneous field. As Nigg observes, self-regulation encompasses action, emotion and cognition, and there are considerable bodies of research on regulatory processes which are described as operating from both top-down and bottom-up perspectives. Bottom-up processes are automatic and rapid processes that do not require mental capacity. They are elicited by external stimuli,

for example a baby's spontaneous excitement when presented with a new toy. Top-down processes are, in contrast, slower, more deliberate and reliant on working memory. Effortful control, and its development in children, is an example of a top-down self-regulatory process, and one that has received considerable research attention. Top-down and bottom-up processes are not mutually exclusive and may influence each other; the top-down and bottom-up processes involved in impulsivity, disinhibition and risk-taking for example, are complementary yet distinct. Nigg's (2017) comprehensive review considers self-regulatory processes with respect to both development and context, and demonstrates the inherent complexity of the interacting systems and processes that are involved.

Evidence for Determinants of Parenting

Parenting involves an adult in a twofold process of both employing self-regulatory skills in relation to the self, and simultaneously promoting the development of self-regulatory capacities in a child. The way that parents do this will have a fundamental effect on the quality of life that the child experiences, and the way that the child themselves will learn to self-regulate, which will strongly influence how they interact with others and the world. It is important for parents to be able to draw on a whole repertoire of self-regulatory capacities to maintain an environment conducive to their child's socialization and development.

A recent review (Rutherford, Wallace, Laurent, & Mayes, 2015) illustrates the wide range of self-regulatory processes involved in emotion regulation in parenthood, and there is considerable evidence of the cognitive neuroscience and neurobiology underpinning these complex skills. Rutherford et al.'s (2015) model emphasizes the importance of the emotional climate of the family and the nature of the relationships (both harmonious and conflictual) that exist within it. The authors hypothesize that parents need to be able to maintain open awareness of emotional signals, both in themselves and in their child, and be able to plan and organize in relation to feedback. The development of a model of parenting involving these kinds of executive control processes and associated cognitions echoes the generic model of self-regulation described by Nigg (2017).

SMI and Self-Regulation: Examples from Schizophrenia

Research in the fields of psychosis, schizophrenia and schizoaffective disorders provides excellent illustrations of several self-regulatory challenges, which are fundamental to understanding the experience of mental health and illness and the ways in which these experiences may impact on, and interact with, tasks of parenting. A review of cognitive emotion regulation strategies summarizing current understanding in relation to schizophrenia (O'Driscoll, Laing, & Mason, 2014) illustrates self-regulatory processes that are often described at the individual level, but that also interact with the self-regulatory processes inherent in interactions with children. Its authors note the prominence of mood instability in schizophrenia, summarize the work that has been undertaken to identify cognitive processes, and present existing evidence pertaining to maladaptive cognitive emotion regulation. As with other models of self-regulation, O'Driscoll and colleagues describe the existence of implicit, automatic processes alongside the more conscious processes of awareness and subjective appraisals of experience. Key features of their model which have a high level of relevance for parenting, include: (a) the avoidance of situations which are likely to be emotionally evocative, such as settings involving social interaction, which may reduce children's social contact; (b) attentional deployment, including rumination, worry and mindfulness; (c) cognitive appraisal and reappraisal, where there may be distorted views of the child's behavior, and (d) response modulation, such as the avoidance of experiences, which may reduce the opportunities made available to the child for learning.

The negative symptoms of schizophrenia that are seen in clinical groups as compared to comparators (e.g., impaired emotion perception, the reporting of less expansive or less intense emotions, and increased levels of negative emotion) are all features that may have direct relevance for parenting. Dissociative aspects of schizophrenia may include absorption with a focus on the self and, in cognitive processes, dissociative amnesia, inability to recall autobiographical information, and depersonalization and derealization, which may involve a range of different experiences including emotional numbing or distortions. These can all reduce the availability of the parent for the child, cognitively, behaviorally, and emotionally. A parent experiencing low mood may be emotionally unresponsive, reducing opportunities for the child's experience of warmth, interaction, and learning. Extensive literature documents the risks to development associated with maternal depression, with maternal hostility and warmth influencing outcomes in young people (Sellers et al., 2014). When the parent is also experiencing hallucinations or delusions, the potential for children and young people to be adversely affected is clear.

There may be synergies, real or perceived, between the parents' self-regulatory processes and those of their children. Well established models of risk and resilience describe processes contributing to the influence of parental mental health problems on the child's development (Cicchetti & Toth, 2009). Where a parent experiences serious mental health difficulties, this can affect the quality of the parent–child relationship and lead to adaptations that may, in the long term, exert a significant influence on a child's developmental trajectory (Peris & Miklowitz, 2015).

Acknowledging common features across different manifestations of SMI and relationships between experiences and symptoms of mental illness and trauma may be important (Varese, Barkus, & Bentall, 2012), as may the impact of concurrent life stressors. Further, mental health difficulties tend not to occur in isolation. Co-occurrence of SMI and misuse of substances, such as drugs or alcohol (Morisano, Babor, & Robaina, 2014), can add additional layers of complexity and can have important implications for parenting. Internal and external stressors due to past and current experiences are highly relevant for parenting, and may help in understanding deficits or breakdowns in self-regulatory processes which can contribute to parenting difficulties and child maltreatment.

Building a Model of Self-Regulatory Processes, Parental Mental Health and the Family

It follows from the developmental literature and work showing mutual influence between self-regulation and parenting, that the experience of living with parental SMI may present specific and unique challenges to parents, children and families, and to the successful execution of self-regulatory processes, many of which are bidirectional.

Firstly, the characteristics of many mental health difficulties may modulate the capacity for recognition of the child's emotions, and a parent with SMI may show a reduced or increased responsivity to their infant or child (Oyserman, Bybee, Mowbray, & Hart-Johnson, 2005). The precise impact on parenting is likely to vary, depending upon the characteristics of the parent concerned and the nature of their mental health experience. Depressed parents, for example, have been found to exhibit less emotional availability (Riley et al., 2008), whereas parents with schizophrenia may display an altered or unexpected response to their child (Seeman, 2004).

Secondly, the parent's meta-cognitions about their own parenting may influence their mood and emotional state. A parent who knows that they are not responding in the way that they would wish towards their child, because of their own mental health challenges, may experience additional distress as a result. Parents with SMI, consulted as *experts-by experience*, sometimes describe feeling guilty and regretful about the perceived impact of their own mental health difficulties on the well-being and development of their children (Bee, Berzins, Calam, Pryjmachuk, & Abel, 2013).

Thirdly, at a family level, lower family cohesion, chaotic home environments, poorer communication, and increased marital discord are more prevalent in families with a parent with a serious mental health problem (Warner, Mufson, & Weissman, 1995). Research has shown that conjugal families may be dissolved at higher rates if a parent has SMI, particularly when a parent has schizophrenia (Ranning, Laursen, Thorup, Hjorthøj, & Nordentoft, 2016). Family discord can expose children to stressful conditions, and role model poor strategies for dealing with interpersonal conflict.

Fourthly, the child's behavioral and emotional adaptations to their context can, at the same time, be experienced as stressful by the parent, which can add to the pressures that they are already experiencing as a result of their mental illness. *Challenging* behaviors in children (e.g., problems with self-regulation, emotional expression and attention) may exacerbate negative interactions with mentally unwell parents (Connell & Goodman, 2002), further impairing their capacity for recovery and effective parenting, resulting in a negative, downward spiral of family interaction. This process of mutual influence is often described in terms of a dynamic interplay in the self-regulation of different family members. The cognitive aspects of parents' attribution processes form an important part of this model, for example, increased irritability associated with depression, and may be associated with attributions being made about the child that their behavior is deliberately problematic. Examples of attributional processes are given in Johnston, Park, and Miller (2018).

Lastly, conditions in the external environment may add additional stressors. As a recent longitudinal study on depression and adversity demonstrates (Najman et al., 2016), parents with SMI are more likely to experience high levels of adversity, and this can also affect their self-regulatory capacities. Mothers with SMI are more likely to have children in care than those with more common mental health problems (Leschied, Chiodo, Whitehead, & Hurley, 2005; Park, Solomon, & Mandell, 2006). Families are more likely to suffer financial hardship, housing problems and relationship difficulties (Maybery, Ling, Szakacs, & Reupert, 2005), including domestic violence, all of which indicate an accumulation of difficulties which can make parenting more challenging. There may be social stressors including isolation, discrimination and stigma which result in low social capital (Fraser, James, Anderson, Lloyd, & Judd, 2006), and contribute to reductions in self-efficacy and sense of control. In extreme circumstances, parents may come under real or perceived threat of intervention to remove children from their families.

Interpersonal Models of Self-Regulation and SMI

One influential model in the field linking interpersonal familial processes and outcomes is expressed emotion (EE). Initial work focused on people with mental health difficulties and their adult relatives, providing evidence that high levels of EE, characterized by for example, high levels of criticism and hostility were a risk factor for relapse in mood disorders, schizophrenia and psychosis (Alvarez-Jimenez et al., 2012; Butzlaff & Hooley, 1998). EE has been examined in families including children and adolescents (Peris & Miklowitz, 2015), and has been found to be highly relevant to the quality of parenting (McCarty, Lau, Valeri, & Weisz, 2004), with expressed criticism associated with poorer quality relationships. Parents who are high in EE towards their children are rated by clinicians as being at high risk of maltreatment (Calam, Bolton, Barrowclough, & Roberts, 2002), and, in children who live in households characterized by parental violence, parental EE has also been associated with the quality of children's relationships with their peers (Narayan, Sapienza, Monn, Lingras, & Masten, 2015).

Crandall, Deater-Deckard, and Riley (2015) describe a model of emotion and cognitive control in parenting which is highly consistent with work on SMI and self-regulation. This model emphasizes the impact of stress, fatigue and other factors on the parent's executive functioning and

emotion regulation. Importantly, lower emotional control and cognitive control capacity are associated with a higher risk of child maltreatment. Taken together, these findings on the expression and regulation of emotional processing can form part of an explanatory formulation of interrelationships between child and parent self-regulatory processes and mental health, through which the effects of parental mental health may ultimately translate into child outcomes.

Conceptual and empirical work in the field of psychosis by researchers such as Lobban and Barrowclough (2016) has developed interpersonal models of self-regulatory processes, with relationships with family members, friends, and peers all playing an important role in processes of recovery. Their interpersonal cognitive behavior therapy (CBT) framework involves cognitions, including appraisals, behaviors and emotion and arousal, and the elicitation of negative and positive responses from others. If a child and their own mental health are added into a model explaining functioning in families with a parent with SMI, this model must be multi-dimensional and dynamic, and take into account both development and individual differences. Children form part of the family system, both needing (and in many cases providing) care, which has both positive and negative consequences for their own well-being (Goodman et al., 2011), as discussed later.

Moderating Effects

Development of a self-regulatory model of parental mental health raises questions about the potential moderating effects of parents and family characteristics. Much of the available evidence relates to parental depression. The significance of maternal depression for the mood and behavior of infants, children, and adult offspring is a well-established field of research. Since early seminal studies (e.g., Murray, Fiori-Cowley, Hooper, & Cooper, 1996), a large body of research has considered mechanisms and sequelae.

The Significance of Parental Mental Health: Sudden and Unexpected Changes Versus Long-Term Challenges

As indicated in the previous section, the pathways through which parental SMI influence parenting and impact on family and child development are likely to include both shorter and longer term challenges. By definition, SMI is often chronic or recurring, suggesting a protracted time interval over which internal (e.g., self-regulatory) and external (e.g., behavioral or socioeconomic) stressors may be encountered.

Interaction between parents' and children's behaviors occurs within a broader social context, and wider lifestyle factors, such as social marginalization or prolonged family poverty, and these external stressors contribute to risk. Approximately 2% of UK families are reported to suffer the combined effect of parental mental illness, low income, lower educational attainment and poor housing, and this group is recognized as one of the most vulnerable (Bee et al., 2014). Long-term, intergenerational longitudinal research has reported that associations between maternal depression and offspring depression in adulthood can be at least in part attributable to high levels of family adversity, with researchers noting a pattern of reciprocal, bidirectional causation; parents experiencing high levels of depression over the life course are disproportionately more likely to report higher levels of life events and adversities, which also affect their children (Najman et al., 2016).

Overlaying the effects of these chronic challenges however, is the prospect of short term cycles of parental ill health, the exact nature of which will vary depending on the parents' diagnosis or experience. Perhaps one of the most extreme examples is bipolar disorder, as described in the first-hand account in Box 1. A qualitative study (Backer, Murphy, Fox, Ulph, & Calam, 2016) elicited the views of young children on their own experiences of living in a household with a parent with bipolar disorder, finding that they could be aware of extreme fluctuations in

their parents' functioning, even if they lacked understanding of the cause. Children described experiences of their parent being *giddy* or *on the other side of the world*, contrasting this with times when their parent's admission to hospital or their wish to stay in bed all day required accommodation by other family members. Significantly perhaps, these young children commented that their parents thought that they were not aware of these fluctuations in moods.

The kinds of daily adaptations described by children in this study reflect several important aspects of life in a household with a parent with SMI. Children may for example, experience acts of omission, where a parent is unable to provide some aspects of their needs, which may or may not be compensated for by others in the child's family and community networks. They may also experience acts of commission, in which parents execute activities which are not beneficial for their development; a parent with bipolar disorder may when high, for instance, model or engage the child in activities which reflect their dysregulation, perhaps taking them out of school for a day out. A parent experiencing delusions may prevent a child from engaging in beneficial activities, perhaps because of mistaken beliefs about risk. In a case series of parents experiencing psychosis and caring for young children (Stockton, personal communication), children were often kept at home when not at school, because of parental fears and perceptions of external threats.

Challenging both shorter and longer term adaptations to parental ill health is the recognition that children often experience modelling of inappropriate cognitions, behaviors and emotions by someone very close and important to them. The literature on maternal depression is clear in highlighting the risks to children's development associated with reduced levels of interaction, stimulation and enjoyment. Children exposed over the long term to enduring SMI and its fluctuations are at elevated risk of themselves developing SMI (Goodman et al., 2011). While a very wide range of environmental, socioeconomic, genetic and trauma-related risk factors form part of the explanation for this, Backer et al. (2016) presented direct evidence of young children thinking that they too were likely to develop bipolar disorder, and of their parents explaining or confirming this for them. This observation appears to reflect the patterns of parental attributions and explanations of their children's behavior which are directly implicated in the intergenerational transmission of mental illness. It provides one further example of an interpersonal familial system where self-regulatory cognitive and meta-cognitive processes are extremely important.

The Significance of Parental Mental Health: Mothers' Versus Fathers' Illnesses

A large meta-analysis of 193 studies (Goodman et al., 2011) has shown that depression in mothers is associated with both internalizing and externalizing problems in children and higher levels of psychopathology, albeit effect sizes are small. The studies included in the review demonstrate relationships between maternal depression, negative and positive affect, and child behavior. A comparable meta-analytic review examining the effects of depression on fathers' parenting behaviors (Wilson & Durbin, 2010), suggested that fathers with depression, like mothers, tend to display decreased positive and increased negative parenting behaviors. Effect sizes for these associations are similarly small, although the authors of the review suggest that an overreliance on community samples in the primary research may underestimate the strength of association for more severely depressed men. Paternal depression has consistently been associated with internalizing and externalizing problems in childhood (Connell & Goodman, 2002; Kane & Garber, 2004; Ramchandani & Psychogiou, 2009), and increased risk of mental health disorders in young people. Effect sizes appear comparable to those observed with maternal depression but increase markedly when both parents experience mental health difficulties (Connell & Goodman, 2002; Meadows, McLanahan, & Brooks-Gunn, 2007).

Compared to the literature exploring maternal mental health, fewer studies have explored the

specific mechanisms and pathways through which fathers' mental illnesses may exert effects on their children. Nevertheless, a number of hypotheses have been proposed (Price-Robertson, 2015). Echoing the concepts underpinning self-regulatory models of parental mental illness, is the acknowledgement that mental health difficulties in fathers (just like in mothers) can directly undermine men's ability to care appropriately for their children and expose children to maladaptive affect, cognitions and behaviors. As with maternal mental health, paternal mental health difficulties may also increase marital or coparenting conflict, which in itself can have a strong negative impact on children (Hanington, Heron, Stein, & Ramchandani, 2012; Kane & Garber, 2009; Leinonen, Solantaus, & Punamäki, 2003). However, mothers and fathers are often subject to different gender and parenting norms, and thus, mental illness may also present role-specific challenges to parenting experiences and behaviors (Condon, 2006; Galasinski, 2013; Price-Robertson, 2015). Arguably, for example, by directly compromising men's ability to secure and maintain employment, paternal mental illness may disproportionately increase financial risk for families, particularly those with young children (Ramchandani & Psychogiou, 2009).

Children's Age and Gender

Meta-analysis of the relative strength of mothers' and fathers' mental illnesses on children demonstrates a potential difference in age-related effects. Paternal mental health problems have been shown to exert larger effects on older children (Connell & Goodman, 2002), while maternal illness appears to be more closely related to younger children's outcomes, although methodological differences between the studies conducted with older and younger children may have contributed to this effect. Gender effects are also possible with maternal depression more strongly associated with internalizing problems in girls, and boys generally more vulnerable to fathers' symptoms (for review see, Ramchandani & Psychogiou, 2009).

The Importance of Hearing the Views of Children, Families, and Health Professionals

The formulation of a self-regulatory model of mental health and parenting establishes interpersonal family processes and parent–child interactions as important clinical outcomes for both adult and child services. Qualitative work, grounded in children's and families' experiences, lends support to the need to work with families at multiple levels in order to address both individual and system-based stressors (Bee et al., 2013; Fudge & Mason, 2004; Maybery et al., 2005).

In recent years, patient and public involvement (PPI) have become an integral part of health care delivery, with an emphasis on including and empowering individuals and communities to shape their own health and social care services. This new approach has, in turn, instigated a methodological shift in health research design, conduct and governance, including the emergence of new *participatory* research methodologies and the adaptation and growth in patient-reported outcome measures (PROMs). Children and young people, like parents, are starting to be trained and involved in different stages of the research process, including research priority setting, question formulation, collecting and analyzing data, drafting service user-centered recommendations, and optimizing research dissemination and knowledge transfer (Fargas-Malet, McSherry, Larkin, & Robinson, 2010).

Co-research with children and young people is not without its challenges. Any PPI activity necessitates a level of sharing of control and of participation in the research process, and participants need to have the appropriate skills, capacity and developmental maturity to make a meaningful contribution. Establishing representative advisory panels can be difficult, particularly when researchers seek to collaborate with potentially vulnerable families. Collaborating with children in care or children who have been adopted is acknowledged to be complex, not least because of the potentially large number of gatekeepers involved in gaining consent and access (Fargas-Malet et al., 2010). Working with

children of parents with SMI has been shown to be feasible (e.g., Backer et al., 2016; Bee et al., 2013; Fudge & Mason, 2004; Maybery et al., 2005), but requires careful consideration of the lifestyle and social routines of these children, and their own experiences and levels of awareness of their parent's mental health.

Acknowledging the Subjectivity of Family Experience

Studies suggest that children often have a different view of their situation, and a different idea of *what would help* compared to their parents and mental health workers (Maybery et al., 2005). Such findings lend support to the notion that personal and family experience are likely to emerge from a combination of clinical and nonclinical events alongside different individuals' interpretations of those events. Comprehensive study of parent or child-centered outcomes thus necessitates consideration of both observable phenomena (such as clinical symptoms and behaviors) and subjective constructs (such as feelings, functioning or quality of life). Ultimately, symptom measures enable parental mental health to be benchmarked against population norms, but may have poor predictive validity for families' self-reported experiences and quality of life. Subjective measures are generally accepted to reflect service-user priorities more closely, despite respondent bias or life stressors (Eiser & Morse, 2001).

Bee et al. (2013) explored quality of life concepts derived from health and social care professionals, parents and young people aged 13–18 years with lived experience of parental SMI. Consensus was that parental and family experiences were a key component of children's life experiences and an important contributor to their own subjective quality of life judgments. However, three additional priorities were also identified, namely the alleviation of parental mental health symptoms, strengthening of children's problem-based coping skills and children's mental health literacy. Studies focused specifically on young carers, report these children to have multiple responsibilities, including looking after other members of the family, mediating family conflict and seeking out help for the *looked after* person (Grant, Repper, & Nolan, 2008). Effective coping strategies, particularly those based on problem-focused approaches, may be a key mechanism through which children living in families with parental SMI can be empowered to regulate their own cognitions, behaviors and emotions.

Cooklin (2013) suggests that the effects of mental illness on children can be summarized in terms of fears for themselves, fears for their parent, and fears for the family. Children of parents with SMI have challenged the notion that they need access to counselling or other therapeutic resources, requesting instead that that their role and family circumstances receive greater recognition from health professionals and the public. Of critical importance is the need to acknowledge that not all children will be adversely affected by parental mental illness and not all children in the same family will be affected in the same way. Alongside the commonly cited stressors, Bee et al. (2014) identified aspects of caring that could contribute to children's self-esteem, and ways in which children and young people could grow positively through the experience of living alongside SMI.

Positive Experiences in Families Living with SMI

Evident in the broader literature is the suggestion that children who live with a parent with a mental illness are not *inevitably* at increased risk of physical and/or psychological harm. Instead, some children benefit at least partially from their experience by developing attributes relating to personal strength, independence and compassion. A systematic review of the self-expressed strengths and resources of children with a parent with mental illness (Drost, van der Krieke, Sytema, & Schippers, 2016) found that these children and young adults described themselves as more mature, independent and empathic than peers without a parent with mental illness.

Recognizing children and parents as experts by experience and giving a voice to these perspectives has the potential to enrich our understanding of the multidimensional, dynamic nature of self-

regulatory models of parenting and mental health, and advance our understanding of both protective and risk mechanisms. Arguably, in preschool and infant children, family context, parenting, and parent–child relationship qualities are likely to remain central determinants of children's quality of life, and these factors remain important to children of all ages. Interventions that target parental mental health or family function, and monitor treatment effects in terms of parental mental health symptoms and parenting behaviors thus have intuitive appeal, particularly where children and parents with SMI live together. But as children grow, they widen their social networks and develop their own self-regulatory capacities. Increasingly, multiple and additional avenues may open up through which to affect valuable and meaningful change. Using age-appropriate strategies to explore and deepen a child's understanding of a parent's behaviors, for example, or developing positive and effective coping mechanisms, may hold promise in disrupting the intergenerational transmission of poor self-regulatory behaviors, enhancing children's own well-being and enabling them to better interact with their family and home environments.

Individual and Family Resilience

The impact of parental mental illness is not inevitable and there is much that can be done to modify and/or prevent the negative impact of a parent's illness on children's outcomes. Despite being at an elevated risk for adverse outcomes, research suggests that at least half of all children with a parent with mental illness may not experience any psychiatric symptoms (Maybery et al., 2005). Resilience is formally defined as the capacity to successfully adapt to life adversity despite exposure to challenging or threatening circumstances. Individual resilience can be heavily determined by the ability of an individual (parent or child) to find positive meaning in challenging events, to recognize the need to change their social interactions or environmental conditions, and increase the availability of health-sustaining resources. Thus, how a parent or child makes sense of their experiences of mental illness may be as, if not more, important than the actual experience itself. A large-scale Finnish adoption study (Tienari et al., 2004) has demonstrated that high quality care environments can offer substantial protection to children, even when they have a high genetic predisposition to mental illness. The ability to establish and sustain positive bonds between family members is considered integral to family resiliency and can play a central role in determining how successfully or unsuccessfully these different members navigate parental SMI over time.

Evidence-Based Practice: What the Evidence Tells Us

The recognition that health and well-being refer to more than the mere absence of disease, has helped to elevate quality of life as an important outcome for both adults and children (Barry & Zissi, 1997). *Quality of life* generally refers to an individual's perception of their own life experience within the context of their personal goals, expectations, beliefs and perceptions (World Health Organization, 1995), highlighting the need to consider service and intervention development from a service user's perspective. This framework is invaluable, as therapeutic approaches designed to facilitate the development of self-regulatory processes often share a similar focus on the achievement of personal goals and values. In considering the evidence base with respect to the design of approaches to help families living with SMI, we take this broader quality of life conceptualization, rather than a narrower focus on interventions to reduce difficulties, which are often the main outcome reported in studies of parenting and interventions for families. Given that mental health difficulties can impact on self-regulation and parenting, work to provide appropriate support for parents, families and children living with parental SMI requires simultaneous consideration of different intervention pathways (e.g., parent, family, or child), and research evidence (i.e., clinical effectiveness, cost-effectiveness, and intervention acceptability) which can lead to better quality of life for families.

Child-centered interventions establish the child as the major change agent and seek to improve child health or resiliency through therapeutic or strength-based models of care (Bee et al., 2014; Reupert & Maybery, 2007). By virtue of the need for active participation, these interventions typically target school-aged children, with specific content and outcomes dictated by the child's age. Examples include group-based psychoeducational programs and psychotherapeutic techniques. However, developmental immaturity often precludes direct intervention with children under the age of 2 years, and in early childhood, parents will normally be considered the principal agent of change. Parent-centered interventions typically aim to enhance child well-being (or prevent decline) through improved parenting behavior or enhanced parental health. Examples of these interventions include parenting education programs, manualized parenting or behavioral skills programs, and parent-centered psychological therapies. Many of these interventions are applicable to the parents of older (e.g., middle school) as well as younger (preschool) children, and in practice, parent- and child-centered interventions are not mutually exclusive. A limited number of family-based interventions targeting both parents and children (either simultaneously or separately) have also emerged (e.g., Beardslee, Gladstone, Wright, & Cooper, 2003; Reupert & Maybery, 2007). Common components of these interventions, identified through systematic review, include psychoeducation, family communication enhancement and skills training in parenting behaviors and child resiliency strategies (Marston et al., 2016).

Clinical Effectiveness

A meta-analytic review (Siegenthaler, Munder, & Egger, 2012) of 13 randomized controlled trials evaluated preventative parenting programs for parents with affective disorders, alcohol or drug dependence disorders. Interventions included cognitive, behavioral, or psychoeducational components; outcomes included mental health symptoms or the incidence of mental disorders in children. This review concluded that interventions to prevent mental disorders and psychological symptoms in the offspring of parents with mental disorders appear to be effective with interventions reducing the risk of developing the same mental illness as the parent by 40%.

A more recent and comprehensive review of community-based interventions to enhance the quality of life of children living with parents with a wider range of SMIs (Bee et al., 2014) has identified a heterogeneous mix of interventions targeting children, parents and the parent–child dyad. In order to meet inclusion criteria for this review, at least 50% of parents had SMI or severe depression confirmed by clinical diagnosis or baseline symptoms, and children were under 18 years of age. All community-based, nonresidential intervention studies were included in the review.

A striking outcome of the Bee et al. (2014) review was the very small number of well-controlled studies which addressed interventions for families with a parent with psychosis. Only three randomized trials were identified, none of which were recent studies. This makes it very difficult to specify which interventions are likely to be helpful. In contrast, 26 trials were identified for parents with severe depression, 18 of which focused on depressed mothers with infants under 2 years of age. Explanations for these different sized evidence bases are possible. First, depression is far more common over a woman's lifetime than other serious maternal mental illness, particularly around the time of childbirth (Cooper & Murray, 1995). Arguably, early interventions aimed at enhancing parenting and/or child development have a greater potential to confer significant long-term personal, societal, and economic benefits. Yet perinatal depression is also more likely to be time limited and to resolve with short-term intervention (Cooper & Murray, 1995), which generates some uncertainty regarding the generalizability of this evidence to other family groups.

A further review (Schrank, Moran, Borghi, & Priebe, 2015) examined the effectiveness of interventions designed to support parents with

SMI, finding only two trials meeting quality criteria and only one rated strong (Jones et al., 2014). This study of parenting and bipolar disorder used an integrated approach combining the self-directed Triple P-Positive Parenting Program materials, with tailored online resources addressing the needs of parents with bipolar disorder. The intervention made links between parental mental health and parenting, with the need for consistency in interactions with children offered as an example to parents. A second trial with a larger sample has again shown positive change in children's mental health (Jones et al., 2017). A case series study working with parents experiencing symptoms of schizophrenia and psychosis again using self-directed Triple P with support and encouragement (Stockton, personal communication) showed consistent positive changes in parent self-efficacy, and the mental health of both parents and children. Parents reported improved relationships and reductions in emotional and behavioral difficulties in the children, feeling more confident and more able to engage in activities outside the home. Integrated approaches combining evidence-based parenting skills with interventions tailored for specific adult mental health needs should offer benefits for families.

Cost-Effectiveness

The hidden nature of many children and families affected by parental mental illness (Fudge & Mason, 2004) and the historical disjuncture of adult and child services (Maybery & Reupert, 2009) has made the true economic costs of these illnesses difficult to quantify. Bee et al.'s (2014) review highlighted a lack of published cost-effectiveness data, cost-effectiveness analyses, and decision-modelling techniques. It is therefore not possible to reliably quantify the cost burden associated with children and adolescents of parents with SMI or severe unipolar depression or come to conclusions regarding the cost-effectiveness of interventions. There is a need for good-quality evidence on the costs and effects of intervention strategies.

Intervention Acceptability

Bee et al. (2014) systematically synthesized all quantitative and qualitative evidence relating to the acceptability of these interventions. Qualitative data highlight the importance of trusting staff–parent relationships, and intervention models and delivery mechanisms that transcend potentially high levels of social isolation and stigma. Markers of intervention engagement estimated across different diagnostic groups and intervention models indicated median adherence rates remaining reasonably consistent at 80–95% (Bee et al., 2014). Families with parental SMI appear prepared to engage in parenting interventions if the right intervention model and ethos is present.

The majority of existing data are quantitative in nature and pertain predominantly to parents with severe depression. Quantitative satisfaction data are acknowledged to show low response variability (Crow et al., 2002) measuring participant satisfaction only about aspects of an intervention deemed to be of interest a priori. Limited qualitative data on acceptability of community-based interventions for parents with severe depression suggest they may be enhanced by including group-based activities and/or normalizing components aimed at reducing parents' sense of social isolation and stigma (Bee et al., 2014). The generalizability of these findings to parents with SMI is unknown.

Future Directions for Research

While there is considerable literature on depression, and particularly maternal depression, the literature on other forms of parental mental health difficulties is less developed. This, in turn, is associated with a smaller body of high quality research literature on therapeutic approaches and interventions. The paucity of high quality evidence highlights the urgent need for further research into interventions aimed specifically at children and families living with a parent with an SMI (Bee et al., 2014; Schrank et al., 2015).

There are still too few studies to draw firm conclusions about the specificity of parenting behaviors across different forms of parental mental illness (O'Hara, 2010), and it is unknown whether different mental health difficulties need different approaches or whether transdiagnostic approaches may be equally successful at facilitating change (Rutherford et al., 2015). It may be more useful to think not in terms of specific diagnoses, but rather to consider how parenting behavior is influenced by the states of low positive affect and high negative affect that cut across diagnostic categories (O'Hara, 2010; Wilson & Durbin, 2010). Severity and chronicity of mental illness may be a more important indicator of suboptimal parenting practices than a specific diagnosis (Ackerson, 2003). Whether, and how much parenting interventions need to be tailored to the characteristics and self-regulatory challenges presented by different mental health problems in order to achieve the greatest effects remains to be established. Further, mental health state is not a fixed condition. Mental health symptoms and experiences can fluctuate in response to a variety of factors, may disappear and reappear, and be short term or enduring. Service users may choose to access services for themselves and their children both during, and outside severe symptomatic episodes. Additional consideration should be given to optimal methods of identifying families and children affected by parental SMI and to the possibility that functional outcomes may be the most appropriate markers of illness experience and severity.

Too few studies are available to report medium-term and long-term follow-up effects or to fully consider the associations between intervention characteristics and intervention effect. For example, is it better to work with individual families or with groups of families in family skills programs? Does the parent's diagnosis influence this decision? If group programs are available, who should attend? Should all the children in a family be involved? Are there particular capacities families must have in order to be confident of providing a successful intervention? These important questions need systematic investigation as the field develops.

Explicit consideration should be given to the development and rigorous evaluation of interventions aimed specifically at the children of parents with SMI. Stakeholder consultations have identified a range of outcomes prioritized by this group. Perhaps, predictably, these include aspects of family functioning and parental mental health, but also extend to include children's social relationships, opportunities for recreational engagement, self-esteem, coping skills, and mental health literacy (Bee et al., 2013). There is some evidence that incorporating self-regulatory strategies for parental mood management and coping with stress can lead to improvements in children's behavioral outcomes (Sanders, Markie-Dadds, Tully, & Bor, 2000). However, it is debatable whether or not the outcomes prioritized by children, parents and families can be improved by parenting interventions alone. A key empirical question is whether or not children's own quality-of-life judgments can be improved independently of parenting behavior, and if so, which combination of parent, child, and family-based interventions are likely to confer the greatest effect.

The relevance of fathers and partners in children's outcomes is increasingly being recognized (Price-Robertson, 2015), yet evidence of the impact of paternal mental health difficulties on children still lags behind that of maternal health. As Price-Robertson (2015) acknowledges, men may experience mental health difficulties differently to women. They may also be less inclined to seek timely and professional help (Galdas, Cheater, & Marshall, 2005). Future studies need to consider the potential importance of partners' roles in the lives of children with mentally ill parents and take account of this factor when designing and evaluating parenting and family interventions.

Maximizing cultural sensitivity is also important. In the UK, for example, Black and ethnic minority adults show higher incidence of SMI (Fearon et al., 2006) and tend to encounter greater barriers to service use (Bhui et al., 2003). These populations may thus benefit from further research and practice development aimed specifically at determining risk and maximizing solutions for minority populations.

Some groups of parents may have very specific needs, for example, parents and children with disabilities, who are at increased risk of depression. Another example are refugees who have fled conflict and displacement. With the literature on parenting and childhood traumatic stress not yet clear (Williamson et al., 2017), this is a potentially valuable area for future work.

Implications for Policy and Practice

Effective policy and practice requires a much stronger body of research to identify what will be most effective, and provide cost-effective solutions to enhance the quality of life of families.

Identifying Why So Few Interventions Are Offered

It is vital to appreciate the degree of social isolation that may be experienced by parents with mental health difficulties, and sense of stigma that may lead parents to downplay their difficulties and not to seek help. Where parents experience symptoms such as paranoia, they may be particularly keen to maintain the privacy of the family unit. Parents may feel that their voice will not be heard or that what they have to say may not be received in the way that they would wish. Irrespective of symptom types, parents living with SMI are often anxious about contact with services which then limits access to engagement and support. Also, parents may not always be aware of their children's needs (Stallard, Norman, Huline-Dickens, Salter, & Cribb, 2004).

Engaging Families

Families with a parent with SMI can sometimes be described as *hard to reach*. This term is arguably much more of a research or service-centric term than it is family or person-centered. Challenges in engaging populations can be attributed as much to inappropriate or ill-informed methods as they can to the characteristics of the people being approached. One very important factor to take into account when working with families with SMI may be fear of child custody losses. Such fears may be reality-based. Mothers with SMI are more likely to be involved with children's social services and more likely to have children in care than mothers with more common mental health problems (Park et al., 2006). Families living with SMI may be the subjects of considerable stigma and, if they seek professional help, may be met by services struggling to address the interactions between parental mental health, family functioning, and well-being (Maybery & Reupert, 2009; Price-Robertson, 2015). Parenting itself may be compromised by social isolation, social discrimination, and other external stress factors which typically result in low social capital, poverty, and health inequalities for mental health sufferers and their children (Fraser et al., 2006).

Bee et al. (2014) suggested that the establishment of a trusting and nonjudgmental relationship, in which intervention providers view participants as parents rather than patients, may be a key contributor to service engagement. It is important that this finding is emphasized in future service planning and staff training initiatives. Contexts most embedded within family routines, such as schools, community centers, and the homes, may offer the most acceptable environments for intervention. Intervention programs developed for this population must also be capable of responding to a diversity of risk and need.

Developing Practice

The gaps in the literature (Bee et al., 2014) indicate the urgent need to understand how to provide the best ways of developing feasible, accessible interventions for families living with parental SMI to maximize the chances of a good quality of life and well-being for all family members. Although parenting behaviors alone cannot explain intergenerational cycles of adversity and mental ill health, they are one of the key mechanisms by which parental mental illness may place developmental outcomes for children

at risk. Parenting behavior represents a potentially modifiable risk factor and thus a key focus for policy, professionals, and services. Key moderators of adverse outcomes in children include age and developmental maturity at the onset of parental mental illness, severity and duration of their parent's symptoms, strengths and resources of family members, the child's own resilience, and the degree of social exclusion or discrimination that they experience (Nicholson, Biebel, Hinden, Henry, & Stier, 2001). While impaired parenting during infancy may have a long-term impact on children's social and cognitive development, exposure to parental mental illness in later childhood may present a more immediate and explicit stressor, with different effects. This highlights the importance of developing multiple evidence-based services capable of being delivered in a developmentally, age-appropriate manner.

Engaging Health Services, Systems, and Policy Makers

Because of different and multifaceted needs, child and adult mental health services need to work seamlessly together with other agencies, specifically statutory education, social care, and third sector services. Policy makers are increasingly advocating *whole systems* thinking, to develop new health care legislation, operational policies, interagency collaborations, and training to support staff in assisting families and children living with parental SMI. Engaging services and staff in multiagency collaboration is crucially important and requires recognition of family need. A key barrier is failure to mandate identification of the parenting status of adults accessing mental health services. Lack of consistency in health policy and service guidance has been reported within and across countries. In Australia, where whole system services for families living with mental illness have been pioneered, workforce resource and training deficits are commonly cited as a barrier to family intervention (Maybery & Reupert, 2009). Training can stifle innovation, with a focus on *profession-centered* rather than *client-centered* intervention (Conway, McMillan, & Becker, 2006). Mental health workers may fear disruption of therapeutic alliance and confidentiality if they work on parenting issues with adult clients.

Acknowledging Responsibilities for Child Protection

Working with parents living with SMI requires practitioners to make clear their position in relation to child protection, their responsibilities to work with other professional groups, and the limits to confidentiality, while at the same time being supportive and offering as much hope for the future as possible. Overcoming fear and establishing trust are essential first steps to enabling families to benefit from interventions. The identified fear of child custody losses as a barrier to accessing support remains important, and those working with such families need to remain sensitive.

Fostering Interagency Collaboration

There may be recognition of need but lack of a mandate or service structure to intervene effectively (Maybery & Reupert, 2009). Children within families living with mental illness currently receive no routine health and social care, and there are no models to facilitate information sharing between the different organizations involved in the care of the child. Communication between different services and agencies involved in children's lives is often poor because of long standing differences in organizational cultures and objectives. A study in Finland, for example, described psychiatric nurses as embedded within a culture of care orientated towards individual treatment and crisis intervention (Korhonen, Vehviläinen-Julkunen, & Pietilä, 2008). Adult services are rarely equipped for preventative or strategically focused care for children and family members. Complex family relationships among those living with SMI may mean that children may not always be visible to health services, especially if they reside separately from their parent(s). Adult services may assume that children's difficulties will be picked up via nurseries,

schools, and child and adolescent mental health services, while children's school and health services may assume that a parent is receiving support, if and where parental mental health difficulties are recognized. Even when difficulties are recognized, the intervention research literature is insufficiently developed to be able to offer a clear and coherent picture of what is needed, and what is most likely to be effective.

Working with Multifaceted Needs

At the level of whole family planning, a number of issues are likely to require consideration, including comorbidity. Many people may live with many difficulties simultaneously, and the experience of these difficulties may also be related to one another, contributing to cumulative cycles and processes of disadvantage. Comorbid difficulties, for example between serious mental health difficulties and the misuse of drugs and alcohol in a family (Morisano et al., 2014), add layers of complexity and risk. Within the family and social systems that the child experiences, there may be other family members with mental health difficulties, misuse of substances or involvement in criminal subcultures, alongside suboptimal parenting practices that may increase risk of child maltreatment. There may, however, also be a relative, carer, or other protective elements (such as a strong peer network or teacher) that can act as protective factors. Holistic information on household composition and the parenting and care context, including the presence of extended family support and close social networks, is therefore essential in understanding the experience and outcomes for family members living with parental mental illness.

Children may place high significance on peer support and respite (Bee et al., 2014). Templates for interventions that may usefully offer these elements may be more likely to be found in third-sector services, where the drive for more structured and evidence-based services may be less pressing. An unfortunate consequence of evidence-based health and social development is that the lens used to view populations and intervention development can sometimes, inadvertently, become unidimensional. Qualitative work on design of services by multiple stakeholders, including service providers and service users (Nicholson, Hinden, Biebel, Henry, & Katz-Leavy, 2007), has upheld the importance of making the family the focus of intervention, and of underpinning this intervention with a whole system model capable of facilitating and energizing collaborative interagency relationships. The instigation and effective maintenance of any such system relies heavily on supportive and responsive leadership. There is a need for broader collaboration in family case management and for the provision of therapeutic support for parents that can readily be combined with parenting education and skills training, and/or child-centered psychoeducation. Implementing this kind of service model represents a significant challenge for contemporary practice (Nicholson et al., 2007). The level of bridge building required to link up services and sectors and to provide these in locations which are physically and psychologically accessible and welcoming for the whole family requires long-term commitment to planning across multiple agencies and levels of policy implementation (Ramsey & Gentzler, 2015).

Conclusion

While difficulties in self-regulation in the context of parental mental difficulties presents challenges, there is not yet a strong and well-established evidence base to indicate the best ways of achieving a high quality of life for affected families. Research reports and evidence from stakeholders indicates the range of issues that need to be taken into consideration in policy and practice, and includes many examples of ways in which, at present, the needs of both parents and children can fall through the gaps. Prioritizing the needs of children and families carries important potential for prevention, indicating the urgent need for linking high-quality research and services for adults and children.

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Parental Cognitions: Relations to Parenting and Child Behavior

Charlotte Johnston, Joanne L. Park, and Natalie V. Miller

Introduction

The importance of parenting is undeniable. Between 80% and 95% of individuals worldwide will someday assume the role of parent (United Nations, 2012), and their actions in this role impact not only the developmental trajectories of their offspring but also their own well-being (Narvaez, Braungart-Rieker, Miller-Graff, Gettler, & Hastings, 2016). Given the centrality of parenting to both adult and child functioning, efforts to optimize functioning in this role are critical. The caregiving behaviors of parents stand as most proximate to child outcomes, and research and applied work focused on supporting parents in adopting appropriate, adaptive caregiving behaviors is noteworthy (Sanders, Kirby, Tellegen, & Day, 2014; van Aar, Leijten, Orobio de Castro, & Overbeek, 2017). However, current knowledge of how to best optimize parenting behaviors remains incomplete (Forehand, Lafko, Parent, & Burt, 2014), and a search for the determinants underlying these behaviors may provide information that can be leveraged to positively alter both caregiving behaviors and child outcomes. This search for the determinants of parenting is the focus of this section. As the included chapters illustrate, parenting is multiply determined, with influences ranging from sociocultural to biological. In this chapter, we focus on the ways that parents think about their children and parent–child interactions. We acknowledge that these parental cognitions are not solitary factors, but rather are linked through a complexity of moderational and mediational relations with other determining influences (Deater-Deckard & Sturge-Apple, 2017).

We begin with a brief overview of theoretical models that place parental cognitions in an important causal role with regard to parenting behaviors and child outcomes. Within this consideration of models, we present emerging frameworks that include the role of executive functioning and dual-process models of cognition. We then review the evidence regarding the relations, be they associative, causal, reciprocal, or transactional, between various types of parental cognitions and parenting behaviors or child outcomes. Throughout this review, we highlight limitations of existing research and questions in need of further study and development. We conclude by highlighting the potential contributions of cognitions to parenting interventions and prevention programs.

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Theoretical Models of Parental Cognitions

Before proceeding, an important caveat regarding labelling of parental cognitions is needed. One limitation of this field is a proliferation of terms used to describe a variety of thoughts parents may have about their child or parenting role. Terms are often used in an idiosyncratic fashion, making it difficult to classify and aggregate information about different types of parental cognitions across studies. This difficulty is apparent both in terms of the particular type of cognitions (e.g., definitions of parental expectations versus beliefs) and also at the level of measurement (e.g., using self-reports to assess what are considered to be automatic, relatively inaccessible cognitive schemata). Rather than devote time to drawing distinctions among what are likely to be highly related types of cognitions, in this chapter we focus instead on relatively loose categorizations of specific types of parental cognitions. We make a broad division between those cognitions that function primarily as more stable knowledge stores compared to those that can be described as more dynamic and occurring within the context of the ongoing processing of information. The rationale behind this broad division is provided in the brief review of theoretical models presented below, and the division is consistent with that used by Bugental and Johnston (2000) between schema-based and event-dependent forms of parental cognitions. However, as we elaborate below, many parental cognitions can be characterized as falling within both of these broad categories or at the least as having both stable and dynamic versions.

Parental cognition research is typically framed within developmentally informed models of social cognition (e.g., information processing, attribution theory). The most widely used of such models focus on how cognitions serve to guide parents' processing of information about children, their behavior and/or the parenting role, and the subsequent impact of this cognitive information processing on parenting decisions. A brief summary of these social information processing models is provided below, however, readers are referred to sources such as Azar, Reitz, and Goslin (2008), Milner (2003), and Rudy and Grusec (2006) for more complete and nuanced descriptions.

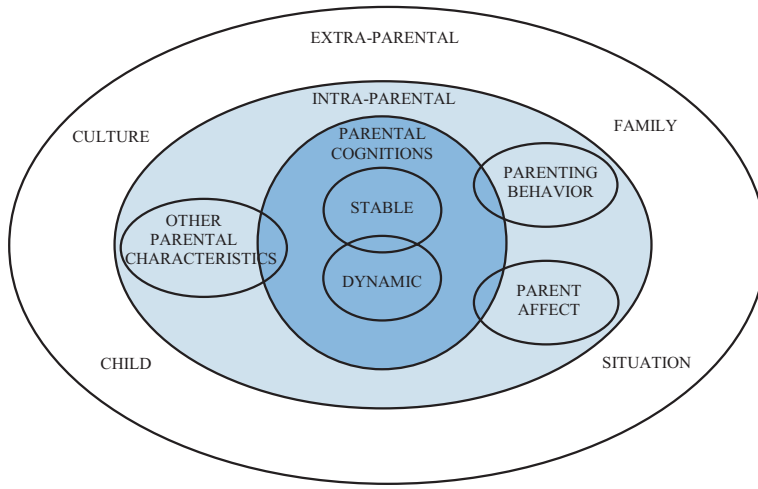
Consistent with the broad distinction we draw in this chapter, information processing models of parental cognitions describe stable, relatively static cognitions, such as beliefs, expectations, or attributional style; these types of cognitions are presumed to form the backdrop for more dynamic, in the moment, cognitive processing of information in child-rearing situations, including the formation of attributions for specific child behaviors or problem-solving about parenting solutions. However, as noted, this division is somewhat arbitrary and a constant, flowing interplay is expected among both longer-standing parental cognitions, more dynamic cognitive processes, and inputs, such as experiences with the child, the outcomes of previous parenting decisions, and other contextually relevant factors (e.g., relations with the coparent, life stresses, or culture).

The stable parental cognitions are presumed to be originally influenced by historical or contextual experiences of the parent, such as the parenting they received in their family of origin or the parenting norms relevant to their cultural identity. However, they are seen as mutable and are expected to change with input from ongoing parenting or other life experiences. For example, a parent's expectations regarding appropriate child behavior may change on an ongoing basis due to influences from multiple, interacting, and ongoing factors, such as the parent's cultural values regarding child responsibilities, knowledge of stages of child development, and experiences with their own child's abilities. These stable cognitions are sometimes described as schematic in nature and as exerting their influence on parenting in a more automatic, heuristic, or implicit manner. However, we note that this automatic/implicit aspect of the definition is not necessarily implied in our review, and the measures typically employed to assess stable parental cognitions are seldom designed specifically to tap implicit cognitions.

The more dynamic or ongoing parental cognitions, such as reasoning about the causes of child

behavior (i.e., attributions), are presumed to reflect relatively controlled or effortful cognitive processing of information regarding situational and child factors (e.g., it's bedtime, the child is overtired). However, dynamic cognitions are also seen as informed by the more stable cognitions the parent holds (e.g., the child's current behavior is compared to the expectations the parent holds regarding appropriate child behavior), as well as by other parental or family characteristics (e.g., stress, parental psychopathology). The interplay between these two types of cognitions is continual, and characterized by multiple, direct, indirect, and interactive relations among the different types of parental thoughts, as well as between parental cognitions and emotional or physiological states and behavioral actions. A graphical depiction of some of these relations is presented in Fig. 1.

In addition to seeing parental cognitions as functioning at these two levels of social information processing, recent work has sought to integrate consideration of more general parental neurocognitive functioning into these models. Specifically, parents' self-regulation abilities have been considered alongside parental cognitions, primarily those of a dynamic or event-dependent nature. For example, Sanders and Mazzucchelli (2013) outline a convincing argument that places self-regulation at the core of adaptive parenting. They argue that self-regulation skills are needed to support a parent's effective engagement in cognitive processing that allows them to adapt their behavior in response to child or environmental cues. In particular, more negative parental cognitions or responses may be triggered relatively automatically in child-rearing situations that are stressful. To promote positive parenting, the parent must effortfully invoke mechanisms to modulate these maladaptive cognitive, affective, or behavioral responses (e.g., Rutherford, Wallace, Laurent, & Mayes, 2015). This self-regulation then allows for more deliberate, planful cognitions that can drive appropriate parenting behavior. Several authors have pointed to self-regulation skills, including emotional regulation and executive functioning, not only as linked to parental cognitions and behavior, but also as the parental capacities that form a bridge for the intergenerational transmission of self-regulatory abilities (e.g., Bridgett, Burt, Edwards, & Deater-Deckard, 2015; Bridgett,



Note: Variables within and across all circles are seen as sharing direct, mediated, and moderated relations with each other and with parental cognitions, and the pattern of relations is expected to develop and change over time.

Fig. 1 Parental cognitions in relation to other parent, child, family, and social influences

Kanya, Rutherford, & Mayes, 2017; Rutherford et al., 2015).

Importantly, evidence is emerging that self-regulatory control is related not only to more appropriate parenting behavior (e.g., Crandall, Deater-Deckard, & Riley, 2015), but also to the formation or employment of adaptive parental cognitions. For example, Azar, McGuier, Miller, Hernandez-Mekonnen, and Johnson (2017) found that mothers who were neglectful had deficits in their expectations and attributions for child behavior. In particular, mothers who were neglectful held more unrealistic expectations regarding children's capabilities (e.g., thinking that very young children can play independently for long periods of time) and made more hostile attributions regarding the intention of children's misbehavior (e.g., thinking that children misbehave to annoy the parent). These maladaptive parental cognitions were linked to deficits in the neglectful mothers' executive functioning skills. Similarly, a recent study from our lab (Park & Johnston, 2016) found that mothers' self-regulation deficits, as indexed by inattention and impulsivity, were related to more negative attributions for child behaviors. Skills, such as being able to hold and manipulate information in working memory to tolerate delays to gratification or to inhibit impulsive responses appear to be important tools that allow parents to think more positively and adaptively about children and child-rearing, and to override more automatic, negative parenting cognitions or reactions. As the study of parental cognitions moves forward, we anticipate that exciting advances will arise from continued integration and refinement of the underlying social cognitive models, as well as from a growing understanding of how parental cognitions are related to and influenced by more general aspects of cognitive and affective functioning (Box 1).

Parental Cognitions About the Child: Stable/Schema-Based

We move now to reviewing parental cognitions—first those that have the child and/or the child's

Box 1 Implicit Parental Cognitions

In our description of the division between stable or schema-based versus dynamic or event-dependent parental cognitions we alluded to the fact that these two types of cognitions are sometimes characterized as relatively automatic or implicit (the stable versions) compared to more controlled or explicit (the dynamic cognitions). However, the implicit/explicit distinction does not always map well onto the stable/dynamic classification, particularly given the lack of implicit measures of parental cognitions. However, the idea of cognitive influences on parenting that occur in both implicit and explicit forms is an exciting new avenue of exploration.

The implicit/explicit distinction in parental cognitions derives from dual-processing cognitive models (Andersen, Moskowitz, Blair, & Nosek, 2007; Uleman, Saribay, & Gonzalez, 2008). Explicit parental cognitions reflect controlled, effortful, and conscious processing of information, and are easily accessed via self-report. In contrast, implicit parental cognitions occur in a more automatic, unaware, unintentional, and cognitively efficient fashion, and are less readily available for self-report. Abundant evidence supports the distinctive, yet complementary and interactive nature of implicit and explicit cognitions (e.g., Greenwald, Poehlman, Uhlmann, & Banaji, 2009; Nosek & Smyth, 2007). Thus, in a dual-processing model, parental cognitive processing and its outcomes (e.g., decisions regarding parenting behavior) are seen as based on an interplay of both implicit and explicit thoughts about the child or parenting role. This focus on both types of parental cognitions offers the potential to move the field to a more accurate and complete model of the aspects of parents' thoughts that may be driving parenting behavior, and ultimately, child adjustment.

(continued)

Box 1 (continued)

Although this theoretical distinction between implicit and explicit parental cognitions has been noted for some time (e.g., Bugental & Johnston, 2000), it has not often been operationalized in studies of parental cognitions (with some notable exceptions, such as the earlier work of Daphne Bugental—c.f. Bugental, Lyon, Krantz, & Cortez, 1997). Crucially, existing studies of parental cognitions have relied almost exclusively on parent self-report measures. However, some of parents' thoughts about their children or parenting may operate outside of awareness, and/or in some situations parents may be uncomfortable sharing their thoughts with researchers. Therefore, available research likely provides an incomplete picture of the cognitions that are influencing parenting behavior. For example, a parent may hold and express an explicit understanding that children's misbehaviors are often unintentional. However, when a parent is juggling the simultaneous tasks of cooking, helping with homework, and listening to the news, and is confronted with inconvenient or disrespectful child behavior (e.g., loudness, spilt food), the parent's immediate response may be driven by more automatic evaluations of the child and behavior as annoying or malicious (implicit cognitions) than by the explicit opinion. Alternately, a parent may hold an implicit evaluation of the child as angelic, and thus be a lax disciplinarian, even though explicitly endorsing the importance of such parental guidance. In sum, it is expected that both implicit and explicit parental cognition have something to tell us about parenting, and yet most existing research has employed parental self-report of relatively explicit cognitions.

Fortunately, several recent studies have focused attention on implicit parental cognitions and their potential to be less subject to impression management and less reliant on parents' ability or willingness to report their thoughts, and as such, to be significant predictors of harsh parenting behaviors (e.g., Camilo, Garrido, & Calheiros, 2016; Sturge-Apple, Rogge, Skibo, Peltz, & Suor, 2015). As an example of this work, in our lab, we have used both a cognitive load paradigm and an Implicit Association Test (IAT) to measure mothers' implicit attitudes and attributions (Johnston et al., 2017). In the cognitive load task, we used vignettes describing child misbehavior with no clear cause and asked mothers to make attributions regarding the child's intentions. In one group, mothers read the vignettes and made their ratings while remembering a very simple number. This memory task requires minimal cognitive effort and, thus, mothers are able to devote their cognitive resources to more controlled processing allowing for inhibiting or revising of initial automatic/implicit attributions and resulting in more explicit attributional responses. In contrast, the second group of mothers, those in the high load condition, read the vignettes and made attributions while simultaneously remembering a difficult, lengthy number. This requires considerable cognitive effort and leaves fewer resources available for controlled processing, meaning that more automatic, implicit attributions are reported.

Our second implicit measure examined parental attitudes toward the child using an IAT where speed of classification indexes the extent that mothers associate their child with positive versus negative characteristics. These more implicit evaluations or attitudes toward the child were compared to explicit attitudes assessed via questionnaire. Using these two measures of implicit parental cognitions, we found that the implicit attitudes and attributions were not entirely overlapping with explicit measures of the same constructs, and, importantly,

(continued)

Box 1 (continued)
that the explicit and implicit forms of parental cognitions shared unique relations with parenting. That is, both what mothers were able and willing to report regarding their thoughts about their children, as well as thoughts that appeared more automatically and under less conscious control were significantly related to how mothers acted as parents.

One final note regarding the potential of considering both implicit and explicit forms of parental cognitions is the fit of this distinction with the importance of self-regulation to understanding parental cognitions. Self-regulation skills, such as inhibitory control or working memory capacity, are presumed to allow for the second stage checking that is proposed within dual-processing models of cognitions. That is, when stressful situations, such as child noncompliance, trigger automatic or implicit negative cognitions, it is the exercising of executive control that allows a parent to override these negative thoughts and move to a more reflective or explicit set of cognitions that can guide the selection of the most appropriate parenting behavior. Thus, advances in dual-processing models of parental cognition incorporate both the interplay of implicit/explicit cognitions and consideration of cognitive self-regulation skills. Although implicit parental cognitions are an exciting and promising direction, studies assessing these remain scarce and we focus this chapter instead on what is known about explicitly assessed parental cognitions.

behavior as the target and then those that are related to the parenting role. In these two sections, we consider cognitions that have been characterized both as primarily stable and as primarily dynamic, but we continue to acknowledge the fluidity of this distinction. We provide brief descriptions of how each type of cognition has been conceptualized and selectively review recent research assessing the links between these cognitions and parenting behavior, as well as child functioning. Prior to beginning, we remind the reader of the lack of consistent labels within the research literature, and of the expected transactional relations among different types of parental cognitions, as well as between cognitions and child, family, and parent characteristics (see Fig. 1).

Expectations. We first consider a broad category of cognitions that reflect parents' expectations, whether these be expectations regarding the appropriateness of various child actions, expectations of the developmental stage at which the child should acquire various skills, or expectations for the child's future. Parental expectations are considered relatively stable, and may include expectations for children in general or for the parent's own child/children. Early in each adult's parenting experience, expectations likely reflect primarily the parent's own experiences (e.g., cultural values, parenting in the family of origin), but parental expectations are expected to evolve as the parent gains experience in interactions with their own and other children.

Focusing on the transition to parenthood and the early parenthood period, several studies have examined parental expectations for their young offspring, often in relation to temperament or behavioral indicators, such as crying, as either correlates or predictors of subsequent parenting and child characteristics (e.g., Pauli-Pott, Mertesacker, Bade, Haverkock, & Beckmann, 2003). To disentangle the impact of parental cognitions from the influence of child characteristics, these studies often employ longitudinal designs where the parental expectations are assessed prior to the birth of the child. For example, Manczak et al. (2016) had mothers and fathers anticipate their to-be-born child's temperament during the prenatal period, and these prenatal expectations were significant predictors of the parents' perceptions of the infant's temperament 15 months later. The authors also found that fathers' own childhood memories predicted their prenatal expectations of infant temperament. These findings illustrate how expectations in

early parenthood are influenced by the parent's own history. Other characteristics of the parent, such as symptoms of attention-deficit/hyperactivity disorder (ADHD) or depression, are also associated with more negative parental expectations regarding children and subsequent suboptimal parenting responses (e.g., Defelipe, Bussab, & Vieira, 2016; Ninowski, Mash, & Benzies, 2007).

Moving to parents of school-aged children within the context of academic performance, numerous studies have examined parental expectations of children's academic abilities and school readiness. Across studies in this area, these cognitions are often labelled as expectations, but also as beliefs or perceptions of children's abilities. However, given the core focus on parents' cognitions regarding how children can or should perform within the academic domain, we subsume these variously labelled cognitions under the broad category of expectations. Higher parental expectations regarding the child's academic performance have been linked cross-sectionally, longitudinally, and across elementary to high-school ages to children's achievement-related choices and performance, as well as to parenting behaviors, parental sense of efficacy in helping children academically, and other family characteristics (e.g., de Boer & van der Werf, 2015; Froiland & Davison, 2014; Jung, 2016; Puccioni, 2015; Semke, Garbacz, Kwon, Sheridan, & Woods, 2010; Simpkins, Fredricks, & Eccles, 2015). In addition, longitudinal studies have demonstrated the recursive nature of the associations between parental expectations and children's academic success (e.g., Hughes, Kwok, & Im, 2013; Mägi, Lerkkanen, Poikkeus, Rasku-Puttonen, & Nurmi, 2011; Murayama, Pekrun, Suzuki, Marsh, & Lichtenfeld, 2016). Many of these studies are commendable for their large samples and longitudinal designs, however they frequently are limited by reliance on single-item measures of parental cognitions.

Other studies have revealed the utility of considering parents' expectations regarding the nature of children's learning or intelligence (e.g., Pomerantz & Dong, 2006). For example, parents may hold entity views or expectations that see child competence or intelligence as relatively fixed and unchanging, or may have more incremental expectations in which intelligence is viewed as relatively malleable via effort. Haimovitz and Dweck (2016) reported a series of studies testing the implications of these different expectations, including an experiment showing that when parents were lead to believe that failure was debilitating (entity view) this caused them to respond less adaptively to hypothetical instances of child failure.

Parental expectations also are predictive of child outcomes within special populations. For example, Kirby (2016) found that when parents of children with autism spectrum disorder had higher expectations regarding their children's future (e.g., that they would live independently as adults), these predicted better child outcomes, even controlling for the level of actual child functioning. However, overly high or unrealistic parental expectations portend both parenting and child difficulties. Several studies have reported unrealistic expectations for child behavior and development among abusive or neglectful mothers (e.g., Azar et al., 2017), and parental over-aspirations for academic performance can undermine children's actual performance (e.g., Murayama et al., 2016), perhaps due to increased pressure to succeed or parental overcontrol of the child's educational pursuits. In summary, the thoughts that parents have about what they expect from their children appear to be important influences on what children achieve, particularly in the academic realm, and a misalignment of parental expectations and child ability is likely a cause for concern.

Beliefs. These cognitions focus primarily on parents' values or their views of the ideal or optimum child behavioral and emotional functioning. As with expectations, parental beliefs are considered stable knowledge influenced by the parent's history and culture, although they may change with parenting experience. Beliefs are typically assessed using self-reports, usually questionnaires, that presumably tap explicit forms of these parental cognitions. Much of the research in this area has focused on children's emotional development and regulation and has targeted parents' beliefs regarding the acceptability of children's

negative emotions or the importance of emotions for child development. In general, parental beliefs that recognize the importance or acceptability of negative emotions are associated with more supportive parenting behaviors and with children's adaptive functioning, including their ability to regulate their own emotions, although the direction of these relations is not clear and they are not always replicated (e.g., Castro, Halberstadt, Lozada, & Craig, 2015; Her & Dunsmore, 2011; Meyer, Raikes, Virmani, Waters, & Thompson, 2014).

Parental beliefs related to emotions also have demonstrated importance within samples of families whose children are experiencing behavioral/emotional difficulties. For example, Herren, In-Albon, and Schneider (2013) found more dysfunctional beliefs about anxiety (e.g., the world is very unsafe for my child) among parents of children with anxiety disorders compared to controls. In addition, Wolk et al. (2016) reported associations between these dysfunctional parental beliefs and parenting behaviors, such as overprotectiveness. These dysfunctional beliefs significantly account for the relation between parent and child anxiety, suggesting that they may be an important mechanism in the intergenerational transmission of anxiety (e.g., Francis & Chorpita, 2011). Turning to parental beliefs regarding bullying, Troop-Gordon and Gerardy (2012) followed a community sample of parents and children over a 6-month period. When parents endorsed beliefs that peer victimization was normal, these not only predicted child difficulties, they also enhanced the negative impact of actual peer victimization on child functioning. In summary, as with expectations, evidence suggests parental beliefs that underplay children's negative experiences (e.g., bullying is normal) and those that overemphasize these experiences (e.g., anxiety is intolerable) are both linked to emotional or behavioral difficulties of children.

Attributional style. An extensive body of research on parental cognitions addresses attributions for the child and/or the child's behavior. These cognitions define how the parent explains or views the cause of child behavior, particularly atypical behavior or misbehavior. Causal attributions concern the locus, stability, and globality of a cause. These attributions are sometimes summarized in ratings, such as whether behaviors are controllable by the child and intentional, blameworthy, or dispositional in nature. Parental attributions have been considered both as dynamic cognitions driven by presentations of child behavior, and as more stable, schema-like cognitions reflecting the parent's general and enduring style of interpreting the child's behavior. We first consider the evidence regarding the stable attributional style, and then address dynamic attributions in the next section.

Bugental and colleagues have conducted extensive work centered on parental attribution style regarding the balance of power in caregiving relationships. This work shows that parents who chronically feel the child has more power than they have are at greatest risk for parenting difficulties, particularly when the parent is stressed, physiological aroused, or dealing with difficult child behavior (e.g., Bugental & Happaney, 2004; Martorell & Bugental, 2006). Other studies similarly have addressed mothers' relational schemas or internal working models of the parent–child relationship, and again, linked dysfunctions in these stable and more automatic cognitions to parenting problems and child maladjustment both cross-sectionally and longitudinally (e.g., Vreeswijk, Maas, & van Bakel, 2012). For example, Smith, Dishion, Shaw, and Wilson (2015) coded negative relational schemas about the child (including negative attributions) from mothers' 5-min speech samples describing their children. These negative schemas, assessed when the children were age 2, predicted mothers' observed coercive parenting in the coming years and subsequently predicted child conduct problems at elementary school.

We conclude this review of more stable parental cognitions about children by highlighting how each of the types of cognition have been consistently linked to parenting and child functioning. When parents think about child behavior with expectations, beliefs or attributional styles that are unrealistic, inaccurate or biased these cognitions are predictive of both maladaptive parenting behaviors and subsequent child problems. As

such, we argue for the importance of assessing and understanding parents' thoughts (such as their expectations, beliefs, or attributional styles) within both research and clinical contexts. As we strive to best understand and help parents and children, the evidence from this section highlights the value of taking time to ask parents for their thoughts about children and to recognize the power of these cognitions to predict difficulties in parent–child interactions.

Parental Cognitions About the Child: Dynamic/Event-Dependent

Although it is a reasonable assumption that many, if not all, forms of parental cognitions occur in both stable and dynamic forms, very little research has examined the more dynamic versions of cognitions, such as expectations or beliefs. One exception is a study conducted in our lab showing that mothers of children with greater conduct problems were more inaccurate in their expectations of how their children would perform on specific cognitive tasks (Johnston, 2011). Future research should investigate how parents' beliefs or expectations are formed in ongoing interactions, and how these are transactionally linked to stable forms of these cognitions and to child and parent actions. In contrast to studies of parents' beliefs or expectations, research on parental attributions has included more dynamic or event-dependent forms. We review this literature in the following section.

Attributions: Event-dependent. Research has demonstrated that, even during the prenatal period, if mothers perceive ambiguous emotional cues in young infants as negative and intentional their ability to respond sensitively to their infants decreases (e.g., Leerkes et al., 2015; Leerkes, Su, Calkins, Henrich, & Smolen, 2017). Importantly, these negative attributions appear to act as a bridge between a mother's own history of abuse or trauma and her parenting difficulties (e.g., Bernstein, Laurent, Measelle, Hailey, & Ablow, 2013; Dayton, Huth-Bocks, & Busuito, 2016).

The research literature investigating attributions among parents of elementary-school aged children and adolescents is abundant. Although most research designs have relied on questionnaire or vignette-based measures, coding of more spontaneous attributions via interviews or while parents are observing the child's behavior also are represented. Results have consistently established that parental attributions that blame the child for specific instances or events of failure or misbehavior are associated with harsher, less positive parenting reactions and increased child problems (e.g., Healy, Murray, Cooper, Hughes, & Halligan, 2015; Heatherington, Tolejko, McDonald, & Funk, 2007). When parents are presented with challenging child behavior (e.g., noncompliance, aggression) the degree to which they form attributions of the child's behavior as intentional or blameworthy is related to the severity of their parenting response. These associations have been demonstrated for both mothers and fathers (e.g., Colalillo, Miller, & Johnston, 2015; Nelson, O'Brien, Calkins, & Keane, 2013), and across the continuum of parenting behavior, including maltreatment (Azar et al., 2017; Hildyard & Wolfe, 2007; Pidgeon & Sanders, 2009).

The associations between more dynamic, event-based parental attributions and parenting or child problems have been studied in families of children with various difficulties, including developmental disabilities or medical problems (e.g., Guion & Mrug, 2012; Hartley, Schaidle, & Burnson, 2013). Most commonly, negative parental attributions for specific child misbehaviors have been examined in the context of their predictive associations with escalating externalizing child problems and harsh or overreactive parenting in families of these children (e.g., Halligan, Cooper, Healy, & Murray, 2007; Healy et al., 2015; Johnston, Hommersen, & Seipp, 2009; Johnston & Ohan, 2005; Nelson, Mitchell, & Yang, 2008). Event-based parental attributions also have been linked to child internalizing problems (including depression and anxiety), and to more critical and negative parenting behavior in families of these youth (e.g., Chen, Johnston, Sheeber, & Leve, 2009; Sheeber et al., 2009). Parental attributions can also moderate the impact of the child's experiences. For example, Harper

(2012) found that when parents held their children accountable for being bullied, these attributions partially accounted for the relation between peer victimization and the children's internalizing problems.

A reminder at this point that many of these studies report differences in parental attributions between families raising typically developing children versus those raising children with behavioral or developmental difficulties, and these differences should be interpreted as reflecting influences of both parents and children. Although both experimental and longitudinal designs have demonstrated that parental attributions *can* influence parenting and child outcomes (e.g., Healy et al., 2015; Johnston et al., 2009; Slep & O'Leary, 1998; Williamson & Johnston, 2015), this clearly is not the whole story and the contributions of the child or situational factors must be acknowledged to avoid an incomplete and inaccurate parent-blaming interpretation of the demonstrated associations. Parents differentiate their attributions according to the behavior being displayed by the child (e.g., Dix, Ruble, Grusec, & Nixon, 1986), and their past experiences with their child or knowledge of the child's diagnosis alters the attributions they make for in-the-moment child behaviors. For example, parents of children diagnosed with ADHD often adopt a disease-model whereby they attribute ADHD behaviors (e.g., forgetting to take lunch to school) to internal causes that are pervasive and enduring (e.g., Gerdes & Hoza, 2006; Johnston & Freeman, 1997).

Parental attributions may play a role, not only in directing parenting behavior, but also in molding the attributions that children form for their own experiences, including maladaptive attributions. Focusing on hostile attributions for aggression, Healy et al. (2015) found that mothers' attributions for child behavior assessed when their children were 18 months old were not only predictive of early child behavior problems and harsh parenting behavior, but also shared a direct link to children's hostile attributions at age 5. Similar links have been discovered in relation to child internalizing problems, such that parental threat attributions for ambiguous events are related to children's threat attributions and development of anxiety (e.g., Creswell, Shildrick, & Field, 2011; Murray et al., 2014). Highlighting the influence of children on parents, Creswell et al. (2011) found bidirectional relations between the attributions of parents and children. However, it is acknowledged that these links are not always observed in research studies, and attributions may be best understood as influencing parenting behavior rather than child attributions directly (e.g., Becker, Ginsburg, Domingues, & Tein, 2010; Vélez et al., 2015).

In concluding our review of parental attributions, we note that they have also been examined within more complex models linking these attributions to parent characteristics (e.g., Leerkes et al., 2017). For example, showing that attributions interact with parents' emotional states, Wang, Deater-Deckard, and Bell (2016) found that correlations between mothers' negative attributions and their perceptions of child problems were strongest among mothers with negative affect and low resting vagal activity (a presumed marker of poor regulation). Using daily diaries and focusing on positive emotions, Enlund, Aunola, Tolvanen, and Nurmi (2015) reported that mothers' emotional reactions to child success predicted their positive attributions for child success. Other studies show how parental attributions form a bridge between the parent's own emotional difficulties (including depression and anxiety) and their parenting difficulties or the development of problem behavior in their child (e.g., Chen et al., 2009; Leung & Slep, 2006).

Finally, recent work has examined parental attributions in conjunction with parental self-regulation skills. Sturge-Apple, Suor, and Skibo (2014) found that negative parent attributions were more strongly associated with harsh parenting among mothers with poorer working memory. This is presumably because such self-regulation skills allow parents time to reflect on and/or correct more automatic negative attributions driven by reactions to child misbehavior. Interestingly, it was also found that higher levels of social disadvantage had a similar moderating effect on parenting skills (i.e., strengthening the link between parental attributions and harsh parenting). It may

be that social disadvantage places a chronic burden on the mothers' information processing or self-regulation capacities.

In summary, consistent with the portrait of parental cognitions presented in Fig. 1, attributions function not in an isolated manner, but within a more interrelated context of the family. For example, mothers and fathers with negative attributions for child behavior have significantly more negative perceptions of the child, not only within each parent but also across parenting dyads (e.g., Nelson et al., 2013). Furthermore, when confronted with sibling disputes, the attributions a parent makes regarding the culpability of each sibling are significant predictors of how the parent chooses to intervene in the conflict (Recchia, Wainryb, & Howe, 2013). The attributions that parents offer for specific child behaviors or in ongoing parent–child interactions reflect the characteristics of the parent (such as an underlying attributional style), the specific child behavior, the child's characteristics, the parent–child relationship history, family influences, and a host of situational circumstances (e.g., the time of day, the nature of the task the child is doing). These factors are all blended together in a pattern of ongoing, transactional interrelations. Unpacking the associations among these factors will be important in telling us which are most important and potentially the most responsive to intervention.

Parental Cognitions About the Parenting Role

The above section illustrates that parents' thoughts about their children share transactional relations with parenting choices as well as with a host of child, parent, familial, and social characteristics. However, we also know that parents' thoughts about their own role in parent–child interactions (whether idealized or actual) are an important piece of the parenting puzzle. In the following section, we consider evidence regarding parental cognitions of the parenting role and how parenting should occur, that is, general parenting attitudes or beliefs. We then consider parents' sense of their own efficacy or competence in the parenting role. As with child-centered parental cognitions, cognitions about the parenting role have been considered primarily as stable cognitions, with little research focused on how more dynamic aspects of the thoughts may play out in ongoing parent–child interactions.

Attitudes toward the parenting role. The study of beliefs or attitudes about parenting has a lengthy history with distinctions drawn among attitudes that promote authoritarian (i.e., traditional or parent-oriented), authoritative (i.e., progressive or child-orientated), or permissive parenting strategies (e.g., Baumrind, 1967). Studies examining these attitudes across a diversity of child ages and family backgrounds continue to confirm their importance in relation to parenting and child behavior. For example, longitudinal research shows that authoritarian attitudes (e.g., beliefs that children are willful and need discipline to learn obedience to authority) are linked to poorer developmental outcomes, such as aggression and low school achievement (e.g., Im-Bolter, Zadeh, & Ling, 2013; Runions & Keating, 2007). In contrast, reciprocal links have been reported between parents' progressive, child-centered attitudes and parenting sensitivity (e.g., Schofield & Weaver, 2016), with some evidence that the direction of influence from parental attitudes to parenting behavior was strongest.

Although much of the research on parental attitudes toward the parenting role has been conducted with mothers, when examined in fathers the results are generally consistent (e.g., Holmes & Huston, 2010) and some studies point to the importance of simultaneous consideration of mothers' and fathers' attitudes (e.g., Biehle & Mickelson, 2012; Schofield & Weaver, 2016). Parental attitudes may also combine with parenting to exert joint influence on child behavior. Barnett, Shanahan, Deng, Haskett, and Cox (2010) found that the mothers' attitudes about the importance of discipline and the risk of "spoiling" a child, both alone and in interaction with harsh parenting, were predictive of later internalizing and externalizing child problems. Finally, in addition to these general attitudes, other researchers have examined parental attitudes

regarding particular aspects of parenting, such as attitudes surrounding immunizations (Weiner, Fisher, Nowak, Basket, & Gellin, 2015) or children's internet use (Álvarez, Torres, Rodríguez, Padilla, & Rodrigo, 2013). In summary, when parents hold more parent-centered attitudes that emphasize parental authority and child obedience these thoughts are consistently predictive of more maladaptive parenting behaviors and poorer child outcomes.

Sense of efficacy in the parenting role. Accompanying parents' attitudes or beliefs about standards or styles of parenting are their evaluations of their own behavior in the parenting role, and these evaluations also appear to guide parenting behavior and child outcomes. Parenting self-efficacy cognitions refer to the extent to which the parent feels he/she is able to act and effectively influence the child in a manner consistent with an intended parenting style or goal. Across a variety of life domains, individuals with greater self-efficacy perform better than individuals of comparable ability who have lower self-efficacy (e.g., Bandura, 1997). Not surprisingly, parents with higher self-efficacy in the parenting role display more positive parenting behaviors and improved child outcomes. The robustness of this association has been demonstrated in research with both mothers and fathers, across child ages ranging from infancy to adolescence, and for reported as well as observed parenting behavior (e.g., Jones & Prinz, 2005; Rominov, Giallo, & Whelan, 2016). Although most research in this area focuses on self-efficacy in the general domain of parenting, research investigating self-efficacy in relation to more specific parenting tasks is also needed (Jones & Prinz, 2005). For example, Sanders and Woolley (2005) found that questions focused on mothers' sense of efficacy in managing specific child behavior problems, such as noncompliance, accounted for unique variance in parenting behaviors, even after controlling for self-efficacy at the global and parenting domain levels as well as other risk factors.

As with other parental cognitions, research has advanced to testing not just for correlations between parenting self-efficacy and parenting or child outcomes, but also looking for pathways of influence and integrating parenting self-efficacy with other intra- and extra-parental influences. For example, parenting self-efficacy shares links to other aspects of parents' functioning, including stress and psychological distress, and appears as an important mediator between parents' psychological difficulties and their experience of stress in the parenting role (e.g., Williamson & Johnston, 2017). Parents' cognitions about their parenting efficacy are reciprocally related over time to both child problems and marital stress (e.g., van Eldik, Prinzie, Deković, & de Haan, 2017), and are an important element of the parenting experience in families of children with disabilities (e.g., García-López, Sarriá, & Pozo, 2016).

Confirming the interrelated nature of parenting behavior, child behavior, and parental self-efficacy cognitions is evidence that interventions designed to change parenting behavior also positively alter parental self-efficacy cognitions (Colalillo & Johnston, 2016). Self-efficacy plays a role in parents' willingness to engage in parenting interventions (Mah & Johnston, 2008). For example, in a study of mothers who received a single-session parenting program, parenting self-efficacy, but not attributions for child behavior, significantly predicted mothers' subsequent use of the strategies taught in the session (Johnston, Mah, & Regambal, 2010). Perhaps the ability to feel confident about one's parenting allows parents to acknowledge the need for help and to risk changes to their parenting behaviors that increase sensitivity to their children's needs (e.g., Bornstein, Hendricks, Haynes, & Painter, 2007).

In summary, as with thoughts about children, parental cognitions about their parenting role are associated with how they interact with their children and with other parental, child, and family characteristics and circumstances. In particular, when parents feel more efficacious as parents, this signals greater willingness to engage in and benefit from parenting interventions. Conversely, parenting programs not only provide parents with behavioral skills, but also boost their confidence in their ability to effectively use these skills to benefit their children.

State of the Evidence: Strengths and Limitations

The study of parental cognitions has a number of strengths. For several decades, this work has been grounded in sophisticated theoretical positions (e.g., Sigel, 1985), and recent work continues this tradition (e.g., Crandall et al., 2015). Parental cognition researchers span developmental, family, and clinical science positions and this diversity has allowed the field to remain cognizant of important developmental and contextual factors, and for basic and applied work to be seamlessly intertwined. An emerging strength in parental cognitions research is the ever expanding focus that integrates these cognitions with other levels of parenting analysis, including neurological, biological, and evolutionary perspectives (e.g., Barrett & Fleming, 2011; Feldman, 2016). As we have argued throughout the chapter and illustrated in Fig. 1, parental cognitions are best viewed within a complex array of other intra- and extra-parental influences that share transactional relations with cognitions. This perspective necessitates sophisticated studies, often using longitudinal designs with repeated assessments of parental cognitions, as well as measurement of numerous parent, child, and family variables. The growing proliferation of such studies is an acknowledged strength that will serve to advance the field.

However, research limitations remain and these deserve attention. Throughout the chapter, we have briefly noted some of these limitations. First among the limitations is the proliferation of cross-sectional studies relying on single informant and self-report to assess parental cognitions in relation to parenting and child behaviors. These methodologies not only allow for significant contamination of relationships between variables with rater and methodological variance, they do not live up to the conceptual complexity of the proposed ongoing transactional relations among the variables. We are not advocating a devoted search for whether or not parental cognitions *cause* parenting or child behavior. Rather, studies need to be conducted in a manner that acknowledges that these relations are most likely transactional, and frequently mediated or moderated by other parent, child, or family characteristics. Understanding the more complex configuration of factors within which parental cognitions are embedded will provide important information regarding the parameters that govern when and how these cognitions are most and least strongly predictive. Studies tracking alterations in the trajectories of parental cognitions that co-occur alongside interventions or developmental changes are another avenue for unraveling the mutual influences on and of parental cognitions.

To allow for maximum benefit from more sophisticated, multifactorial designs, there is a need for development of better measures of parental cognitions. Among the studies reviewed, parental cognitions are almost exclusively assessed via parental self-report, using face-valid questions, often of a very brief nature. Although the use of self-report to assess what parents are thinking is logical, the exclusive reliance on these measures has generated gaps in our knowledge. Parents will only self-report cognitions they are able and willing to articulate, and their responses are limited to the questions we pose. The move to examining implicit parental cognitions offers one exciting avenue of alternate assessment methods (e.g., Implicit Association Tests, go-no go tasks, cognitive load tasks). Studies using experimental manipulations to induce various parental cognitive states also are promising (e.g., Haimovitz & Dweck, 2016; Slep & O'Leary, 1998). In addition, efforts to assess parental cognitions in more ongoing, spontaneous fashions using video-mediated recall, open-ended interview tasks, or daily diaries (e.g., Chen et al., 2009; Enlund et al., 2015; Johnston, Reynolds, Freeman, & Geller, 1998) have potential. No one assessment method will be entirely appropriate or comprehensive, and researchers will need to be creative in devising assessments and diligent in validating these newly developed measures, and employing multimethod approaches to capture the full complexity and diversity of parental cognitions.

Finally, as a closing limitation, we reiterate our note regarding the problems caused by the proliferation of labels and lack of a coherent classification system for different types of parental

cognitions. At a minimum, we call upon researchers to clearly operationalize the cognitions they are assessing, and to reduce the use of idiosyncratic labels whenever possible.

Future Directions and Implications

There are several directions in our understanding of parental cognitions that require further exploration, and may yield findings with important practical as well as theoretical implications. We outline just a few of these in this final section.

One promising direction would be continuation of the work integrating cognitions related to parenting with more general research in social and cognitive affective neuroscience. The existing findings (e.g., Azar et al., 2017; Sturge-Apple et al., 2015) highlight how parental cognitions are intimately tied to the parent's self-regulation or executive functioning abilities. These abilities are particularly integral to dual-processing models of cognitions, allowing for reflective or controlled processing, and potentially for correction of initial, more automatic parental cognitions. Consideration of parental cognitions within this context of social cognitive dual-processing models holds promise of offering a richer and more comprehensive explanation of how these thoughts play out in relation to other aspects of both intra-parent (e.g., working memory capacity) and extra-parent (e.g., stress or home chaos) functioning. Studies linking parental cognitions to genetic or epigenetic factors and to affective and biological functioning (e.g., Finegood, Raver, DeJoseph, & Blair, 2017; Leerkes et al., 2017) offer similar promise of providing a more fully informed understanding of these thoughts and their links to parent and child functioning.

Another important direction will be the study of differences in parental cognitions or in the relations of parental cognitions to other variables across diversities, such as gender roles, social or cultural backgrounds, and a number of additional parent and family variations. As is the case in much of the parenting literature, studies of parental cognitions in mothers outnumber such studies in fathers by a wide margin. Similarly, only scant information exists addressing how parental cognitions may differ across families living at different levels of socioeconomic and educational disadvantage. Although work on how parental cognitions are grounded in ethnicity and culture has emerged (e.g., Bornstein, Putnick, & Lansford, 2011; Tamis-LeMonda et al., 2008), a full appreciation for the diversity of cultural, immigration, and acculturation experiences as they relate to how parents think about children and parenting is needed.

As we have repeatedly emphasized, parental cognitions do not function alone and one important filter or moderator of their influence is likely found in children's perceptions of these cognitions. For example, Rote and Smetana (2016) reported in a longitudinal study that, although parental cognitions regarding their right to know about their adolescents' lives did not predict adolescent concealment of information, the adolescents' perceptions of their parents' rights to know did significantly predict the concealment behavior. Similarly, Wang and Benner (2014) found that, although parent reports of their expectations for child achievement were positively related to the children's grades, the children's own perceptions of their parents' expectations were negatively related to grades, perhaps reflecting stress related to the children's sense of high parental expectations. These findings underscore the importance of assessing not only cognitions from the parent's point of view, but also how these cognitions are perceived by others in the family.

Finally, we believe that advances in the measurement and understanding of parental cognitions will be closely tied to the potential for these cognitions to be leveraged in order to maximize intervention benefits. Several lines of evidence already point to how cognitive variables may be best appreciated and exploited within the context of parenting treatments (e.g., Mah & Johnston, 2008). For example, newer work on parental capacity for self-regulation calls for greater consideration of how parenting programs may be adapted to best meet the needs of parents who struggle with self-regulation or control capacities (e.g., Bugental & Schwartz, 2009; Chronis-Tuscano, Wang, Woods, Strickland, & Stein, 2017; Crandall et al., 2015). Furthermore, parenting programs designed to incorporate changes to

parental cognitions as well as to parenting behaviors have been successful (e.g., Bugental, Corpuz, & Schwartz, 2012; Moretti, 2009; Sanders et al., 2004). Within parenting programs, attention to parental cognitions and how they might be modified is hypothesized to help parents use more effortful, reflective approaches to making parenting decisions resulting in more appropriate parental practices. In addition, positive changes to parental cognitions (such as reducing negative attributions or aligning parental expectations with child capability) promotes the maintenance of behavioral changes as new ways of thinking about the child and parenting become habitual and incorporated into existing stable parental cognitive structures. Thus, consideration of parental cognitions can serve to enhance parenting programs in several ways. Cognitive-behavioral strategies may be used to directly target and reduce maladaptive parental cognitions (e.g., challenging parents' more automatic negative attributions for child misbehavior with exercises that encourage consideration of other more benign causes, such as situational factors). In addition, behavioral change may be used to leverage cognitive changes that would enhance the maintenance of parenting program effects (e.g., highlighting intervention-induced improvements in parenting or child behavior to build parenting self-efficacy).

Conclusions

That parents think about children and their role as parents is not in doubt, although much remains to be learned about the nature of these cognitions. Parental cognitions range from very explicit and deliberate processing of information to decide on the reasons for children's problem behaviors to more implicit and less accessible cognitive templates that inform parents' behaviors during the rapid-fire parent–child exchanges that characterize much of daily parenting. We trust that continued research to assess and better understand all types of parental cognitions will ultimately serve to improve efforts to assist parents in selecting, altering, and maintaining the most appropriate parenting behaviors. Such efforts will lead to clear benefits for children. In addition, helping parents to adopt healthy ways of thinking about children and parenting can be expected to yield positive spill-over effects to the growth and functioning of these adults in their other personal, social, and professional roles. Our hope is that this chapter will spur on such research and hasten our ability to apply the findings to optimize both child development and parental well-being.

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Family Structure and the Nature of Couple Relationships: Relationship Distress, Separation, Divorce, and Repartnering

Martina Zemp and Guy Bodenmann

Introduction

There is broad and consistent scientific evidence that parenting is a key predictor of child development. Several parenting styles (e.g., authoritative, punitive) have been consistently found to be associated with beneficial or adverse child outcomes, and these findings remain robust across different family structures, including intact, divorced, and blended families (Bodenmann, 2016; Campana, Henderson, Stolberg, & Schum, 2008). Notwithstanding, it is well known that the quality of the couple relationship and the family structure do indeed have a marked effect on the nature and form of parents' child-rearing, for better or for worse. This area of research has received sprouting attention in the past few decades and the results are multifaceted and not always conclusive. The aim of the present chapter is thus to review the current state of theoretical and empirical knowledge on: (1) parents' intimate relationships, (2) parental separation or divorce, and (3) family structure as important determinants of parenting.

Some formal considerations in terms of terminology should be kept in mind while reading. First, we use the term *interparental relationship* to refer to the intimate couple relationship between parents for the sake of simplicity and, relatedly, *interparental conflict* due to its frequent use in the scholarly literature. Second, readers should be aware that we use the term *divorced parents* to refer also to separations and disruptions of non-marital unions. Third, various terms have been proposed to label the multiple, currently existing family forms differing from the nuclear family (two biological parents), such as blended or patchwork families. For the purpose of this chapter, we decided to use the term *stepfamilies* exclusively because of our clear focus on the presence of children from a previous dyad in a new committed relationship. Last, a separate reflection of studies with same-gender and other minority couples did not lie within the scope of this chapter. We may, though, assume that the discussed theoretical approaches and empirical evidence are largely comparable for all couples, although research has yet to determine whether this assertion is justified.

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Theoretical Background

Process Model of the Determinants of Parenting

According to the process model of Belsky (1984), parenting is multiply determined by (1) the parent's personality, (2) the child's characteristics, and (3) by the broader social context in which the parent–child relationship is embedded, specifically, social networks (social integration and support), work (employment and working conditions), and the parents' intimate relationship. The model assumes that the interparental relationship has a direct influence on parenting behavior and, thereby, on child development on the one hand, and an indirect influence via parents' personality and general well-being on the other hand (Halford, Rhoades, & Morris, 2018). Hence, more than 30 years ago, Belsky (1984) concluded based on his review that the interparental relationship deserves special consideration in order to understand parenting and its influences on children. The present chapter focuses on this predictor among the multiple determinants of parenting proposed by Belsky.

Family Systems Theory and Indirect Effect Models

Family systems theory (FST) has received growing attention from developmental and clinical psychologists in the last few decades (Cox & Paley, 2003). Along FST lines, children's behavior and well-being can only be truly understood in the family context (Minuchin, 1985). A family is regarded as an organized whole and elements or subsystems within this system are mutually interdependent; hence, behaviors, beliefs, or emotions of family members are inextricably interconnected. Two processes of interdependency between the interparental relationship and the parent–child relationship have received considerable attention in prior research (see Erel & Burman, 1995 for an overview). First, the *spillover hypothesis* proposes a positive association between two family subsystems. Hence, spillover takes place when there is a direct transfer of mood, affect, or behavior from one subsystem (e.g., the interparental relationship) to another (e.g., the parent–child interaction). In the context of parenting, this model would thus predict that distress in the interparental relationship might harm parenting skills. It is conceivable that distressed parents tend to deny conflicts and problems in their intimate relationship and instead shift their (negative) attention toward the child's behavior (Heinrichs & Prinz, 2012). Another possible explanatory mechanism for spillover processes might be affect contagion. According to Patterson (1982), interparental conflict is posited to erode parents' mood, and this in turn disrupts parenting. At a micro-analytic level, this theory implies that a single conflictual interaction may create a transient negative mood in parents, which then increases the probability of a dysfunctional parent–child interaction.

Second, spillover effects are often contrasted with the *compensation hypothesis*. Compensation is the opposite of spillover, thus implies a negative link between the interparental relationship and the parent–child relationship. It depicts a process in which family members seek converse experiences in one family subsystem to balance deficiencies in another (Erel & Burman, 1995). Within this context, buffering processes of positivity in couples (positive everyday communication, dyadic coping) can compensate adverse family interactions (Zemp, Merrilees, & Bodenmann, 2014). Related to parenting, compensation is said to occur when relationship problems between parents would lead to more attention, dedication, and investment into child-rearing. These "additional" efforts may be functional (in terms of more sensitive parenting, for instance) but hold also the risk of overinvolvement and triangulation processes in the family (Heinrichs, Cronrath, Degen, & Snyder, 2010).

Rooted in the focal considerations of the FST, there has been a change of emphasis in family research which may also be a primary impetus for the extensive body of literature on the effects of interparental conflict on children. Given the fact that one of the strongest pathways of the impact of interparental conflict on children is probably the simplest one, i.e., through their exposure to it, several exposure-related hypotheses have been

discussed (most notably, the emotional security theory; Cummings & Davies, 2010). As the experience of seeing or hearing displays of anger between parents is itself harmful for children, repeated witnessing of interparental hostility takes a *direct* toll on children (Zimet & Jacob, 2001). That said, other mechanisms must also be at work, as conflicts occurring in children's absence or covert arguments have shown to be damaging too; hence, the burden experienced by children does not necessarily require their actual observation of conflict (Heinrichs et al., 2010). Interparental conflict or intimate partner violence can harm children's well-being also *indirectly*, by disrupting child-rearing practices or interfering with sensitive parenting (Engfer, 1988). High levels of relationship distress in parents form the basis for a strained family climate in which parents become increasingly involved with their own problems. This, in turn, may deplete the attention and the emotional and time resources necessary to rear their children in a warm, sensitive, and responsive manner.

Coparenting

Besides disruptions in individual parenting, research has also focused on the indirect paths by which relationship distress leads to decreases in the couple's coparenting abilities. Minuchin (1974) defined coparenting as the executive system of the family, namely, the core relation which is responsible for the organization and cohesiveness of the family. Theoretical and empirical literature suggests that coparenting, i.e., how parents cooperate and coordinate in child-rearing and support each other in their parenting efforts, belongs among the main predictors of family functioning and offspring's well-being, over and above parenting (McHale & Lindahl, 2011; Teubert & Pinquart, 2010). The dimensions of coparenting include: (1) mutual support in parenting, (2) shared decision making regarding child-rearing, (3) coparenting conflict (i.e., how often the parents argue about child-rearing issues, and how much they disagree in general parenting techniques), and (4) division of parental labor (Margolin, Gordis, & Richard, 2001; McHale, 1995).

Coparenting cannot be simply reduced to a subdimension of the interparental relationship, but conceptually plays a distinct role in the family system. The debate about the empirical independence and interdependence between the interparental relationship and the coparenting alliance has been reflected in the conceptual development of coparenting from the outset (Feinberg, 2003). Coparenting is hypothesized to be more closely and strongly related to parenting and child outcomes than the partners' relationship quality (Morrill, Hines, Mahmood, & Córdova, 2010). It has been argued that coparenting is genuinely motivated by the well-being of the child rather than the partner (Margolin et al., 2001). Within the FST framework, the coparenting concept is derived from the *compartmentalization hypothesis* positing that parental couples are ideally able to keep separate their spousal and parenting roles in the family. This compartmentalization prevents dysfunctional feelings stemming from couple relationship distress from spilling over to the parent–child relationship (Heinrichs et al., 2010).

That said, a growing body of research has recently addressed the interrelation between the interparental and the coparental relationships. Since the interparental relationship precedes the coparenting relation from a chronological point of view, it is tempting to regard the interparental relationship as the precursor in this link. Correspondingly, coparenting has traditionally been considered as a mediator explaining the association between the functioning of the interparental relationship and parenting skills (Margolin et al., 2001). That is, many investigators deem the interparental relationship a predictor of coparenting, whereby interparental conflict is seen as potentially compromising coparenting efforts (e.g., Schoppe-Sullivan, Mangelsdorf, Brown, & Szewczyk Sokolowski, 2007). It seems evident that distressed couples, rather than cooperating, are at risk for being hostile, competitive, or ineffective in working as a team in child-rearing (McHale, 1995). Conversely, parents who are satisfied in their close relationship, and interact and communicate constructively may benefit from these skills in terms of coparenting. They are likely to display more consistent and congruent

parenting strategies across parents (good communication reduces parenting differences), jointly define parenting goals, and provide mutual support in topics surrounding child-rearing (Holland & McElwain, 2013). It is easy to imagine a real-world scenario that illustrates this indirect model (for this purpose we refer to the lively example by Morrill et al., 2010, p. 67):

> Consider a scenario that begins with a married couple spending time together in the living room enjoying each other's company and feeling emotionally connected. In this context we have the marital subsystem working particularly well. The context shifts, however, as their child enters the room needing help with his or her homework. At this point, the coparenting subsystem is activated, with the positive affective and collaborative qualities of the marital subsystem influencing or "spilling over" into the coparental subsystem. The couple's positive affect and collaborative behaviors enable them to easily coordinate their assistance to the child, either individually or as a team. Emerging almost immediately is the parenting subsystem as the relationship between the child and each parent is played out around the interaction the child experiences in that moment from each parent. Their ability to coordinate and support each other enables them to empathically respond to their child, to spend positive time with their child, and to sensitively intuit his or her developmental needs. On the other hand, if the couple started off in that living room feeling distant, resentful, or conflicted, the inquiring child may instead be confronted with continuing tension between the parents or competition about how best to complete the homework. One parent may leave the room, while the other may be distracted or tersely blurt out the answer to the child. Thus, in this model, each domain spills over into the subsequent domain, positively or negatively, in a "chained" fashion.

Evidence for Determinants of Parenting

Relationship Distress in Parental Couples

Interparental conflict. Abundant evidence underpins the spillover hypothesis: a meta-analysis found a robust average association between interparental conflict and dysfunctional parenting behaviors (overall weighed effect size from 39 studies d = 0.62), with strongest effects regarding harsh discipline and parental acceptance of the child (Krishnakumar & Buehler, 2000). That is, interparental conflict can be detrimental to parents' sensitive and supportive parenting, or even, increase the likelihood of the use of harsh verbal or physical forms of punishment, such as yelling, spanking, or hitting. Since then, studies have supported the spillover model using sophisticated and high-quality research designs (e.g., Sears, Repetti, Reynolds, Robles, & Krull, 2016; Stroud, Durbin, Wilson, & Mendelsohn, 2011). In a longitudinal study with expectant parents, Christopher, Umemura, Mann, Jacobvitz, and Hazen (2015) found that increases in father reports of interparental conflict (from the prenatal period through 2 years after childbirth) predicted lower cooperative coparenting, whereas mother report of increased conflict was related to lower maternal support of their spouse's parenting.

Some authors have demonstrated that different spillover effects may mediate the impact of interparental conflict on children's externalizing versus internalizing problems, although findings are inconsistent in terms of the nature of these processes. For instance, Gerard, Krishnakumar, and Buehler (2006) reported that the link between interparental conflict and youth externalizing problems was mediated by harsh discipline and parent–youth conflict. The association between interparental conflict and internalizing problems was only partially mediated through parent–youth conflict. Another study found that parental harshness, lower monitoring, and higher maternal psychological intrusiveness mediated the relation between interparental conflict and adolescents' externalizing problems, whereas lower levels of parental acceptance played a special role in explaining their internalizing problems (Buehler, Benson, & Gerard, 2006).

Spillover pathways may also be distinct depending on the type of displayed conflict behavior and parent gender. In the study by Katz and Gottman (1996), parental hostile interaction (wife's contempt and husband's belligerence) was associated with the fathers' rejecting parenting, leading to children's externalizing problems.

In contrast, the husband's withdrawal from the marriage was related to mothers' rejection of the children, which predicted their internalizing behavior. Studies on the long-term stability of marriage have indicated that partners' withdrawal (i.e., forms of detachment and avoidance of conflictual conversations) may reflect a more disruptive pattern of couple conflict than anger expression, since it impedes conflict resolution and represents spousal disengagement, a process that might be especially adverse for parenting too. Supporting this hypothesis, Sturge-Apple, Davies, and Cummings (2006a), found that interparental withdrawal is a more powerful predictor of children's maladjustment than parents' overt hostility. Both dimensions of interparental conflict predicted significant increases in maternal emotional unavailability, whereas only interparental withdrawal was a significant predictor of subsequent emotional unavailability among fathers.

Alongside field research, a number of laboratory studies give compelling examples for spillover processes from the interparental dyad to triadic (parent–child) interactions. In an experimental approach, Kitzmann (2000) observed triadic family interactions subsequent to (a) a pleasant conversation (discussion about an enjoyable topic), and (b) a conflictual discussion between parents without the child being present. Parents showed significantly more democratic coparenting (joint decision making and consensus in problem-solving) in the family interaction after the pleasant couple exchange and more nondemocratic coparenting after the conflictual interaction. Similarly, fathers who had just engaged in a conflict with their spouses used more confusing or threatening commands in a subsequent interaction with their sons (Jouriles & Farris, 1992). Interparental conflict correlated positively with maternal statements of disapproval toward their sons' misbehaviors, i.e., attempts of toddlers to leave the observation area which mothers were instructed to prevent (Jouriles, Pfiffner, & O'Leary, 1988). Moreover, Schoppe-Sullivan, Mangelsdorf et al. (2007) found that couples with high levels of relationship quality, assessed observationally during the third trimester of pregnancy, showed more optimal coparenting behavior with their 3.5-month-old infants in a family interaction task compared to more distressed couples. Sequential analyses of parent–child interactions have also revealed that maritally less satisfied mothers were more negatively responding to daughters' assertive statements and more likely to reciprocate their sons' negative affect (to respond negatively contingent on their negative verbalizations) than mothers in happy marriages (Kerig, Cowan, & Cowan, 1993).

Furthermore, some research supports the theory about affect contagion between family subsystems. Margolin, Christensen, and John (1996) reported that distressed families, in contrast to non-distressed families, experienced highly pervasive continuance of tension between family members for up to 24 h, and interparental tension was particularly likely to spill over to the parent–child relation. Correspondingly, it was found that a marital disagreement on one day enhanced the likelihood of parent–child tension the following day by 41–60% (Almeida, Wethington, & Chandler, 1999). However, although convincing evidence has been reported for tension spillover, this does not mean that positive interactions may not spillover too. An example of positive spillover might be positive reciprocity in the context of dyadic coping and caring about each other (Bodenmann, 2005; Zemp, Bodenmann, Backes, Sutter-Stickel, & Revenson, 2016). A recent study demonstrated a positive spillover pathway indicated by prospective links between constructive couple conflict and warm parenting of both mothers and fathers (McCoy, George, Cummings, & Davies, 2013). In a longitudinal study it was shown that wives who were more positive and husbands who were less negative to each other as newlyweds (prior to parenthood) tended to display more supportive behaviors toward their children 9 years later (Tanner Stapleton & Bradbury, 2012).

Intimate partner violence. Interparental conflict involving physical aggression and violence between spouses is probably the most extreme form of relationship distress signifying a particularly severe stressor for children (Vu, Jouriles,

McDonald, & Rosenfield, 2016), albeit not a rare one. Based on a representative sample of American dual-parent households, approximately 15.5 million American children are estimated to live in families in which intimate partner violence (IPV) had occurred at least once in the previous year (McDonald, Jouriles, Ramisetty-Mikler, Caetano, & Green, 2006). IPV is a robust predictor of child psychological problems, even when it is not directly witnessed by the child (Kitzmann, Gaylord, Holt, & Kenny, 2003). Existing tests of indirect path models linking IPV, parenting, and child outcomes have yielded complex and sometimes counterintuitive results. For example, Levendosky, Huth-Bocks, Shapiro, and Semel (2003) reported a positive association between IPV and effective parenting practices (supportive of the compensatory hypothesis), which, in turn, were linked with greater child adjustment. However, the preponderance of findings lend support for the spillover hypothesis, and thus for the mediational role of parenting disturbances in the link between IPV and children's adjustment problems (e.g., Levendosky, Leahy, Bogat, Davidson, & von Eye, 2006; Owen, Thompson, & Kaslow, 2006). Further confirming indirect effects is the finding that the negative impact of IPV for parents' child-rearing ability might persist even if the family is not living with the perpetrator in the same household anymore (Halket, Gormley, Mello, Rosenthal, & Mirkin, 2014).

Violence between parents often coincides with harsh parenting or physical abuse of offspring (Fong, Hawes, & Allen, 2017). In a sample of low socioeconomic status families, maternal harsh parenting emerged as a mediating mechanism linking the association between IPV and children's externalizing symptoms, but not internalizing problems (Zarling et al., 2013). Sturge-Apple, Davies, Cicchetti, and Manning (2010) found that mothers' responsiveness and disengagement toward their toddlers, assessed by means of observational data, mediated the impact of IPV on children's internalizing and externalizing symptoms. Another example illustrating that IPV can promote a cascade of multiple family risks for children is the observational investigation by Gordis, and Oliver (2004). Families with a history of IPV showed higher overall negative affect in triadic (father, mother, and preadolescent child) interactions. Moreover, IPV from husband to wife exacerbated the relation between interparental hostilities (non-violent hostile and angry behaviors in a marital discussion task) and parents' reactions toward their children: Fathers were at higher risk of displaying reduced empathy and mothers showed more negative affect when interacting with their children.

The father vulnerability hypothesis. An intriguing and well-established finding in this context is the father vulnerability hypothesis which states that paternal parenting practices are more susceptible to deterioration in the face of interparental distress compared to maternal parenting (Davies, Sturge-Apple, Woitach, & Cummings, 2009). Longitudinal research has supported the notion that child-rearing difficulties by fathers are more consistent mediators of associations between interparental conflict and children's psychological problems than mothers' child-rearing impairments (Kouros, Papp, Goeke-Morey, & Cummings, 2014; McCoy et al., 2013; Sturge-Apple, Davies, & Cummings, 2006b). A common interpretation of this finding is that mothers, since they still hold the primary caregiving function for their children in the majority of households, may be better able to compartmentalize their spousal versus their parenting role than males. They are usually more skilled at managing their emotions and at maintaining boundaries among their relationships in the family, thereby reducing the risk of contagion of negative affect between the interparental and the parent–child dyad. In contrast, men's (parenting) role is still less scripted by social conventions. Thus, fathers' demarcation between family subsystems is weaker making their parenting more susceptible to outside influences.

Drawing from an evolutionary perspective it could be assumed that maximizing reproductive fitness may demand different strategies between genders (Geary & Flinn, 2001). For mothers, the definite determination of biological maternity permits the development of the caregiving system within the context of the parent–child rela-

tionship, in which effort is primarily devoted toward protection of the child. In contrast, paternal investment might hinge more strongly on signals of monogamy from their partners due to biological uncertainty of fatherhood. As a result, disturbances in the intimate relationship could threaten a lengthy pair-bonding and decrease certainty about biological relations with the couples' offspring. The study by Davies et al. (2009) speaks in favor of this explanation. They found that adult relationship insecurity mediated the longitudinal link between interparental conflict and insensitive parenting in fathers, but not in mothers.

It's not all about (co)parenting. Summarizing the pertinent literature on indirect effect models there is consistent evidence confirming that relationship distress in couples often spills over into inappropriate parenting and coparenting, which partially explains the negative impact on child adjustment. Only a small corpus of studies have reported compensatory parenting behaviors in the context of interparental conflict, for example in a clinical sample (Mahoney, Boggio, & Jouriles, 1996) or when taking into account within-person daily diary ratings in mothers (Kouros et al., 2014). Hence, the current state of research yielded considerably more evidence for the spillover hypothesis over the alternative compensatory hypothesis. However, there are inconsistencies regarding: (a) the specific nature of pathways underlying the spillover processes, (b) the differential role of distinct facets of relationship distress for child-rearing, and (c) the "amount" of mediation (full or partial). On the latter point, propositions stated by some scholars emphasizing that, once parenting is considered, interparental conflict "may be of minimal importance for child treatment" (Fauber, Forehand, Thomas, & Wierson, 1990, p. 816), neglect the vast body of literature showing that interparental conflict also affects children directly (regardless of parenting). It should thus be noted that a number of studies highlight the mutually informative role of direct and indirect pathways in unraveling the link between interparental conflict and child maladjustment (e.g., Schoppe-Sullivan, Schermerhorn, & Cummings, 2007; Sturge-Apple, Davies, Winter, Cummings, & Schermerhorn, 2008).

Separation and Divorce Among Parents

When the romantic relationship ends but parenthood continues. A family after parental separation stays a family in the sense that parents continue to be responsible for their children and need to cooperate in child-rearing. Hence, former spouses no longer have a romantic relationship, but they must still maintain a coparenting relationship. Post-divorce parenting is confronted with much more complicated and difficult circumstances, most notably with respect to the housing and custody situation, compared to nuclear families. Divorce requires a challenging and often stressful reorganization of living arrangements and family relationships. Most often, child-rearing has to be coordinated between two separate households that may be miles apart from each other (Kelly, 2007). In the early post-divorce time period, the stressors accompanying the family transition may lead to more dysfunctional parenting (decreased warmth, increased hostility, and harsh discipline) by both the resident and nonresident parents, but the quality of parenting often improves after the early adjustment period (Kelly & Emery, 2003).

Parenting in divorced couples also differs from parenting in intact marital relations because of custody decisions made during the divorce process. The fact of having custody, sole or joint with the ex-partner, has by definition a strong influence on parenting involvement (legal stipulations, frequency of contact with the child), but also on parenting behaviors as previous research suggests. Campana et al. (2008) reported that parents (both mothers and fathers) with sole custody were more likely to exert an authoritative parenting style, whilst parents without custody were predominantly more permissive in parenting. The latter might express a form of compensation since the non-custodial parents spend much less time with their children and may try to make the available time as pleasurable as possible.

Since the 1990s, an increasing number of jurisdictions give preference to joint custody, unless there are sufficient reasons suggesting it would not be in the best interests of the child.

Therefore, court-ordered shared custody has led to a larger number of couples in the last few decades that face the challenges to install a coparenting arrangement that is fair and even between both parents. It has been repeatedly replicated that joint custody is generally linked to better outcomes concerning the quality of parent–child relationships, parenting stress, and children's adjustment than sole custody (Bauserman, 2012). Expectedly, there is empirical consensus that these beneficial outcomes are not determined by the mere fact of joint custody. Instead, successful parenting of partners after separation involves a complex interplay of multiple factors, including (a) the quality of the relationship each parent has with the child (over and above the frequency of contact between the nonresident parent and the child; see Amato & Gilbreth, 1999), and (b) the quality of the coparental relationship. Only a brief discussion of the latter is within the scope of the present chapter.

The role of the coparental relationship after family breakup. Although the coparenting construct is fruitful for research with intact (nondivorced) families, it has a special legitimization and was traditionally developed in the context of divorced couples given that it is conceptually more closely bound to the child than to the partner (Feinberg, 2002). Therefore, coparenting taps more of the skills between partners needed in rearing their children (albeit under changed circumstances after separation) than in sustaining their intimate relationship. According to the *compartmentalization hypothesis* (as described above), successful post-divorce coparenting requires that parents endeavor to demarcate their parenting role from their role as an ex-spouse. In divorced families, positive coparenting (i.e., high coordination, low conflict between parents) is associated with improved quality in individual parenting and parent–child relationship (Sobolewski & King, 2005), lower parental stress (Abidin & Brunner, 1995), increased father–child contact (Whiteside & Becker, 2000), higher levels of positive family functioning and life satisfaction (Lamela, Figueiredo, Bastos, & Feinberg, 2016), and better child adjustment (Feinberg, Kan, & Hetherington, 2007).

The event and process of divorce has long been considered the primary predictor of child maladjustment, but more recent family research provides us with a complex understanding; interparental conflict may be more significant to child well-being than the actual breakup of the parents' relationship (Kelly, 2000). According to the meta-analysis by Amato and Keith (1991), the conflict level between parents surrounding divorce (prior to, during, and after separation) explains a greater amount of variance in children's adjustment problems than either parental absence or economic disadvantage. These authors thus introduced the *family conflict perspective* positing that children from high-conflict couples will be at a higher risk of developing adjustment problems, regardless of family structure. Grych and Fincham (2001) concluded that the magnitude of risk for children related to interparental conflict is nearly twice the amount of the risk caused by divorce.[1]

Prior research has led to the *good divorce hypothesis* postulating that the sequelae of a divorce for children can be buffered when their parents cooperate constructively, communicate frequently, and conflicts between them are minimal after separation. Ahrons (1994) described a good divorce as when "ex-spouses develop a parenting partnership, one that is sufficiently cooperative to permit the bonds of kinship—with and through their children—to continue" (p. 3). Strikingly, there is increasing evidence that children whose high-conflict parents divorced may be better adjusted than offspring from intact high-conflict families (e.g., Booth & Amato, 2001; Morrison & Coiro, 1999). Yet Amato, Kane, and James (2011) explicitly warn against considering the good divorce as a "panacea for improving children's wellbeing in post-divorce families" (p. 13). Their results suggest that even among youth from well-functioning post-divorce families, who do not necessarily

[1] In fact, in their meta-analysis about interparental conflict and youth problem behaviors, Buehler et al. (1997) reported an average effect size which was about twice as large as the mean effect of associations between parental divorce and child adjustment found by Amato and Keith (1991).

exhibit clinically elevated symptoms, parental divorce can create feelings of unhappiness and insecurity in their self-esteem. Taken together, some of the possible risk factors of divorce can be mitigated through positive coparenting, but in some respects children might still experience emotional confusion, despite their parents' best efforts to be supportive.

Predictors of successful transition to post-divorce coparenting. Previous research in the realm of coparenting has predominantly been engaged with moderation hypotheses, that is, on whether and how positive coparenting can alleviate the potential negative impact of a divorce experience for children, but less is known about the predictive factors of successful coparenting in divorced couples. A study using in-depth interviews from 47 divorced couples has yielded empirical support for the compartmentalization hypothesis (Jamison, Coleman, Ganong, & Feistman, 2014). Parents who succeeded in focusing their attention on their children, rather than on their ex-spouses, had fewer conflicts in making joint decisions and communicated more constructively in general. In a similar vein, Markham and Coleman (2012) identified three patterns of coparenting relationships reported by divorced mothers, i.e., always amicable (relationships were consistently positive), bad to better (relationships improved over time), and continuously contentious (ongoing conflict). Mothers from the first cluster strived to separate personal issues with their former spouse from child-rearing topics and tried to avoid disagreements about money.

It is evident that the degree of distress in the interparental relationship, before and after separation, is a key predictor of the coparenting quality. High negative emotions (such as anger, guilt, disillusion, harm, resentment) in one or both parents make cooperative coparenting almost impossible. In such cases, a likely result is parallel coparenting (low levels of communication and coordination, high disengagement, avoiding contact) at best, and conflictual coparenting (undermining one another's authority, inconsistent parenting disciplines, sabotage of the nonresident parent's visits, triangulation or coalitions with children) at worst (Buchanan & Heiges, 2001).

On the contrary, when parents jointly decided to separate and had sufficient communication skills in their marriage they may also benefit from these aspects in the post-divorce period. Divorce requires new ways of communicating about parenting topics and couples who succeed at this task tend to have better coparenting relationships. Whilst distressed coparents usually struggle with communicating about their children, couples who positively evaluate their coparental relationship communicate more frequently with their ex-spouses (Ganong, Coleman, Stafford Markham, & Rothrauff, 2011). These authors also found that parents reporting good coparenting relations used modern forms of communication technology (e.g., e-mail, cell phones) more effectively to simplify cooperation, whereas distressed parents used them more destructively to withhold information or to restrain the other's influence in parenting decisions (Ganong, Coleman, Feistman, Jamison, & Stafford Markham, 2012).

Repartnering and Stepfamilies

A new beginning with new challenges. Stepfamilies are one of the fastest growing family forms in industrialized countries in the past few decades (Papernow, 2013). They arise when one or both partners in a new committed relationship bring with them their offspring from a previous relationship. This process, as with other family transitions, likely entails a temporary disequilibrium and conflict in the course of the familial reorganization. Stepfamilies need to deal with a double agenda: building bonds among the new family members whilst also maintaining cohesiveness with the former family system. DeLongis and Zwicker (2017) summarized qualitative and structural differences between nuclear families and stepfamilies: First, new family members come together from different individual and family lifecycles and often following occurrence of loss, and experience of ambiguity and insecurity. Second, in many cases children live in two households (resident and nonresident parent). Third, parent–child relations predate the

new intimate relationship requiring that the couple must form while parents maintain their long-standing, and often stronger, attachment to their children. Fourth, stepparents do not have the same rights as biological parents and, beyond legal provisions, social clarity surrounding family and parenting roles is far lower. Hence, stepfamilies generally face a number of stressors which could partly explain why remarriages are more unstable than first marriages; divorce rates among remarried couples are about 10% higher than in first marriages, with the highest risk when children from a previous union are brought into a new marriage (Sweeney, 2010).

The increasing ubiquity of stepfamilies and the growing awareness of stepfamily challenges have stimulated research on differences between diverse family structures and their implications for child well-being. Prior findings indicate that children residing in stepfamilies, compared to children from nuclear families, are at an elevated risk of developing adjustment problems in terms of academic, social, and psychological functioning (e.g., Brown, 2010). A recent meta-analysis of 61 studies compared the academic achievement and psychological well-being of children from remarried versus nuclear families and widowed single-parent families. In both outcomes, children from stepfamilies scored markedly lower than children from nuclear families and, albeit to a lesser degree, than children from single parents (Jeynes, 2006). Thus, children living in nuclear families tend to fare better, on average, than their counterparts raised in other family forms. This difference is modest, but consistent, and persists across several domains of well-being.

Beyond family structure: The significance of relationship quality in stepfamilies. Inspired by the first generation of research (i.e., between-group comparisons with family structure as a predictor), scholars have recently begun to explore the sources of variability within stepfamilies. Drawing from these data it can be assumed that family structure (stepfamilies versus nuclear families) becomes a negligible factor once other important family variables, in particular economic resources, parenting, and the quality of the different family relationships, are taken into account (e.g., Dunn, Deater-Deckard, Pickering, O'Connor, & Golding, 1998). Hence, children enjoy the best outcomes in two-biological nuclear families primarily because these families are on average the most resource-rich, stable, and healthy ones providing the best breeding ground for high family functioning (Brown, 2010). A failure to account for this selection bias overestimates the causal effect of family structure per se on child well-being.

Along FST lines, pertinent research has highlighted the reciprocal interdependence of the various stepfamily relationships. For instance, based on interview data of adult children 20 years after their parents' divorce, Ahrons (2007) concluded that the (coparental) relationship between the biological parents is often still at the core of stepfamily functioning, exerting a powerful influence on the quality of the multiple other family relationships. Adult children reporting high cooperation and support between their parents perceived higher satisfaction in relationships with their parents, stepparents, grandparents, and siblings. Remarkably, results also indicated that the remarriage of the biological parents, especially of the father, was a stronger stressor than the parental divorce for one third of the sample. Fine and Kurdek (1995) found that the quality of children's relationships to both their biological parents and stepparents were correlated with the quality of the marital relationship; notably however, this correlation was stronger for stepparent–child relationships relative to biological parent–child relationships. In a longitudinal study with biological and stepfamilies, children's externalizing behavior (but not their internalizing problems) predicted elevated child-related couple conflicts 2 years later, and this effect was again stronger in stepfamilies than in biological families (Jenkins, Simpson, Dunn, Rasbash, & O'Connor, 2005).

An increasing number of studies have focused on the role of the stepparent–child relationship since it is the most unique feature of stepfamilies. Stepparents' roles are generally far more ambiguous than biological parents'. This ambiguity largely stems from the "incompletely institution-

alized" status of stepfamilies with strong implications in terms of legal rights of stepparents (e.g., custody or visitation rights, financial support, inheritance rights) and respecting social conventions about the appropriate role of stepparents in children's lives (Sweeney, 2010). This situation offers families considerable latitude of choice in negotiating processes associated with family formation, and developing the stepparent–child relationship might be one of the most notable shifts to which children must adjust. Against this backdrop, it is not surprising that a high quality stepparent–child relation is one of the main predictors of child adjustment in the new family context (Jensen & Howard, 2015), with evidence pointing to an even stronger effect of relationship quality with resident stepfathers than with nonresident biological fathers (King, 2006). Additionally, Jensen, Lippold, Mills-Koonce, and Fosco (2017) reported that the more proximal parent–child and stepparent–child relationships may be more closely linked to child adjustment than the stepparent–parent relationship. Whereas child evaluations of the parent–child and stepparent–child relations were related to children's internalizing and externalizing problems, the stepcouple relationship did not emerge as a significant predictor.

Parenting in stepfamilies. Research on parenting in post-divorce families has been mainly concentrated on the custodial or living arrangement after parental separation, but increasing attention is currently being devoted to the meaning of repartnering. New partners (stepparents, respectively) bring along resources of their own, and they may take up part of the parenting. Repartnering may thereby compensate for a risk factor inherent to single parenthood where only one parent, rather than two, is available in the household to fulfill the dual roles of breadwinner and parent. However, empirical findings in this respect are inconclusive (Thomson, Mosley, Hanson, & McLanahan, 2001). A qualitative analysis of interview data with stepfamilies found that biological parents often have established a firm parenting plan before a stepparent enters the picture leading him or her to retain involvement in child-rearing in the new family setting (Coleman, Fine, Ganong, Downs, & Pauk, 2001).

Ryan and Claessens (2013) reported that family transitions into a single-parent family have a different influence on children than changes into a blended family, and that implications vary depending on children's age. Only transition from a nuclear family into a single-parent family was associated with significant increases in behavior problems in young children (< 3 years), but changes (from either nuclear or single-parent families) into a blended family were not. This investigation suggests that family structure changes in the early stages of childhood may impair child development when a caregiver is lost, but this disadvantage can be buffered by supportive stepparents when entering early enough in a child's life.

The effect of having a new romantic partner on the biological parent's parenting appears to differ by gender, according to the study by Gibson-Davis (2008). Repartnering had generally minimal impact on mothers' parenting, with the exception that mothers who were dating a new partner (without cohabiting with him) displayed lower levels of positive parenting engagement (fewer positive activities with her biological children) as compared to mothers who were cohabiting with the biological father, cohabiting with a new partner, or were single. It is conceivable that mothers who have nonresident partners face challenges in dividing time and resources among their children and the new partner. For fathers who lived apart from their child, repartnering had a stronger influence on their parenting than for mothers. New partners (whether cohabiting or not) were linked with decreased paternal involvement in parenting. Most interestingly, mothers with a new cohabiting partner reported him to provide significantly higher support and engagement concerning parenting than biological fathers. Taken together, when nonresident fathers were committed to a new partner this affected the relationship with his biological child negatively. Yet men who moved in together with a new family showed major efforts to build a positive relationship with their stepchildren.

A recent study (Bastaits & Mortelmans, 2016) revealed that parenting mediates the effects of post-divorce family structure and children's well-being. Compared to intact families, single mothers experienced lower support from the fathers of their children, which was directly and indirectly related with lower self-esteem and life satisfaction in children. Strikingly, the presence of a new partner in the mothers' lives made parenting by divorced parents comparable to that of continuously married parents, and even increased the involvement of nonresident fathers. As a relatively innovative research topic, Favez, Widmer, Doan, and Tissot (2015) examined the nature of coparenting in stepfamilies (between the custodial parent and the new partner), and how it compares to coparenting between biological parents. They showed that coparenting behaviors were more frequent between the mother and her new partner than between the mother and the nonresident father, albeit overall coparenting was lower in stepfamilies compared to nuclear families. This pattern indicates that building family cohesiveness is an active process in stepfamilies, but mothers may promote the coparenting alliance either with the father or with the partner, and are unlikely to do so with both. Moreover, the role of the marital relationship for coparenting was different in stepfamilies. In contrast to first-marriage families where the quality of the interparental relationship has been established as a robust determinant of the coparental relationship, marital satisfaction was not linked with family integrity in stepfamilies. It can thus be assumed, that the marital and the coparental subsystem with the new partner are desired to be kept separate in stepparent families.

In sum, these findings for stepfathers are contrary to what evolutionary theory would predict, as evolutionary self-interest apparently does not explain their parenting efforts. From an evolutionary perspective paternal investments likely vary by family structure insofar as fathers are less motivated to invest in non-biologically related children. Instead, they allocate resources to their own offspring in order to maximize the chances that their genes will be successfully passed on to the next generation. Likewise, little support was found for the hypothesis that the stepfather may feel in competition with the stepchild for the mother's attention, decreasing his likelihood of parenting investments (Hetherington & Jodle, 1994). The tentative conclusion that can be derived from the reviewed data is that cohabiting stepparents (mostly stepfathers) might indeed play a central role in child-rearing. Although they cannot be a substitute for the child's biological father, they often endeavor to get involved in parenting directly or indirectly by reducing the partner's stress levels through provision of support. Furthermore, evidence continues to mount that the quality of the stepparent–child relationship is crucially important for children's adjustment, evidently more than the stepparent–parent relationship.

Strengths and Limitations of the Evidence Base

The notion that the functioning and quality of the interparental relationship is eminently important for positive parenting is rarely disputed. Relationship distress among parental couples potentially increases child vulnerability to maladjustment both directly and indirectly by disrupted child-rearing and increased dysfunctional parenting. Throughout the past decades, this finding has received persuasive empirical support from high-quality multimethod research designs including experimental, observational, and longitudinal studies as well as a number of meta-analyses. It is remarkable, however, that the body of literature concerning the interrelations between intimate partner violence and parenting seems much sparser as compared to the plethora of studies that have systematically examined spillover effects of nonviolent interparental conflict. Moreover, the majority of studies have largely neglected the premise of bidirectionality in FST when testing associations between the interparental relationship and parenting. Since the interparental relationship precedes the parent–offspring relation, it is enticing to consider the former as a predictor in this link. This unidirectional approach is lamentable given that previous research has supported a pathway

whereby children's behavior problems increases parental anger which, in turn, likely spills over to the interparental relationship (Schermerhorn, Cummings, DeCarlo, & Davies, 2007; Wymbs & Pelham, 2010).

The debate about the implications of parents' separation or divorce on parenting has been permeated by the coparenting literature, more specifically, has brought its conceptualization into the arena. Coparenting is widely acknowledged as a key concept to explain why some couples succeed in compartmentalizing their parenting from their spousal agenda and others fail. As such, coparenting has been firmly established both theoretically and empirically as a protective factor that buffers the potential negative consequences after separation for the children's sake. Apparently, less headway has been made so far to examine the predictors of successful coparenting in divorced couples. Furthermore, surprisingly little is known to date about how individual parenting strategies, beyond coparenting, alter after a couple breaks up, and whether these changes vary by legal requirements (custody, living arrangement, etc.). Coparenting is broadly conceptualized within a family systems model as part of a dynamic process by which parents relate to each other and to their children. Hence, thinking about how different aspects of the family system (coparental alliance, interparental conflict, parental well-being, the quality of each parent's relationship with the child, the amount of time spent together, etc.) mutually affect each other, and thus youth adjustment, may be more useful than looking at the unique contribution of coparenting.

The puzzle gets even more complicated for parenting outcomes in stepfamilies considering the sum of family interrelations is still higher. Two major findings drawn from this literature merit special mention. First, earlier between-group findings showing worse outcomes in children living in stepfamilies versus nuclear families tend to vanish when other key family variables are taken into consideration. Second, the stepparent–child relationship is crucially important to youth adjustment, even more important than the stepparent–parent relationship. A positive stepparent–child relationship without high levels of conflicts augurs that the stepparent may become a significant new caregiver for the child taking over part of the childcare responsibilities. Again, however, existing studies tend to focus on the impact of single dyadic relationships. In line with FST, a proper exploration of parenting contexts in stepfamilies should include a wide array of family relationships, including dynamics within the parent–child, stepparent–child, and the interparental relationship.

Last, a note related to measurement should be added. The presented studies primarily used parental self-reports to assess parenting behaviors. Even if it is the method of choice to measure parenting, the paucity of alternative measurements is unfortunate. Observational data is increasingly being used to enrich the exclusive application of self-report. However, while behavioral observation of parent–child interactions is a reliable and valid means to assess parenting in parents with young children, it may be less adequate for research among parents with older children. It is not trivial to set up the appropriate context (either in the laboratory or in the natural family context) to elicit the parenting behaviors relevant to adolescents (e.g., insufficient monitoring or supervision) or such situations may be unethical to create (e.g., corporal punishment). Even so, as children grow older it would maximize the ecological validity when their own perspective of their parents' parenting is taken into account as an adjunct to self-report by mothers and fathers.

Future Directions for Research

The present chapter reviewed pertinent literature surrounding parenting as a mediator in the link between the interparental relationship and family structure on child well-being. This research appeared considerably more scarce in comparison to the bulk of studies that have investigated positive parenting as a protective factor buffering the impact of adverse family environments (high conflict levels, intimate partner violence, families under divorce, etc.) on children (e.g., DeBoard-

Lucas, Fosco, Raynor, & Grych, 2010; Manning, Davies, & Cicchetti, 2014). Data generated over the past decades to identify factors associated with resiliency of children in these contexts are of paramount importance. By the same token, it is not less relevant to more comprehensively assess and examine the determinants of successful parenting. In particular, now that coparenting has gained broad acceptance in family research, it is time to more profoundly explore its predictors in multiple family types. For instance, identifying factors that set the course for supportive coparenting dynamics in stepfamilies, especially with young children, is imperative considering the significance of parent–child relations (regarding both the biological and the stepparent) for understanding children's adjustment. And this all the more so, when researchers have rarely attempted "to discern why some stepfamily relationships become close, meaningful ties to relational partners while others do not" (Coleman, Ganong, & Weaver, 2001, p. 270).

Furthermore, although family systems theorists and practitioners have long recognized that children may impact parenting and the interparental relationship (Heinrichs et al., 2010), only a small number of studies have explicitly modeled bidirectional effects between children's behavior and parents' relationship quality and this literature has predominantly focused on negative family dimensions (Cui, Donnellan, & Conger, 2007; Schermerhorn et al., 2007). The fact that children are not passive recipients of, but active contributors to the family environment instead should be more consequently transferred to parenting research. Similar to the opposite direction, it is equally probable that a child's behavior elicits parenting stress and this may erode the interparental relationship over time. In capitalizing on the potential positive side of family interrelatedness for treatment and prevention, parenting interventions aimed at reducing child problem behavior hold promise to also enhance the interparental relationship, over and above improvement in parenting, for example, by increasing dyadic coping in parents (Zemp, Milek, Davies, & Bodenmann, 2016). We believe that adopting an approach more strictly addressing the mutual interdependence between the interparental relationship, parenting, and child adjustment on the one hand, and on examining compensation mechanisms by a focus on positive dimensions (e.g., dyadic coping, everyday positivity; Zemp et al., 2014) will be a fruitful future direction for basic and applied research. At the same time researchers have to acknowledge that even highly sophisticated modeling of family interactions will probably never depict adequately enough the notion that the family is more than the sum of these distinct relationships (Minuchin, 1974).

Additionally, previous studies investigating the couple-parenting spillover largely disregarded whether genes account for this link. As a notable exception, Stover et al. (2012) used an adoption design to disentangle environmental and genetic effects, and their results suggest that spillover processes do occur between biologically unrelated parents and children in a comparable manner. It is possible that the strength of spillover is higher in biological nuclear families, that is, that environmental and genetic effects combine to explain the variance in spillover but this is a question for upcoming research. However, the subject gets more complex considering that even shared factors can be experienced differently by children. A recent study highlighted that there is a high level of within-family variation and little sibling similarity in perceptions of the interparental relationship, indicating that children living in the same family environment still respond to different degrees and in dissimilar ways (Mark & Pike, 2017). Respective implications for the spillover model have yet to be unraveled.

Finally, coming from the process model of the determinants of parenting (Belsky, 1984) at the outset, we zoomed in to have a closer look at the parents' intimate relationship as a major predictor of parenting. Scholars face yet the challenge to zoom out again in order to embed these findings in the context of the other significant factors predicting parenting. Much remains to be learned about the relative contribution and the potential interactions of the different determinants proposed by the model.

Implications for Policy and Practice

The theories and evidence for determinants of parenting reviewed in this chapter entail several implications for clinical practice and policy. The discussion of these implications will be oriented toward Fig. 1. It has clearly emerged that the quality of the interparental relationship and the coparental functioning are the core family processes in diverse family types (i.e., non-married and married couples, divorced couples, stepfamilies). Accordingly, the interparental relationship and coparenting are promising pivots for improving positive and successful parenting among parents, which is in turn a primary precursor for healthy child development. As illustrated in Fig. 1, in due consideration of the summarized research it can be assumed that the enhancement of the interparental relationship is directly linked with better parenting and indirectly through reinforcing the coparental alliance. In the following, we discuss the practical implications separately for intact families, divorced families, and stepfamilies.

Intact Families

Despite the fact that research since the 1950s has been drawing attention to the interparental relationship serving as the foundation for family cohesion and the overall quality of family life, efficacy studies examining the impact of couple-focused interventions or prevention programs (collectively referred to as Couple Relationship Education; CRE) in terms of child, parenting, or coparenting outcomes are still largely underrepresented (Cowan & Cowan, 2014). Multiple avenues of preventive programs aimed at enhancing positive family relations have been undertaken in order to prevent child maladjustment in intact (non-distressed, non-divorced) families, but most of them give priority to parenting. It seems obvious that family programs addressing parenting may prevent or treat child maladjustment. Indeed, scientists have gathered evidence for the importance of parenting programs in changing children's behavior; most prominently, evaluations of the *Positive Parenting Program* (Triple P; Sanders, 1999) convincingly support the promise of parenting enhancement in decreasing child behavior problems (Sanders, Kirby, Tellegen, & Day, 2014). What is apparently less obvious, based on the scant work in this area, is that approaches aiming at enhancing the interparental relationship may also be beneficial for children. That is, a positive interparental relationship, in which conflicts are resolved constructively, may directly enhance children's well-being and indirectly by supportive coparenting and positive parenting (Zemp, Bodenmann, & Cummings, 2016).

We conducted a study (Zemp, Milek, Cummings, Cina, & Bodenmann, 2016) to further our understanding about treatment mechanisms of couple-focused versus parenting-oriented programs (see Box 1). This RCT evidenced that a couple-focused intervention independently and differently reduced child behavior problems compared to a parenting training. Most notably and supporting our model in Fig. 1, benefits of the couple-oriented program on child adjustment

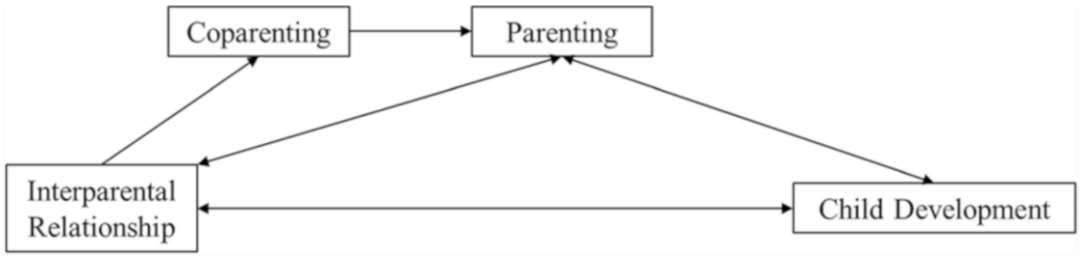


Fig. 1 Proposed model for starting points of practical implications. Note: This simplified model does not depict other important contextual determinants of parenting

Box 1 Couple-Focused Versus Parenting-Focused Intervention Programs

The significance of enhancing positive parenting in order to reduce child maladjustment has repeatedly been shown and has led to the development of a variety of evidence-based parenting programs. Evidence is growing, however, that couple-oriented treatments (CRE) may be another powerful approach to improve child adjustment, albeit the underlying effects in couple-focused versus parenting-focused programs have been subject to limited research. Zemp, Milek, Cummings, et al. (2016) therefore conducted a randomized controlled trial to compare the treatment effects of (1) a couple-focused program (the *Couples Coping Enhancement Training*, CCET; Bodenmann & Shantinath, 2004) to (2) a parenting intervention (Triple P; Sanders, 1999), and (3) a control group on children's behavioral problems in 150 couples. The parents' perceptions of relationship quality, parenting behavior, and the child's behavioral problems were assessed by means of questionnaires completed prior to and 2 weeks after the end of the treatment. Mediational analyses revealed that in mothers' perception CCET reduced child behavioral problems by enhancing the quality of the interparental relationship, whereas improved parenting mediated the benefits in the Triple P group. In fathers' evaluations, CCET decreased dysfunctional parenting which largely accounted for the benefits in child adjustment. None of the indirect effects were significant for fathers in the Triple P group.

These results match previous research evidencing that both couple-focused and parenting-focused programs can be effective to prevent or treat child problems in their own right. Notably, the former works partially indirectly via improvement in parenting (at least in fathers, based on our findings). Given the overwhelming evidence on the impact of interparental conflict on children, the dearth of child and parenting outcomes in couple intervention studies is a major gap to which more effort should be devoted. This is a promising field because of its inherent potential to foster the health of many children.

were mediated by the reduction of dysfunctional parenting, but in fathers only. In a reanalysis of the data (Zemp, Milek, Cummings, & Bodenmann, 2017), we found that improvement in mothers', but not fathers', dyadic coping from pre- to post-assessment predicted a decrease in mothers' coparenting conflict over 1 year, whereas effects in the opposite direction (coparenting conflict as a prospective predictor of dyadic coping) were not supported. This pattern of findings helps to disentangle the direction of effects between the interparental and the coparental relationship; it suggests that enhancement of parents' intimate relationship is a promising means to promote their supportive coparenting, but not vice versa.

In a similar vein, a randomized clinical trial compared the effects of a couple-focused intervention with a parenting-focused program and a control group offered to couples in the year before their oldest child made the transition to elementary school (Cowan, Cowan, Ablow, Johnson, & Measelle, 2005). Two years after the intervention, participants in the parenting-focused program and the couple-focused groups used significantly more effective parenting strategies than the control group. The 10-year follow-up study (Cowan, Cowan, & Barry, 2011) found that parents assigned to the couple-focused group were more likely to maintain their relationship satisfaction and their children showed a sharper long-term improvement in behavior problems compared to children from the other study groups.

Cummings, Faircloth, Mitchell, Cummings, and Schermerhorn (2008) developed the *Happy Couples and Happy Kids* (*HCHK*) program that specifically emphasizes psychoeducation about

the detrimental consequences of destructive interparental conflict and the potential benefits of constructive conflict for children. Mothers' increased knowledge and conflict resolution was significantly linked with self-reported positive parenting and improved child adjustment and these effects maintained over the 2-year follow-up study (Faircloth, Schermerhorn, Mitchell, Cummings, & Cummings, 2011). Recently, Adler-Baeder et al. (2013) tested whether and how changes in couple functioning after participating in a CRE program were linked with changes in the parenting domain. Even though the collected data (pre-post-assessments) cannot establish causal inferences, the results suggest that improvements in parents' relationship quality (enhanced positivity, decreased negativity) were systematically and in meaningful ways related with positive changes in different parenting behaviors.

Additionally, earlier studies have examined the value added of couple-focused emphases adjunct to parenting training. For instance, Dadds, Schwartz, and Sanders (1987) investigated the impact of parenting training for parents on the deviant behavior of children and the gains added by a partner support training focused specifically on the interparental relationship as a source of support. The results indicated that the partner support training enhanced the benefits in terms of parent–child interactions and child problem behaviors, but only in high-conflict couples. Similarly other early studies, albeit with clinical samples, confirmed that parenting programs supplemented by couple topics yielded significant gains over standard parenting programs (Griest et al., 1982; Webster-Stratton, 1994).

Finally, there are also coparenting-focused programs emerging, such as *Family Foundations* (Feinberg & Kan, 2008), aimed at enhancing coparenting skills directly. The main tenet of these programs is that children benefit best from parents who share the responsibility for their care collaboratively and cooperatively (McHale, Waller, & Pearson, 2012). Most of them are especially targeted at expectant or new parents and initial evaluations in this field appear auspicious (Adler-Baeder et al., 2016; Feinberg et al., 2016; McHale, Salman-Engin, & Coovert, 2015).

Taken together, now that a considerable number of evidence-based programs in all three domains (CRE, parenting trainings, coparenting programs) have been developed, the next important step is to more profoundly explore the determinants of the couples' willingness to work on either their intimate relationship or on (co)parenting at the outset. Further research is needed to shed light on the largely unresolved question of when or in which cases it is indicated to focus on relationship-, coparenting-, or parenting-related skills in clinical practice, or on a "hybrid" approach that combines these contents. One of the major challenges for practitioners is engagement of the clientele which is the *conditio sine qua non* for providing effective and tailored support. For this purpose, additional studies employing sophisticated research designs are warranted to confirm and possibly extend previous findings that children will benefit from their parents' participation in these programs.

Furthermore, CRE is mostly a universal prevention effort offering to all couples without regard to risk factors, thus addressing couples who are relatively satisfied and committed to their relationship (Halford & Bodenmann, 2013). However, it is known that couples usually face several obstacles to program attendance (e.g., high monetary cost and time commitment), and, as a result, do not seek help until things have already gone wrong and negative patterns have been ingrained into everyday behavior. Economic and political parameters might be improved in order to lower the barriers perceived by couples when attending a relationship distress prevention program or a coparenting intervention, respectively, at a time when they are not yet clinically distressed. Parameters include financial feasibility (e.g., partial compensation by health insurance, government subsidies for low-income families), organizational feasibility (e.g., enabling flexible working hours by the employer, free on-site childcare), and accessibility (e.g., nationwide distribution of programs, self-directed tools).

Divorced Families

During and after separation or divorce, parents must negotiate emotional (e.g., separating the romantic from the coparenting relationship) and physical (e.g., parenting across multiple households) transitions. In this vulnerable period, parents may require professional assistance from mediators, counsellors, or therapists to learn how to manage their emotions and behaviors in the service of coparenting. The widespread acknowledgment of the shortcomings inherent in the adversarial system for supporting families going through a divorce have led to the implementation of a number of non-adversarial divorce education programs (DEP), whereby some of them are court-mandated or recommended by a judge, while enrollment in others is voluntary (Kelly, 2000). The most common objectives of these programs include psychoeducation (inform parents about the potential negative impact of continued interparental conflict, describe positive processes which facilitate children's adaptation, etc.), stabilization of parents' well-being, and enhancement of coparenting (strengthen the focus of parents on their child's needs independent of their own feelings toward the ex-spouse, reaching agreement on a parenting plan).

The increasing number of efficacy studies consistently report that DEP are in general most effective when they are implemented immediately following separation (Kelly, 2000). More controversial is *how* effective they are. Several studies found that parents randomly assigned to DEP reported high program satisfaction and greater willingness to cooperate for the sake of the children. However, they are not overwhelmingly euphoric in whether they achieved their targeted goals of decreasing coparenting conflict, fostering the parent–child relationship, and improving the family members' individual well-being. Nevertheless, meta-analyses have uniformly concluded that DEP have a significant, albeit modest positive effect (Fackrell, Hawkins, & Kay, 2011; Sigal, Sandler, Wolchik, & Braver, 2011). Hence, whilst more high-quality research is urgently needed to confirm the positive potential of DEP, we know enough to be optimistic that future refinements may lead to substantial improvements to justify continuing support for this preventative social policy. According to Sigal et al. (2011), elements proven to be particularly relevant are (a) an educational component for parents, (b) enhancing the parents' motivation to cooperate, (c) active skill-building elements (didactic modeling and demonstrations, role play exercises, feedback), and (d) a way to help parents self-assess their need for more intensive work to maintain the learned skills after completion of programs which are usually effected within a short time period.

Concerning this latter point, web-based DEP seem encouraging as at least one review of the current data indicates (Bowers, Mitchell, Hardesty, & Hughes, 2011). Self-directed learning materials have several advantages over traditional face-to-face formats to the extent that they require less time, allow more flexible use, enhance the users' privacy and can be elaborated individually, thereby extending the potential reach of DEP (Halford et al., 2010). On the downside, approaches that are purely self-directed might have some disadvantages, which might play a particularly important role for couples in divorce (e.g., lack of individualized and personal support, decreasing motivation and engagement of participants). These are the reasons why self-directed relationship education is often combined with face-to-face components (so-called blended programs) to strengthen their impact (Zemp et al., 2017).

In sum, given the current body of knowledge, divorcing or separating parents should have available a hierarchy of programs in the public sector that address with different intensity levels the attendees' particular needs and conditions. These offers may range from voluntary, low-threshold services (including self-directed tools) to more indicated and controlling mandatory programs, if necessary (in cases with chronic and high conflict levels, intimate partner violence, child abuse or neglect). DEP has provided divorcing couples with powerful alternatives to the adversarial process and these options to move out of or flank the adversarial system should be accessible early and at each step in the process at low cost. The perti-

nent research, albeit scant, has clearly emphasized that subsidized DEP makes sense socially and fiscally.

Stepfamilies

If formation of a stepfamily is considered as an emotional "restart" which demands structural reorganization processes as well as internal adaptation of family members, potentially placing them at an elevated risk of experiencing adjustment problems, it becomes clear how relevant prevention can be during this transition. All the more so as the unique challenges for stepcouples put them at higher risk for marital dissolution compared to first marriages. Against this background, preventative endeavors have been developed to expand and tailor CRE to the special needs and themes of this subpopulation. Approaches targeting this area should include a training of basic relationship skills (inherent to conventional CRE) as well as specialized add-on information pertaining to stepfamily roles and rules, gaining realistic expectations about stepfamily development, finding a coparenting agreement, and navigating between the former and the current family setting (Adler-Baeder & Higginbotham, 2004).

Evaluation studies of CRE for stepcouples have now developed to a point at which meta-analyses can be conducted. The analysis of Lucier-Greer and Adler-Baeder (2012) revealed that such programs have small but significant effects overall, with slightly higher effect sizes for specific target outcomes of family and parental functioning. The effects were in a comparable range with those found for couples transitioning to parenthood, but considerably smaller than those found for traditional CRE (e.g., Hawkins, Blanchard, Baldwin, & Fawcett, 2008). In light of the increasing recognition devoted to the role of coparenting in stepfamilies, Garneau and Adler-Baeder (2015) examined changes in stepcouples' coparenting and dimensions of stepparents' parenting following participation in a couple-focused and coparenting-focused intervention. They found significant improvements in coparenting (especially for stepmothers) and self-reported parenting efficacy. Finally, an evaluation of a self-administered, web-based curriculum for stepfamilies documented that participation in the program positively influenced several key areas of parenting and family functioning from pre-assessment to the 8-week follow-up, yet results for biological and stepparents were not examined separately (Gelatt, Adler-Baeder, & Seeley, 2010).

Summing up, the current knowledge approves the potential of CRE for stepcouples, albeit this demanding field of research is still in its infancy. Further refinement of programs as well as the continued exploration of the processes of change in different domains (coparenting, stepcouple relationship, stepparenting, and child outcomes) appear worthy of support in order to better inform models of best practice.

Conclusions

In recent decades, children's living arrangements have become increasingly diverse and unstable which is reflecting the currently high prevalence of divorce and repartnership. These profound shifts in the demographic context of family life raise important questions about how and why couple relationships and family structure are related to parenting. A stress theory perspective seems to embrace the common denominator of the research described in this chapter. The impact of a parental separation or a family transition, whether it is harmful or even beneficial for child development, largely depends on whether it *increases* or *reduces* the level of distress to which children are exposed in the family. Hence, family structure per se provides an important snapshot of children's reality of life, but reveals little about family relations and experiences over the course of childhood. Children fare best in stable family environments in which well-adjusted parents provide children with warmth, affection, and emotional support, but also exhibit moderate control, consistency in rules, and set limits. Parents who are preoccupied by their own couple relationship problems or whose emotional resources are depleted by turmoil related to family transitions are less able to engage in parenting

responsive to their child's basic needs. This shows that family shifts that are initiated in favor of more available parents and more positive family relationships, including divorces or repartnering under certain circumstances, can lead to a greater sense of emotional security in children in the long run, whereas transitions toward more family conflict and parenting distress results in a significant loss.

This chapter discussed that the interparental relationship can be regarded as the key relation across different family types. As such, it may be wise to strengthen this core relationship as a potential leverage point to positively affect individual parenting in mothers and fathers and their joint coparental alliance. Only recently, headway has been made to systematically examine whether and how couple-focused interventions also affect parenting and children's adjustment. These previous investigations provide auspicious findings that CRE may foster the parents' relationship, their (co)parenting skills, and, as a result, children's well-being in different family structures. This momentum promises to propel future research directions that bring us closer to decipher and promote the conditions under which family environments maximize children's healthy development.

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Social Support and Relationships with Family and Friends

Susan M. Love and Theresa Knott

Introduction

Social networks influence parenting by modelling what works, persuading their friends to persist when parenting gets tough, teaching knowledge and skills, and by giving emotional support within the context of community and neighborhood.

Humans Are Fundamentally Social

> The brain is a social organ…and that difference in how we view it is all the difference because we take responsibility for each other, because your mind and my mind are deeply linked … and that's the nature of humanity.
> Dr. Dan Siegel (2014, June 6)

Social networks—all the family, intimate partners, friends, and neighbors (offline and online) that interact with a parent—bring joy, share grief, give advice, add stress, and deliver (or withhold) resources in times of need. Belsky (1984) introduced the *Social Contextual Model* of the determinants of parenting. Based on Urie Bronfenbrenner's (1909–2005) ecological systems theory, Belsky (1984) proposed an ecological perspective of parenting, that parenting happens within a social context of stress and support. Specifically, Belsky stated that the primary context for child development is the parent–child relationship, and that the parent's well-being is a function of their social supports. He pointed to an "abundance of evidence" that "overall support positively influences psychological wellbeing in general, and the mental health of parents in particular" (Belsky, 1984, p. 86). Belsky reasoned that if social support helps the emotional health of the parent and if the primary context of parenting is the parent–child relationship, then "possibly as a consequence, overall support is positively related to parental functioning" (Belsky, 1984, p. 86). Given the accumulation of 20 more years of scientific studies since Belsky first proposed the Social Contextual Model, his theory has evolved beyond the immediate family and friends to the *forcefield of neighborhood* to fully understand the determinants of parenting.

This chapter will explore five domains of research connecting social support and parenting: (1) intergenerational transmission of parenting; (2) community and neighborhood; (3) marriage quality; (4) grandmothers; and (5) offline and online friends. Inside these domains, we will discover two overarching mechanisms of how social networks influence parenting: (1) indirectly, family and friends promote the parent's emotional well-being; and (2) directly, social networks promote parent's self-efficacy

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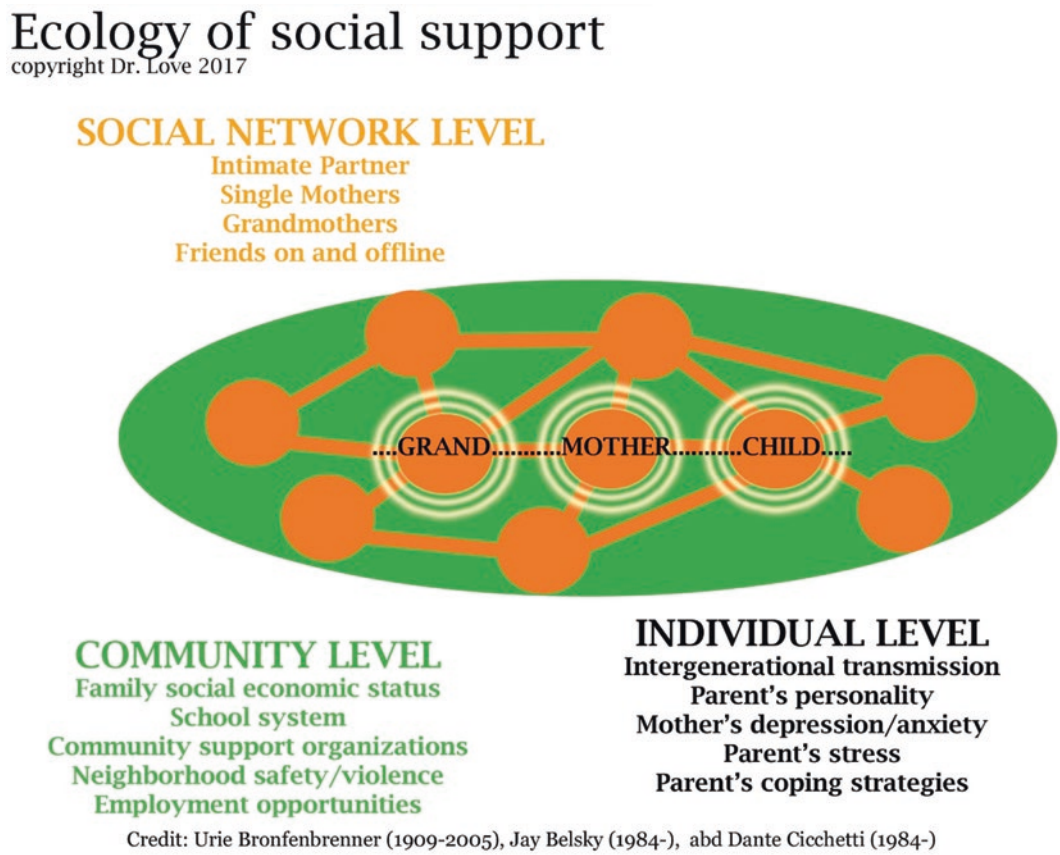


Fig. 1 The ecology of social support

through mastery experiences, social modelling (including conveying knowledge and skills), and social persuasion—embedded in a community of social capital and shared beliefs. The Ecology of Social Support, as shown in Fig. 1, depicts the relationships between social network, community, and individual levels of parenting influences.

Theories of Social Influence on Parenting

Urie Bronfenbrenner's Ecological Framework

Understanding the importance of social context in child development started with Vygotsky (1896–1934). Vygotsky argued against the theorists who believed that child development occurs spontaneously, is driven by the processes of maturation and cannot be affected by education (State University, 2017, para. 5). He contended that the development of children "is the result of interactions between people and their social environment" (State University, 2017, para. 3). According to Sroufe, Egeland, Carlson, and Collins (2005), Vygotsky proposed that "many experiences and capacities are first mastered within social relationships" (p. 32). For example, infants babble, but it is the parent who encourages and shapes the babble to engage in conversation—which in turn, strengthens the parent–child relationship. Current neurological research supports what Vygotsky suggested in the early twentieth century; "human infants have an intense interest in people and their behavior, and possess powerful implicit learning mechanisms that are affected by social interactions" (Meltzoff, Kuhl, Movellan, & Sejnowski, 2009, p. 284).

Furthermore, Sroufe et al. (2005) in their conclusions of their 35-year longitudinal study, credit Vygotsky with formulating the mechanism for personality. Sroufe et al. found that the organization of the parent–child system is the foundation for the organization that becomes the child's personality. After only 10 years as a developmental psychologist, Vygotsky died in Moscow on June 11, 1934, at the age of 37. According to Yasnitsky and van der Veer (2015), his final entry in his private notebook reflected Vygotsky's pessimism for not having the time to complete his constructions:

> This is the final thing I have done in psychology—and I will like Moses die at the summit, having glimpsed the Promised Land but without setting foot on it. Farewell, dear creations. The rest is silence.

Urie Bronfenbrenner (1917–2005), advanced Vygotsky's ideas causing a paradigm shift in the basic concepts and experimental practices in the discipline of child development (Lang, 2005). Sroufe et al. (2005) argue that Bronfenbrenner's Ecological Framework challenged the conventional, limited thinking of the twentieth century that development is biologically determined ("children are born that way"), the continuum of reproductive causality (Gesell, 1929), and Sigmund Freud's theory of fixed, hydraulic, drive reduction, "a theory fully discredited by Loevinger in 1976" (p. 34). In contrast, Bronfenbrenner's Ecological Framework is probabilistic for it argues that developmental outcomes are dynamic and that social context can be manipulated to improve child outcomes. Bronfenbrenner explained that child development is the interplay of the child's entire ecological system of nested and bidirectional influences—child in context. Bronfenbrenner, on Vygotsky's shoulders, presented a compelling argument that continues to guide our understanding of child development today: "Contemporary theorists view children as members of multilayered social systems that are often remarkably nurturant but may also be potentially disturbed or dysfunctional" (Meisels & Shonkoff, 2000, p. 12). Bronfenbrenner's assessment of the influence of social systems on healthy child development laid early groundwork for the emergence of the new discipline: *Developmental Psychopathology*.

Developmental Psychopathology

Developmental Psychopathology (DP; Cicchetti & Cohen, 2006) is an interdisciplinary field of human development; the principles of DP provide the conceptual scaffolding for facilitating integration across physiological, genetic, neurological, social, cognitive, and cultural sciences.

DP theorizes that children raised with multiple adversities, are at risk for mental illness, substance abuse and other poor outcomes; conversely, protective factors can alter a negative trajectory to one of health and well-being. Sroufe et al. (2005) found that children need "expected" inputs such as secure attachments, language, affection, comforting, caregiver continuity, and protection from toxicity (e.g., abandonment, maltreatment, coercive parenting). They further explain that it is the accumulation of risks in the absence of available protective factors (e.g., social support for the parent), which sets children on an adverse trajectory. Parents provide expected (necessary) inputs and protect children from damaging (toxic) experiences. Parents, though, do not operate in a vacuum; they are embedded in social relationships.

The tenets of DP that are related directly to parenting include (1) development occurs within nested contexts; (2) development arises from a dynamic interplay of physiological, genetic, social, cognitive, emotional, and cultural influences across time; (3) parenting is the balance of risks (potentiating factors) and protection (compensating factors). The processes are the same for both normal and atypical development: research on one informs the other; and (4) development processes are lawful, although many of the process are yet to be discovered.

Development Occurs Within Nested Contexts

Meisels and Shonkoff (2000), in the schemata of Bronfenbrenner, explain that "parenting itself takes place in a broader context of challenges and support" (p. 17). Explicitly, it is "social support that parents encounter that is related both to the quality of their parenting and to child outcomes"

(p. 18). The child's psychological makeup is influenced by their family and social networks in which the child is nested (the microsystem); the community (e.g., school, neighborhood, churches with shared beliefs and attitudes, and parents' work environment) in which the family is embedded (the mesosystem); and the social, political, and economic structures of the society (e.g., educational and early child care system, child and family policies, economic opportunities; the macrosystem). It is the interplay of these nested systems that is relevant to the quality of parenting and thus, the development of children.

The Dynamic Interplay of Physiological, Genetic, Social, Cognitive, Emotional, and Cultural Influences Across Time

As Bronfenbrenner's theory matured he renamed his theory the Bioecological Model to include genetics, biology, and psychological makeup (e.g., temperament, shyness, impulsivity (Ceci, 2006)). The research on how social networks and other nongenetic influences impact gene expression, or epigenetics, heralds a *passive revolution* in science (Melonia & Testac, 2014). Epigenetics "ties the regulation of the genome to the digitization of the environment, bringing into relief the temporal dimension that this link invites including its most far-reaching transgenerational instances" (p. 456). For example, in a longitudinal prospective study of 158 pregnant women, Baibazarova et al. (2013) found support for postulated pathways between "physiological (cortisol plasma concentrations) and self-report indices (stress, anxiety) of maternal prenatal stress, cortisol in the amniotic fluid, birth outcomes and infant temperament at 3 months" (p. 907). Importantly, it is an infant's difficult temperament—fussy, irritable, difficult to soothe—that is identified as the principal child characteristic negatively impacting parenting (Belsky, 1984). These epigenetic findings, as explained by Jirtle and Skinner (2007), demonstrate in animal studies a plausible relationship between prenatal and postnatal environments increasing the risk for some adult chronic diseases and behavioral disorders. Interestingly, there is new evidence that gene alterations could be carried into the next generation (Jirtle & Skinner, 2007). A naturalistic study demonstrates these environment–gene interactions. The North American Ice Storm of 1998 in Quebec knocked out power for days and much longer in rural areas. Women who were pregnant during the storm were evaluated for stress. Thirteen years later, the researchers recruited the mothers' offspring. Cao-Lei et al. (2015) examined the relationship between actual stress (number of days without electricity), cognitive appraisal of their ability to cope (self-efficacy), and changes in the DNA of their children: "our study suggests that pregnant women's cognitive appraisals of an independent stressor may have widespread effects on DNA methylation across the entire genome of their unborn children, detectable during adolescence" (p. 1). These findings suggest that maternal self-efficacy in the face of a highly stressful event, changes the expression of her infant's genes. Although they are limited to a single naturalistic study with a small sample, it is consistent with animal studies of epigenetic changes of DNA methylation. Moreover, the Cao-Lei et al. (2015) study is the first to separate real threats (storm) from self-efficacy: both having independent contributions to genetic expression. It turns out that even genetics are contextual and influenced by the social network of the pregnant woman. To fully appreciate Cao-Lei and colleagues' findings, one must understand the construct of self-efficacy. Efficacy, according to Bandura (2004), is the foundation of human agency—the core belief that one has the power to effect change. Bandura posits that self-efficacy is the product of mastery experiences, social modelling, social persuasion, and one's physical and emotional state.

Parenting is the Balance of Risk and Protective Factors

The quality of parenting is the balance of risks (potentiating factors) and protection (compensating factors) experienced in a given family and that balance sets the child on a pathway (Pickles

& Hill, 2006) toward bonadaptation or maladaptation. An example would be a father being sent to prison (risk), the son losing his father (risk), the mother losing her support—emotional and instrumental—system (risk); this specific set of incidents could set the youth on a developmental path toward maladaptation. On the other hand, if the maternal grandmother (protective factor) moves into the family home to provide emotional social support to both the son and his mother, the adverse trajectory could be positively altered toward normal development.

An example of the interplay of social relationships and unplanned teen pregnancy can be seen in Love, Suarez, and Love (2008) as shown in Fig. 2. If a young woman's pregnancy is met with a punishing or banishing response from her social network, family, intimate partner, or friends, her response might be to avoid or meet others with hostility—isolating herself at a vulnerable point in her and the baby's development. On the other hand, if she is met with help and social inclusion, the mother and baby's outcomes will be more likely positive.

Development Processes are Lawful, Although Many of the Processes are Yet to be Discovered

In a review of the child abuse research, Belsky and Jaffee (2006) proposed the *Social-Contextual Model of Parenting* theorizing that the causes of both problem parenting (e.g., child maltreatment) and growth-promoting parenting are not discrete processes but a continuum of influence. The authors explained that "multiple pathways by which individual (parental personality attributes or child characteristics), historical (parental developmental history), and social (marital quality, social support and occupational stress) factors and processes combine to shape parental functioning" (p. 42). Belsky (1984) theorized that positive parenting is characterized as being "sensitively attuned to children's capabilities and to the developmental tasks they face" (p. 85). Specifically, Ainsworth (1979) defines maternal sensitivity as being aware of her infant's communication signals; interpreting the signals accurately; and responding quickly and appropriately. Belsky (1984) writes that attuned parenting, "promotes a variety of highly valued developmental outcomes, including emotional security, behavioral independence, social competence, and intellectual achievement" (p. 85). On the other hand, problematic parenting (harsh, coercive or permissive)—whether it involves physical or sexual abuse or various types of neglect—is presumed to occur when risks, transient or enduring, outweighed any protective factors (e.g., presence of grandmother, supportive friends).

Social Cognitive Theory

Any discussion of the mechanisms by which parents learn to be parents would be remiss if the work of Albert Bandura was omitted. Bandura's Social Cognitive Theory (Bandura, 2001) posits that humans are observational learners—we learn through observing and imitating others. Social Cognitive Theory argues that parents are the

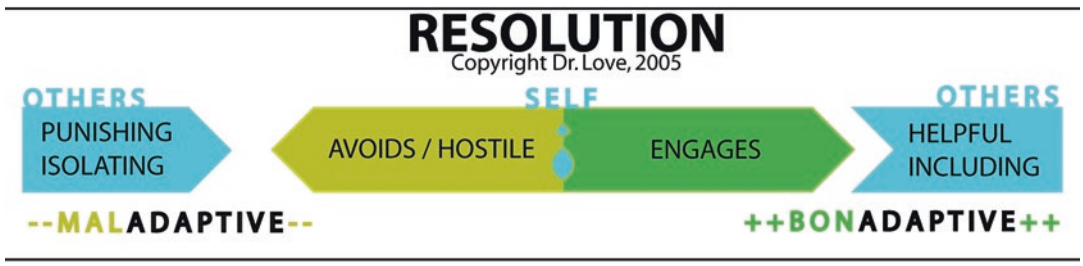


Fig. 2 Schemata of pregnancy as a social-contextual event

"source of change in maturation, exploratory experiences, and, most important, the imparting of information" (Grusec, 1992, p. 782). Parents guide their children through instructions, choice of books and songs, family stories, modelling behavior, rewarding desired or extinguishing unwanted behaviors, and by exposing the child to other models (e.g., family friends, teachers, peers). Parents teach young infants to associate behavior (e.g., babbling, smiling, and cooing) to the parents' "actions and outcomes by making the connections salient" (Grusec, 1992, p. 783). Bandura's eminent theory not only applies to early child development, but how humans learn and take action in their lives. Parents shape their parenting behaviors in a shifting landscape of social contexts.

Bandura (2001) theorized that self-efficacy is one's belief in the capability to affect or influence the events in one's life; it is the foundation of agency (taking action). Parents with strong self-efficacy have a sense of well-being—they set parenting goals—and have the confidence and persistence to take on and follow through with daily challenges. In contrast, parents with poor self-efficacy are more likely to feel threatened, react impulsively, or quit when the situation becomes difficult. Self-efficacy encompasses feelings, thoughts (cognitions), goal-setting, and actions. Social networks can strengthen a parent's self-efficacy by offering support and encouragement to persist with plans when faced with parenting difficulties. It is the neighborhood, culture and online conversations that shape the parent's knowledge (cognitions) of parenting (e.g., spare the rod, spoil the child). The summation of these social supports and influences inform the parent's self-efficacy and influence their parenting.

Bandura (2004) posits that there are four principal mechanisms in developing self-efficacy: mastery experiences, social modelling, social persuasion, and emotional states. Bandura describes mastery experiences as successfully overcoming challenges. If a parent has never faced difficult challenges, they may be readily discouraged, or give up too easily when faced with a serious parenting problem. The parent's social network, though, could be of assistance, encouraging them to persist in the face of difficulty. Over a series of challenges, the parent will build resilience. On the other hand, intimate partners, friends or relatives could discourage the parent, increasing the odds of failure. Furthermore, the parent's social network, directly, teaches them parenting knowledge and skills.

Social modeling is demonstrated by Bandura in his original Bobo Doll Experiment (https://www.youtube.com/watch?v=zerCK0lRjp8). What children saw is what they did! Bandura argues that humans are observational learners. Parents observe other parents in their social network, shaping their parenting knowledge and skills. If parents watch other parents being successful, then they believe that they too have the capacity to do so.

Social persuasion, as described by Bandura, is the social support girding a person's belief that they can succeed. An individual's confidence level is predictive of their ability to persist in the face of difficulties. Social persuaders—who can be members of the parent's social network—not only convey faith, "but also arrange social situations for others in ways that foster success and avoid placing peers prematurely in situations where the parent is likely to fail" (Bandura, 2004, p. 622). A parent's confidence is also influenced by their "physical and emotional states to judge [their] capabilities" (Bandura, 2004, p. 623). This is of particular concern for new parents who face additional socioeconomic challenges (poverty, unmarried, paucity of social support), and are significantly more likely to experience postpartum depression (O'Hara & Swain, 2009). Depression is a serious emotional state that can disable attuned parenting (Bernard-Bonnin, 2004).

Supporting High-Risk Parents

Formal programs, such as the Nurse Family Partnership in the US, ease high-risk parents into parenting at mid-pregnancy and through home visits from the neonatal stage through the first 2 years of the child's life. The nurse demonstrates

attuned parenting, imparts knowledge, and encourages the mother to model more complex parenting throughout the transition. The Nurse Family Partnership (NFP; www.nursefamilypartnership.org/about/program-history) has been developed and tested for over 35 years in randomized controlled trials (the gold standard of outcome research) with three different populations: "Results showed that the program improved pregnancy outcomes, improved the health and development of children, and helped parents create a positive life course for themselves" (n.p.). The NFP is being implemented and studied for its impact in multiple countries around the world (Loston-Williams, 2017). Moreover, in primitive societies, experienced women support new mothers to transition successfully into their new role as a parent.

The physical and emotional state to judge their capabilities is the fourth influence in building a parent's self-efficacy. Postpartum depression is very serious, it affects not only the parent's level of self-efficacy but their ability to respond with joy to the infant, which may set the child on an adverse developmental trajectory (Bernard-Bonnin, 2004).

In a meta-analysis of 59 scientific studies with 12,810 mothers, O'Hara and Swain (2009) concluded that: "A lack of social support, as it is manifest during pregnancy, is a relatively potent risk factor for postpartum depression, particularly in the form of high levels of depressive symptomatology. Both overall social support during pregnancy and support from the baby's father, in particular, were associated with low levels of postpartum depressive symptomatology." (p. 37).

Summary

The mechanisms of how social support influences parenting operate on two levels: (1) indirectly—social supports, emotional and instrumental—that affect the parent's emotional state; and (2) directly—social networks teach parenting skills through mastery experiences, social modelling, social persuasion, and culturally shared beliefs/cognitions. The parent's social networks—whether it consists of multigenerational family members, intimate partners, friends, including social media friends nested in a community of shared parenting beliefs—contribute to a continuum ranging from seriously problematic to growth-promoting parenting.

Intergenerational Transmission of Parenting

Parenting begins with the news of a pregnancy. What a woman eats, what activities she participates in or curtails, what substances (especially nicotine and alcohol) she consumes or refrains from consuming, comprise her first set of parenting decisions: decisions that could have enormous implications, according to the Center for Disease Control (2017), on her developing child. The social supports or social stress from friends and family begin to shape a new mother's parenting before her baby is born. Early parenting decisions are made in a microsystem of close friends and family, all in a potent cultural climate of shared beliefs and expectations. A teen parent whose close friends are substance users, who is in conflict with her intimate partner and who is estranged from her parents, is at high risk for clinical depression (Swendsen & Mazure, 2000), and poor early parenting choices. On the other hand, a close girlfriend who provides emotional support and social persuasion about caring for the unborn baby (Barnet, Joffe, Duggan, Wilson, & Repke, 1996) could alter a negative trajectory toward growth-promoting parenting. The social influences on parenting are multifaceted and interactive. In fact, about 35–45% of factors that will shape her early parenting (Madden et al., 2015) were formed when the mother was only a baby herself.

Intergenerational Transmission of Parenting (ITP) is the influence of the first generation (G1) on the next generation's (G2) parenting of the third generation (G3). Madden et al. (2015) define intergenerational transmission of parenting as "the influence of parents' own experiences as a child on their later childrearing practices"

(p. 1030). ITP is fundamental to a comprehensive understanding of the social determinants of parenting.

Attachment Theory

Edward John Bowlby (1907–1990) and Mary Ainsworth (1913–1999) developed the most studied explanation of ITP. Attachment theory argues that young children keep proximity with their parent (typically the biological mother) most of the time; when scared, young children will seek her attention with urgency. According to Ainsworth, the function of a secure attachment with the mother, beyond immediate survival, is to build a safe base from which children explore, supporting the baby's autonomy. Bowlby conceived attachment as an evolutionary trait for the survival of young children. After years of direct observations of mother–infant dyads in Uganda, Ainsworth argued that it is the relationship that reinforces proximity, and not necessarily an evolutionary drive. Contemporary researchers, such as Meltzoff et al. (2009), reason that it is the interplay of evolutionary drive and experience, "human infants have an intense interest in people and their behavior, and possess powerful implicit learning mechanisms that are affected by social interactions" (p. 284).

Attachment theory posits that the primary relationship between a parent and child is the foundation of the child's emerging social and emotional health. The attachment pattern established by the mother's early parenting will be repeated by the child in their future intimate relationships and into the next generation's parenting.

In two preeminent longitudinal studies in child development, the 40-year Kauai study of the entire birth cohort for the year 1955 (Werner, 2005) and the 35-year Minnesota Mother-Child Project (Sroufe et al., 2005) both found that attachment theory was helpful in understanding and explaining human development. Moreover, the Kauai study (Werner, 2000) found that in the face of multiple risks, one-third of the children grew up to be competent, confident, and caring adults (Werner, 2005). The salient factor for these resilient children was a secure attachment history. Resilient children "had the opportunity to establish, early on, a close bond with at least one competent, emotionally stable person who was sensitive to their needs. Much of this nurturing came from substitute caregivers, such as grandparents, older siblings, aunts, and uncles" (Werner, 2000, p. 120). The family's social network substituted in times of parent loss, trauma, or parent disruption.

The Transmission Gap

Attachment theory has been supported not only in numerous longitudinal studies, but also in diverse normative samples (e.g., low socioeconomic status families, teen mothers; Bernier, Matte-Gagné, Bélanger, & Whipple, 2014). Attachment Theory, though, does not account for the majority of parenting in the next generation—the Transmission Gap (van van Ijzendoorn, 1995). Moreover, the explanations of the mechanisms in which the pattern of attachment is repeated, or discontinued, into the next generation, are very fluid. The current thinking from synthesizing decades of research is that parent sensitivity (secure attachment), alone, does not account for the intergenerational transmission. Syntheses of the published studies (Bernier et al., 2014; Verhage, Oosterman, & Schuengel, 2015) on attachment suggest that ITP is multidetermined. Bernier et al. (2014) found that maternal sensitivity was not the only important causal factor of secure attachment, but that autonomy—maternal encouragement of her infant's exploration—had an equal and salient contribution. Moreover, Verhage et al. (2015), in synthesizing 30 years of research, posit that to close the Transmission Gap the model must include social context. The mother's family functioning, the quality of her intimate relationship and her social supports—if added to the model of intergenerational transmission of parenting—could close the transmission gap. Further research on social determinants is warranted.

In Madden et al.'s (2015) review of the scientific evidence, they report that "ITP has only mild to moderate influence—accounting for about 35–45% of parenting behavior in the next genera-

tion" (p. 1030). Madden et al. (2015) noted that although, historically the majority of research has been focused on the transmission of harsh and aggressive parenting, recent studies have confirmed that warm, supportive parenting can also be repeated from one generation to the next and it accounts for the same percentage as maltreatment. Chen and Kaplan (2001) present convincing findings from an analysis of three-wave longitudinal data spanning twenty years to report that "interpersonal relations, social participation and role-specific modeling explain the intergenerational continuity of constructive parenting" (p. 17).

Intergenerational transmission of parenting begs three foundational questions: What is transmitted from one generation to the next? What are the mechanisms of intergenerational transmission of parenting? What mediates the transmission or discontinuity of parenting across generations?

What is Transmitted Across Generations?

Madden et al. (2015) developed a scientific design to overcome many of the methodological issues in studying intergenerational transmission of parenting (e.g., retrospective self-report, subjective measures, limited to mothers only and focused on transmission of abusive parenting). They tested the hypothesis that intergenerational transmission of parenting occurs for both positive and negative parenting. They studied both mothers and fathers; and used a representative sample, standardized continuous measures of parent history, and observed parent–child interactions. The sample of 192 couples was drawn from the longitudinal UK birth-cohort, the Oxford Fathers Study. In the second generation, G2, fathers and mothers were recruited in the maternity wards, and their parenting was observed in their home at regular intervals in the first 2 years of the infant's (third generation, G3) life. The study used standardized continuous data and observational data, for both mothers and fathers. To determine the influence of parenting from the first generation, G1, research investigators gave G2 fathers and mothers a standardized measure, the Parental Bonding Instrument (PBI; Parker, 1990). The PBI is a 25 item self-report of the subjects' parents (first generation, G1) attitudes and behaviors during the first 16 years of the G2's life. The PBI measures two dimensions of parental bonding: parental affection (emotionally available, attentive, and interested) and parental control (manipulative, arbitrary, or harsh disciplinarian) to create a two-by-two matrix (high affection, high control; high affection, low control; low affection, high control; low affection, low control). The researchers then observed G2 fathers and mothers parenting their infants (G3) at 3, 12, and 24 months. The researchers also accounted for three covariates: age of the parent, socioeconomic status of the parent, and parent depression. This well designed study, discovered that grandmothers' higher levels of affection are associated with fathers' positive responsiveness to his child; and his cognitive stimulation of his child. On the other hand, grandmothers' higher levels of control were associated with lower maternal engagement and higher father control.

Responding to similar methodological problems, Newcomb and Locke (2001) developed a rigorous research design to explain the intergenerational cycle of child abuse. To decrease reporting bias, they used standardized and continuous measures of child abuse, and of parenting practices. To decrease selection bias, they drew a community (not child welfare services records) sample of 7th–9th grade students from the 21st year of the Longitudinal, Growth and Development cross-sectional study. They assessed the (original) students who now had children. To eliminate crossover issues, fathers and mothers in the sample were not of the same family. The sample was diverse and matched the ethnicity and income of parents living in the greater Los Angeles area. Moreover, to understand the transmission patterns, the authors used Structural Equation Modeling (SEM) for a path analysis. Overall, the analysis "fit the data well" (p. 1226); child maltreatment in the first generation leads to poor parenting in the second. Furthermore, child maltreatment history had different effects on fathers and mothers. The effect for fathers was moderately strong. Fathers who

were maltreated as children were more likely to become poor parents as adults. Moreover, a history of sexual abuse of the fathers led to an undifferentiated rejection style of parenting as an adult. History of physical abuse was correlated with physical neglect of their children. For mothers, similar to fathers, history of general child maltreatment had a moderately strong effect on their parenting. The poor parenting of their children supports a common dysfunctional process. In contrast to fathers, Newcomb and Locke (2001) found that mothers' history of neglect had an impact over and above her experience of general child maltreatment. Mothers who were sexually abused, distinct from other child maltreatment, engaged in aggressive parenting.

On a positive note, Werner's (2000) Kauai 40-year prospective longitudinal study found that mothers who created a secure attachment pattern with their infants and toddlers transmitted the emotional and social skills to successfully seek out the support of others. Children with secure attachment histories were more resilient and able to solicit caring adults (grandmothers, older siblings) to help them successfully cope with adversities throughout their lives.

What are the Mechanisms and Mediators of Intergenerational Transmission of Parenting?

The mechanisms of transmission are important. Knowledge of factors and processes is necessary to create effective interventions, programs, or policies to promote positive early parenting or disrupt the intergenerational cycle of child abuse. Without understanding the mechanisms at play, any discussions on the intergenerational transmission of parenting is solely academic.

Newcomb and Locke (2001) stated that "while it is clear that greater exposure to maltreatment as a child led to greater parenting dysfunction, different perspectives have been offered about the exact mechanism of transmission" (p. 1235). The primary explanations are:

(1) Cognitive—the child learns from their parents' philosophies and practices. Simons, Whitbeck, Conger, and Wu (1991) argued that belief in strict discipline mediates the experience of physical abuse and adult parenting practices. Additionally, attachment theory argues that the child builds internal models of self and others that they then act on when parenting; (2) Adaptation in which abusive or neglectful parenting (e.g., harsh discipline, sexual abuse) causes child social, emotional, and behavior problems. As that child matures into adulthood, they may adapt through substance abuse or social isolation. The substance abuse or social isolation will subsequently have adverse impact on their parenting of the next generation (Bailey, Hill, Oesterle, & Hawkins, 2009). Parent substance abuse, in turn, risks aggression, rejection and indifferent neglect parenting styles; (3) Learning—harsh or neglectful parenting models are learned; and (4) Contextual risk factors, such as poverty, low education, substance abuse, large families, criminality, and violent community, tend to be maintained into the next generation.

Belsky and Jaffee (2006) write that "by focusing on parental dysfunction, we presume that an understanding of its determinants can illuminate forces fostering more competent and growth-promoting parenting mechanisms or processes that account for how parents transmit parenting into the next generation could be illuminated not by the child abuse research, but attuned parenting carried forward" (p. 39). The research on continuity of growth-promoting parenting across generations shares the same factors and processes as the child maltreatment research, including cognitions, learned behavior, and social and environmental context. The difference is that growth-promoting parents were more likely to have a secure attachment history; to teach strategies to promote self-efficacy and autonomy in their children; to live in a context of social support, low-conflict intimate and family relationships; and to be embedded in neighborhoods and communities (offline and online) that share parenting beliefs (cognitions) that promote positive parenting. Lundberg, Perris, Schlette, and Adolfsson (2000), in a sample of 448 parent–offspring pairs, found a strong correlation between parental emotional warmth in the first generation and emotionally warm parenting in the second. Interestingly, the correlation was stronger

between fathers and sons, than fathers and their daughters. Lundberg et al. also discovered the correlation between parental rejection and overprotection transmitted into the next generation, though significant, was much weaker than the transmission of emotional warmth. It could be that growth-promoting parenting and its developmental sequelae are biased in the survival and adaptation of human development. This perspective is supported by Losoya, Callor, Rowe, and Goldsmith (1997) who found greater evidence for inheritability of positive/supportive parenting than negative control.

What Mediates the Transmission or Discontinuity of Parenting Across Generations?

Madden et al. (2015) argue that harsh aggressive parenting causes the child to become antisocial by adolescence and extends into adulthood. On the other hand, according to Madden et al. "the development of a competent adult mediates the transmission of warm, supporting parenting" (p. 1030).

Bailey et al. (2009) used structural equation and path modeling of prospective, public school longitudinal data; and a final sample of 136 included sets of second generation parents (G2), their parents (G1), and their school age children (G3). The study examined the continuity across generations of parental monitoring and harsh discipline on the younger generation's externalizing behavior problems. As expected, poor parental monitoring and harsh discipline in the first generation (grandparents) predicted externalizing behavior across the second generation (parents), but not to the third. What appears to be happening is that the poor monitoring and harsh parenting of the first generation predicts adolescent externalizing behaviors, which in turn predicts adult substance abuse in the second generation. The parent's substance abuse, in course, predicts the youngest generation's externalized behaviors. In conclusion, adult substance abuse mediates between poor parenting practices and externalizing behaviors of their children.

Chen and Kaplan's (2001) research on the continuity of supportive parenting posits that the mechanisms in play are positive relationships with friends and relatives. Consistent with this, Egeland, Jacobvitz, and Papatola (1987) in a longitudinal study, uncovered that the generational cycle of maltreatment could be broken by the parents' experiences of supportive relationships (e.g., an intimate partner or a therapist). Egeland et al. (1987) interpreted their findings through attachment theory. Positive adult relationships can be corrective emotional experiences modifying the parents' working internal model of self. More specifically, Quinton and Rutter's (1984) study of English institutionalized (victims of abuse) girls, found that those who broke the cycle of maltreatment not only coupled with a good partner, but they planned and thoughtfully selected an emotionally healthy mate. Belsky, Conger, and Capaldi (2009) argue that there is a serious paucity of research on the moderators of lawful discontinuity, "when and why is parenting in one generation not repeated into the next?" (p. 1203), which presents a compelling argument for additional research on this topic.

Summary

In summary, Quinton and Rutter's (1984) longitudinal study of English school girls who were removed from their homes for child abuse and neglect offers a comprehensive view of intergenerational transmission of parenting. They conclude that parenting breakdown is more than the parent's own history or experience of abuse and neglect. Breakdown must be understood as a system's failure driven by both internal composition and external forces. They reason that parenting resources must be considered in the present (e.g., parent's emotional state, presence of stressors and problems) and the "quality of her partner and extent to which child rearing is shared; existence of other satisfactions and achievements apart from parenting, such as employment; adequate housing; and the availability of social supports" (Quinton & Rutter, 1984, p. 231). They do not disregard the interplay

of the parent's history and current psychological functioning, capacity to make good friends and choose a good partner, but they emphasize that history is translated into the present. It is only in the present that we can identify and act on opportunities for positive and sustained changes. We cannot undo the past, but we can learn from it and use its lessons to shape a more positive, healthy present and future.

Community and Neighborhood Influence on Parenting

Fujiwara, Yamaoka, and Kawachi (2016) investigated the relationship between neighborhood social capital and infant physical abuse using a population-based sample of women (N = 1277) with 4-month-old infants in Japan. The mothers with young infants were surveyed about their perceptions of the level of trust in their neighborhood (an indicator of *social capital*) as well as the availability of support from their personal social networks. Infant physical abuse during the past month was assessed by self-reports of spanking, shaking or smothering. Fujiwara et al. reported that, "In addition to one's personal social network, social trust in the neighborhood was independently associated with lowered risk of infant physical abuse" (p. 13). They concluded that effective child maltreatment programs "should consider strengthening community social bonds in addition to strengthening the social network of isolated mothers" (p. 13).

Empirical data documents the contextual nature of parenting, revealing the influence of neighborhood poverty, violence and residential instability as direct and indirect predictors of parental warmth, discipline, and permissive parenting. Pinderhughes, Nix, Foster, and Jones (2007) and Klebanov, Brooks-Gunn, and Duncan (1994) found that neighborhood characteristics, such as poverty and danger, influenced parental warmth. Garbarino and Kostelny (1993) reported that neighborhood violence and poverty influenced child outcomes as a factor of the emotional availability of parents. Perkins, Finegood, and Swain (2013) postulated that parental stress associated with poverty contributed to parenting quality, while Ghate and Hazel (2002) reported that the stress related to socioeconomic status influenced parenting and child outcomes.

Kohen, Leventhal, Dahinten, and McIntosh (2008) found that the ecology of the neighborhood influenced parenting, in that, diminished social cohesion was present in disadvantaged neighborhoods, and subsequently informed family dysfunction and parenting style. As a proxy measure of poverty, fewer owned homes in disadvantaged neighborhoods was associated with residential instability and limited social cohesion resulting in a compromised support system (Furstenberg et al., 1993), while higher rates of unemployment were related to harsh discipline (Jarrett, 1997). Coulton, Crampton, Irwin, Spilsbury, and Korbin (2007) reported that neighborhood disadvantage contributed to risk of child abuse, as have others (Coulton, Korbin, & Su, 1999; Freisthler, 2004; Freisthler & Jack, 2015; Garbarino & Sherman, 1980).

Externalizing behavior among adolescents was influenced by diminished parental warmth among adolescents residing in a disadvantaged neighborhood (Eamon & Mulder, 2005). Pinderhughes et al. (2007) reported that differences in parental warmth were noted between African-American and European-American families as a factor of neighborhood poverty. Further, racial identity did not explain the differences in parenting once the effects of neighborhood poverty were considered. Perceptions of economic hardship and neighborhood danger influenced parental warmth among Mexican-American families (Gonzales et al., 2011).

The Influence of Family on Parenting

The Changing Structure of Families: Who is Raising the Children?

The more intimate the relationship and the closer in proximity to the parent, the stronger the social influence on the primary caregiver's parenting. In Bronfenbrenner's Ecological

Framework, the family is the center of the microsystem. The traditional family (a biological father of the child, married to the mother) no longer characterizes the majority of US families. According to the PEW Research Center (Livingston, 2014), fewer than half of children (46%) in US society live in a traditional family; 15% of children live in remarried families; and 34% of children are living with a single parent of which 4% represent cohabiting adults, including same-sex couples.

The *Organisation for Economic Co-Operation and Development* (OECD) describe family trends across its member countries. The OECD reports that traditional families are changing across the world—marriage rates are falling and divorces are increasing; trends that have increased sole-parent families and "reconstituted families" (OECD, 2010a, SF3.1). Specifically, marriages have fallen from 8.1 marriages per 1000 people in 1970 to 5.0 in 2009, with significant variability across countries (e.g., higher marriage rates in Korea, Turkey, and the US, and lower in Chile, Luxembourg, and Italy). During the same time frame, the average divorce rate has doubled to 2.4 divorces per 1000 people (the 2.4 divorces of 5.0 marriages is comparable to the statistic that only 46% of US children are living in "traditional families"). Similar to marriage rates, divorce rates differ widely by country. Thus, "overall there are less people getting married, and those getting married are more likely to end up divorcing" (OECD, 2010, p. 23). Consistent with changes in intimate partnership arrangements, children today are also more likely to end up with divorced parents.

The Quality of the Marriage as a Social Determinant of Parenting

The influence on parenting is not only the other parent but the quality of the marriage itself (Zemp & Bodenmann, 2018). High-conflict marriages contribute to child externalizing behavior problems. Belsky and Jaffee (2006) in an extensive review of the published research literature, concluded that a high-conflict or disharmonized marital relationship is associated with multiple child behavior disorders. The interplay of marital discord, parenting, and child outcomes is complex. Belsky and Jaffee (2006) warn the reader to be cautious in assuming that the marriage-to-parenting influence is causal. It could be that the relationship between an aggressive parent and an aggressive child is spurious, that an inheritable "common factor" is driving the aggression in both the parent and the child.

Davis and Cummings (1994) demonstrates that factors and processes involving modelling of aggressive behavior by the parent have been shown in numerous studies to cause child behavior problems. Furthermore, the organization of the parent's personality, as conceptualized by Sroufe et al. (2005), and the parent's attitudes, expectations, and behaviors impacts their relationships and parenting. It is not unreasonable to argue that an adult who has difficulty sustaining a positive intimate relationship would bring "some of those liabilities to his or her relationship with the child" (Belsky & Jaffee, 2006, p. 66). The path between two individual personalities, the quality of their marriage, and their parenting is circuitous. The proposed models are complex, overlapping, and yet informative.

Three Principal Explanations for the Influence of Marriage on Parenting

Affective Spillover

Emotions, both positive and negative, generated in the marital relationship spill over to the parent–child relationship. Anger and hostility in marital communication can contaminate the way parents interact with their children. In contrast, a marriage characterized by marital joy, will spillover to growth-promoting parenting. Belsky and Jaffee (2006) found in their literature review that negative emotions in the marriage did not necessarily match the parent–child exchange, but often fostered parent withdrawal. They reason that unhappy marriages deplete the parent's emotional energy, which in turn deprive children of

the attention they need. When asking children directly about their experience of lax or permissive parenting (an outcome of emotionally depleted parents), children interpreted it as rejecting. The dynamic promotes loneliness and anger in the child. Further support of the affective spillover hypothesis was given by Gottman and Silver's (1999) longitudinal study of 63 preschoolers who were raised in homes with marital hostility. The children had chronically elevated levels of stress hormones when compared to a normative sample and higher levels of behavior problems and poor school achievement. Specifically, according to Katz and Gottman (1997), parents experiencing marital distress were "found to show more negativity, less warmth, greater inconsistency in discipline, greater rejection, greater withdrawal, and less responsiveness than non-marital distressed parents, and these dimensions of poor parenting have been linked to poorer child adjustment" (p. 157–158).

In a meta-analysis of 68 studies that examined the link between quality of a marriage and parenting, Erel and Burman (1995) found strong evidence for the affective spillover hypothesis. They concluded that the adult-pair bond, as conceptualized by Sroufe and Fleeson (1988), "provides not only nurturing for the married couple, but is the emotional support for nurturing children" (Erel & Burman, 1995, p. 127). They also reported that the gender differences, along with 13 other "usual suspects"—moderators—did not explain the connection between marital quality and parenting. In conclusion, the link connecting the quality of a marriage and subsequent parenting is robust.

Stress and Coping

This model contends that marriages provide support, comfort and emotional resources to help adults cope with the stress in the outside world. Sadly, some marriages are the source of stress for the adults and can overwhelm their coping capacity as parents (Belsky & Jaffee, 2006). Supporting this perspective, Grych and Clark (1999) found in families with an infant, when marriage was characterized as stressful (high-conflict, low reward), fathers found it difficult to balance family with other roles and responsibilities and found interacting with the infant less rewarding. Parenting by the father, in turn, was absent. On the other hand, rewarding marriages are a source of support for parenting. In good marriages, the partners not only provide love, attention, and consideration but are instrumentally helpful (fix bottles, give a bath, and change diapers in the middle of the night). A supportive marriage can also buffer the parent from stressors outside of the family, such as work, allowing the parent to have the emotional energy to respond sensitively to their child (Belsky & Jaffee, 2006). Crockenberg and McCluskey (1986) found that in the face of an infant with a difficult temperament (fussy, difficult to soothe), negative effects on the mother were buffered by a supportive spouse.

Family Risk

The third model presented by Cowan and Cowan (2006) reasons that unhappy marriages increase parent psychopathology, specifically depression. The path though may be different for men and women. For men, the causal direction is from depression to marital dissatisfaction; whereas for women marital disharmony causes depression. Importantly, it is the parent's emotional well-being that affects their parenting. A mother who is depressed is less emotionally responsive to her infant, and this has significant ramifications for infant physical health (Gress-Smith, Luecken, Lemery-Chalfant, & Howe, 2012).

Bringing the Baby Home

The quality of marriages is dynamic, and the changes are often dramatic when a family is transitioning to parenting the first infant. Bringing the baby home comes with huge demands of time, attention and resources on the couple. It is normal for couples to experience the transition as negative (Cowan & Cowan, 2000); positive changes in the marital relationship are highly unlikely. Belsky and Jaffee (2006) argue that the birth of a child can be interpreted by fathers as

"ill-timed and intrusive" (p. 67). In Belsky et al.'s longitudinal study, fathers were measured repeatedly from the last trimester of the pregnancy through the child at age three, discovering that when the emotional rewards in the marriage decreased, the father's ambivalence about being married increased. The fathers that expressed negative affect demonstrated an overcontrolling, intrusive parenting style compared to fathers who sustained a more positive marriage through the transition into parenthood. These findings were similar to Cowan and Cowan's (1992) longitudinal study, which found as marital quality declined in the first 18 months of the child's infancy, the more cold, competitive, and angry the marital interactions became when the child was three and a half years old. The marital pattern was seen equally in mothers' and fathers' interactions with the child, especially toward daughters. Interestingly, Katz and Gottman's (1993) 3-year longitudinal study of children, ages 2–5, found two distinct marital patterns predicted different child outcomes. If the marriage exchanges were hostile, then the children showed aggression; whereas if the husband was angry and withdrawn in the marriage, the pattern predicted internalizing child problems. The parenting effect that Katz and Gottman (1997) observed was that hostility in the marriage predicted fathers' intrusiveness and reduced involvement with their 4- to 5-year-old children. Moreover, when the father withdrew from the marital conflict, mothers became more intrusive, critical, and less involved with their children. Further support of the marriage–parenting link comes from Buehler and Gerard's (2002) nationally representative sample of 1000 families with children ranging in age from 12 to 18. They discovered a strong correlation between high-conflict marriages and harsh discipline of the children. This held equally true across income levels: families struggling with poverty and families that were well-resourced.

Domestic Violence and Parenting

Domestic violence is an extreme example of the influence of martial relationships on parenting, and is relatively common. Approximately 25% of women and 7.6% of men indicated that they had been raped and/or physically assaulted by a current or former spouse, cohabiting partner or date at some point in their life (Tjaden & Thoennes, 2000). According to Belsky and Jaffee (2006), multiple studies have connected exposure to marital violence and poor child development. The evidence that some of these outcomes are related to parenting comes from two sources: (1) indirectly—mothers who are victimized by violent husbands, provide less emotional support to school-age children (McCloskey, Figueredo, & Koss, 1995); and (2) directly—Levendosky and Graham-Bermann (2000) used path analysis to link domestic violence to less effective parenting, and thereby elevated levels of child behavior problems. Consistent with the tenets of DP, Belsky and Jaffee argue that violence in the marriage impacts the mother's mental health, specifically depression and posttraumatic stress disorder, which affect her capacity to parent effectively. Analyzing the Environmental Risk Longitudinal Twin study, Jaffee, Moffitt, Caspi, Taylor, and Arseneault (2002) addressed the heritability issue. When they controlled for genetics and non-shared parenting effects, domestic violence was associated with significant child emotional and behavioral problems. The quality of family relationships had a strong contribution to child outcomes independent of shared genetics.

Good Marriages Can Moderate Early Experiences

On a very positive note, Leerkes and Crockenberg (2006) found that childhood history of poor marital relationship and subsequent problematic parenting was not fate, but was moderated by current marital function, engaged coping, and positive intervening relationships. Essentially what the authors are saying is that although there is a risk that a mother's history of being emotionally rejected will be repeated in her parenting, this is not always true. If a mother experienced emotional rejection as a child, and was lucky enough to have a subsequent nurturing marriage, the

adult nurturing experience could moderate her parenting to one of attentive and attuned parenting of her infant. Her own negative experience, in light of an alternative one, may actually drive her to set positive parenting goals (self-efficacy) in parenting of her infant. Alternative explanations (not exclusive of each other) are that her mate models positive parenting for her, or that he supports her mental health by providing psychological resources so that she can be attentive and attuned to her infant.

Summary

Marriage, according to Belsky and Jaffee (2006), is the "first order support system for parents, especially the mothers, and thus likely to impact her parenting" (p. 64). Problematic marriages and problematic parenting are observed together in the same families, as are warm, supportive marriages and positive parenting. Although there are a number of theories to explain the mechanisms of how the quality of intimate relationships determine parenting (e.g., affective spillover, stress and coping and family risk), most of the evidence is correlational. Although correlational findings can suggest plausibility, they are not methodologically strong enough to confirm causation. A few studies, though, have used more robust research designs, like path analysis. Using cross-sectional path analysis, Levendosky and Graham-Bermann (2000) demonstrated that domestic violence predicted less effective parenting and higher levels of child behavior problems. In a large, sophisticated and recent study, Hosokawa and Katsura (2017) used standardized measures on marital quality and parenting practices to map 2931 Japanese children ages 5–6 years. Statistical path analysis revealed a direct line from destructive coparenting conflict (hostility, tension, and disagreements) to negative parenting practices. Moreover, constructive coparenting support (accommodation, helpfulness, and resourcefulness) was directly linked to positive parenting, and positive parenting led to the development of social skills in the child: cooperation, self-control, and assertion.

Grandmothers' Influence on Parenting

The Grandmother Hypothesis argues that it is the contribution of grandmothers to the survival of children, and thus the species, that allows humans to enjoy a long life (Herndon, 2009). "Grandmothers play a critical role in family and community life in societies all around the world, especially in caring for young children and advising and educating younger women on all aspects of family well-being" (Aubel, 2014, p. 7). The PEW Research Center (Livingston, 2013) reports that "in 2011, 7.7 million children in the US—1 in 10—were living with a grandparent, and approximately 3 million of these children were also being cared for primarily by that grandparent" (para. 1). Moreover, 71% of the 7.7 million grandchildren are living in the grandparents' home (Livingston, 2013). Lawton, Silverstein, and Bengtson (1994) in a large representative sample of US seniors report that 57% of adult children live within a mile of their parent; this percentage of geographical closeness increases when the grandchildren arrive.

In comparison, Gray, Misson, and Hayes (2005) conducted a major Australian study and found that Australian grandparents saw their grandchildren frequently (97.1% of infants and 97.4% of 4- to 5-year-olds). Furthermore, almost half saw their infant grandchildren in person at least weekly and 44.8% of their preschool grandchildren weekly. Importantly, "in non-Western societies in Africa, Asia, Latin America and the Pacific, grandmothers have a particularly strong influence within the family context on the practices of younger women as well as on the decisions made by fathers and other men" (Aubel, 2014, p. 3). Specifically, in Sub-Saharan Africa about "9 in 10 African elders live in multigeneration households and that the ethos of the African extended family appears to be intact even in the urban settings" (Bigombe & Khadiagala, 2003, p. 164).

Developmental Psychopathology (Cicchetti & Rogosch, 1996) theorizes that children raised with multiple adversities are at risk for mental illness, substance abuse, and other poor outcomes,

whereas protective factors can alter a negative trajectory to one of health and well-being. Barnett, Scaramella, Neppl, Ontai, and Conger (2010) in a study of grandmothers as a protective factor concluded that the more grandmothers of preschool children were involved, the better emotional regulation and social competence of the grandchildren. Emotion regulation is salient to mental health (Jones, Greenberg, & Crowley, 2015). Musil, Warner, Zauszniewski, Wykle, and Standing's (2009) longitudinal study of US grandmothers, found that self-regulatory efficacy and social support were important for the health and well-being of grandchildren and their grandmothers. Luther (2006), in a synthesis of the resilience research over five decades, reports that grandparents provide emotional and instrumental support directly not only to their grandchildren but also to the grandchildren's parent. Grandparents bolster their adult children's parenting behaviors and the parent's emotional health, which in turn, promotes growth-promoting parenting.

Although grandparents supporting their adult children by providing direct care is an international phenomenon, it is less likely in the US according to the PEW Research Center (Livingston, 2014). For example, about four in ten German (46%) and Italian (39%) grandparents provided regular child care, compared with about one in five (22%) in the US. Interestingly, according to PEW Research Center (Livingston, 2014), when surveying adults in Germany, Italy, and the US, the adult-children in all three countries report that they receive more instrumental support and sweat equity (e.g., provide child care of grandchildren, help with rent), than they give their senior parents.

Love, DeBonis, Maurange, and Knott (2017) surveyed 155 grandmothers representing both African and European Americans in an urban community in the southern region of the US to explore their roles within the family and their influence in their adult-children's parenting. The grandmothers were categorized into three family structures: (1) multigenerational (living with parent and grandchildren, but not the primary caregiver), 10.5%; (2) grandmother as primary caregiver (parent may also be dependent on the grandmother), 16.2%; and (3) non-residential grandparent, 73%. Regardless of the family profile, grandmothers saw their grandchildren often (43.4% daily, 33.1% weekly, 17.6% monthly); fewer than 6% of the grandmother participants rarely saw their grandchildren.

Grandmothers in the sample (Love et al., 2017) actively gave advice as conceptualized by Bandura's social persuasion, to the children's parents on child education (61.1%); child health (59.8%); child nutrition (56.1%); child safety (49%); religion (45.5%); and child discipline (45%). The study, though, could not determine if the parents were persuaded by the advice. Grandmothers also parented directly: talked with grandchild about the child's friends (76.9%); provided childcare (70.8%); read stories (69.4%); took to the park (66.4%); took care of grandchildren when sick (57.3%); took to church (56.7%); took to sporting events (53.8%); provided after school care (48.9%); helped with homework (46.6%); took to sports practices (36.4%); and took to the doctor when the grandchild was sick (35.6%). Grandmothers also took actions to keep their grandchildren safe, they gave safety information directly to the child (79.9%), and the parent (65.4%); supervised social situations (40.5%); and walked children to and from school (16.5%).

Summary

The role of grandmothers in the family is multiple and complex. They provide emotional support by improving the well-being of the parent; they provide instrumental support through decreasing parental stress; and they provide parenting wisdom. Love et al. (2017) reported that the more economically and socially stressed the parent, the more involved and important the role of the grandmother. Lawton et al. (1994) refers to solidarity to conceptualize the higher order construct that explains the interplay of affection, social contact and geographical distance of adult-children and their parents. They explored marital status, role of grandparents in the adult's

own childhood, education, income, home ownership, race and age to explain solidarity. A large majority (80%) of the representative sample of adult-children reported that they were emotionally close to their parents. Gender mattered: mother–child dyads were closer than father–child dyads; the solidarity was weakened if the parents were divorced, particularly for unmarried fathers. Race mattered: Black children were closer to their mothers; however, race had no influence on fathers. Socioeconomic status had limited effects: income and education had no effect on solidarity, yet homeownership (an indicator of financial security) connected fathers to their adult children. Finally, perceived influence of grandparents during the adult's childhood had a positive effect on current adult-parent solidarity. Lawton et al. in conclusion stated that social contact and affection were reciprocally linked, that is, the greater the affection, the more social contact, and the more social contact, the more affection. This puts the parents of adult children, squarely, in the intimate microsystem of parenting influence.

Friends: Offline and Online

Social support for parenting from friends and relatives is multidimensional, complex, and contextual (Thompson, Flood, & Goodvin, 2006). Thompson et al. classify social support into three salient principles: (1) "social support is given and received in the context of relationships, and relationships are psychologically complex" (p. 3); (2) natural social networks (parents, kin, teachers, peers, neighbors) and formal helping relationships (paid helpers such as physicians, mental health professionals, and social workers) act differently; (3) and "the nature of the relationship determines what kinds of support are possible and the limitations that may exist in receiving support" (p. 3). For example, extended family members can offer and receive parenting support but it is coached by family hierarchy and alliances, and long standing conflicts that dictate who can give and who can receive support. Family support is never free!

Natural Social Networks

In natural social networks, parenting assistance is best provided in a two-way relationship of mutual aid and social reciprocity, where individuals can be providers as well as recipients, building mutual respect and satisfaction. However, when the request for aid is unidirectional, the recipient may feel vulnerable, indebted, and inferior, placing the relationship itself at risk. Although social support may be offered in good faith, it could be received as meddlesome and intrusive. This may be more critical in families led by a single mother. Due to cultural norms, she may already feel inferior. She most likely has more needs, creating an unevenness in the reciprocity. Thompson et al. (2006) argue that the act of asking for help from boyfriends, friends, or neighbors places her at risk for rejection, criticism, loss of privacy, and entrapping demands.

Formal Helping Relationships to Support Parenting

Breitenstein, Gross, and Christophersen (2014) report from a systematic view of the published literature that only 10–34% of parents of preschool to school aged children enroll in face-to-face parenting programs; and of those who do enroll, the average attendance is from 34% to 50% of sessions. These numbers are in comparison to 59% of parents using social media (66% of mothers, 48% of fathers) who indicated that they came across useful parenting information on their social networks in the last month (Duggan, Lenhart, Lampe, & Ellison, 2015). Moreover, in the last month 42% of parents (50% of mothers, 28% of fathers) received social or emotional social support online.

Love et al. (2016) reason that reaching vulnerable parents with effective parenting programs is a formidable challenge. Required in-person classes may overwhelm parents with multiple logistical difficulties, such as transportation, work schedule conflicts, and childcare (Prinz & Sanders, 2007). Families in which maltreatment occurs are traditionally less likely to participate

in community parenting programs and are more likely to drop out if they do (Turner & Sanders, 2006). The stigma surrounding a child's behavioral or emotional disorders constitutes a meaningful barrier to participation due to feelings of "blame and shame" (Corrigan, Watson, & Miller, 2006). Furthermore, parents *trust* their social networks' lived experiences. As importantly, the friends' social persuasion is more acceptable when cloaked in caring support. They are also more likely to get practical, immediate, and helpful solutions than through traditional parenting programs.

Online Social Networks

The separation between offline and online friends is blurred. Social media platforms (e.g., Facebook, Instagram, and LinkedIn) are a vital daily channel for communicating among friends. According to the PEW Research Center (Duggan et al., 2015), in the US, social media networks help to connect parents with each other during good and bad times: "75% of parents who use social media turn to social media for parenting related information and social support" (n.p.). 83% of mothers and 74% of fathers use social media as a parenting resource. Across all mothers in the US, nearly a quarter get social support for parenting from their social networks. Mothers are three times more likely to use their social networks for parenting support than fathers. Most parents use Facebook (74% of parents that use social media) as their preferred platform. Of the Facebook users, 94% of parents are active (share, post or comment) users as opposed to lurkers (only reading others' posts).

Parents' online network is a mash-up with their in-person social network. According to the PEW Research Center 2015 report (Duggan et al., 2015), among Facebook users 93% report that they are online with family members other than their parents or children; 88% are online with current friends; 88% are online with friends from the past; 60% online with work colleagues; 53% with their parents (compared to only 40% of non-parents); 47% with their children; 41% with neighbors (compared to only 34% on non-parents); and 41% of people they have never met. The increased online communication with parents and neighbors is due possibly to the fact that online is more convenient given the time constraints of parenting and/or that parents need more support to cope with the complexities of parenting. Unfortunately, there is currently no available information on the international trends in parents' use of social media.

The power of social media in supporting parents is the parents' perception of (1) trusted information ("rings true" because of shared beliefs with the parent's social media friends and family); (2) valued "lived-experiences" of peers over professional advice; (3) potential to avoid "shame and blame" by professionals (Corrigan et al., 2006); and (4) delivered in a context of emotional support and encouragement. On the other hand, the downside of parents using social media to get parenting advice is that some of the information is not scientifically supported and may be ineffectual or harmful to the child's development.

Tend and Befriend

Although social media use is a very recent phenomenon in the history of the human species, its roots are ancient. Social media popularity, especially among young adults, speaks for itself; 96% of those aged 18–29 years are Internet users, 84% use social networking sites, and 97% have cell phones (PEW Research Centre, 2012). However, social media is only a technology; the drive to connect with one's social network (especially for mothers) is founded in the evolution of the human species. Taylor et al. (2000) proposed a paradigm shift in how scientists understand the physiological and behavioral human stress response, fight or flight. Although fight or flight characterizes the physiological response for both men and women, the behavioral response of women is to tend and befriend. Taylor et al. posit that women have "selectively evolved to maximize the survival of self and offspring" (p. 411). They theorize that women respond to stress by nurturing or tending to their children to "protect them from harm and

reduce neuroendocrine responses" (p. 411) that could compromise the child's health. Simultaneously, women befriend—seek and affiliate with social groups—to protect from threats.

Successful behavioral response to perceived threats determines the evolutionary survival of the species, and thus the human stress response is hard wired. This means that the human brain, at birth, has the capacity to activate the stress responses. When the infant perceives threat, his/her amygdala is triggered, that is, "low road," which is fast and immediate; at the same time the cortex, that is, "high road," is activated. The cortex has to process (make sense, assign meaning) the incoming information, so it is slower to respond. In fact, the cortex takes twice the time to respond than the amygdala.

Offering a gender-specific alternative to fight or flight addresses a gap in the scientific literature regarding the human stress response. Historically, all stress research in and out of the laboratory was conducted exclusively on males—even the rats were males. Taylor et al. (2000) theorize that the bio-behavioral mechanisms for the tending process activate the attachment/caregiving system as proposed by Bowlby in 1988. In laboratory protocols where toddlers are temporarily separated from their mothers, both the mothers and the babies show physiological signs of the human stress response. One explanation based on multiple animal studies is that when female mammals are threatened they produce oxytocin and endogenous opioids, which are calming, allowing her to tend to her offspring. Maternal tending, such as affectionate and calm caressing of her child, stimulates physiological changes in the neurology of the toddler and can easily be measured in lowered heart rate and less galvanic skin response. The evidence for an estrogen-enhanced oxytocin response that was first documented in rat studies, and now research in humans appears to be strong (Taylor et al., 2000).

Humans living in groups is generally understood to be an evolutionary adaptation that benefits the survival of both men and women (Taylor et al., 2000). Groups provide protection for most primates by having more eyes to watch for predators, creating a fear in predators that if they go after one member of the group the others will attack; and groups of mammals can confuse a predator by dispersing and reorganizing during an attack. Human females are more vulnerable than males—they are smaller, less strong and often have children in tow. Mothers need to protect themselves and their children from external threats (e.g., pack of dogs, tigers). Moreover, some women need to protect themselves and their children from their own male partner (e.g., intimate partner violence, child abuse).

It can be deduced that the same mechanisms that intrinsically motivate group behavior in mothers catalyze the creation and maintenance of online social networks, especially for new mothers and mothers worried about their parenting. "Mothers are very engaged in social media, both giving and receiving high levels of support via their networks" (Duggan et al., 2015, n.p.): 81% of social media users respond to their friends' good news; 74% get support from their online friends; 71% of all parents try to respond to a parenting question if they believe they have the answer; and 58% respond online to a friend's bad news. Belonging in the social media world means participation. Facebook provides the structure, convenience, and ease for a busy or overwhelmed mother to belong to a supportive social group for support and perceived survival.

Summary

In summary, social networks, both offline and online, influence parenting by modelling what works, persuading their friends to persist when parenting gets tough, teaching knowledge and skills, and by giving emotional support—within the context of community embedded in a community of social capital and shared beliefs.

This chapter explored the research connecting social support and parenting: (1) intergenerational transmission of parenting; (2) community and neighborhood; (3) marriage quality; (4) grandmothers; and (5) offline and online friends.

It argued that parenting is contextual and that the social network is inside the parent's microsystem. The grandmother, the parent's intimate partner, neighborhoods, and offline and online friends matter. The two overarching mechanisms that explain how social networks influence parenting are: (1) indirectly—family and friends promote the parent's emotional well-being; and (2) directly—social networks promote parent's self-efficacy through mastery experiences, teaching knowledge and skills, social modelling, and social persuasion: embedded in a community of shared beliefs.

The strength of DP is that it is not a deterministic model, but a scientific discipline of inquiry that learns, seeks and adapts to new information. DP is not limited to what is known, but challenges scientists to raze academic silos and cross disciplines. As these disciplines borrow from each other, they create more complex and interesting explanations that promise more effective and efficient interventions. The brilliance of Vygotsky and Bronfenbrenner's *child in context* is that it opened up inquiries about what systems influence human development, the nature of these systems, how systems interplay, and the possibilities of discovering new systems. Bowlby and Ainsworth's contribution has conceptually morphed into viewing the mother–infant dyad as a single interdependent system. Bandura's thesis of self-efficacy supports the idea that parents can motivate and guide their efforts in both personal and social change. Moreover, the proposal of Tend and Befriend adds an evolutionary foundation to our understanding of why neighborhood and online groups are so powerful in influencing parenting. Mothers gather in social groups for survival and the protection of their children. Parents support other parents by responding to questions posted online and they seek answers and emotional support from their offline and online social networks. The internet is not the social group, it is the technology that allows parents to participate in social groups and get immediate support and encouragement when they need it from sources they trust: a powerful tool that we are just beginning to understand.

Strengths and Limitations of the Evidence

The limitations of the existing research findings share in common with other major behavioral scientific bodies of work the following: paucity of longitudinal studies; inability to establish cause in correlational studies; small samples; and non-replicable qualitative studies. Specifically, in parenting studies there has historically been a reliance on retrospective self-report, subjective measures, limited to mothers only, focus on transmission of abusive parenting (Madden et al., 2015) with a limited understanding of genetic contribution. Moreover, the research on social media is still in its infancy; there are some early qualitative studies and descriptive prevalence studies (though limited to the US). Yet to date, there is no scientific evidence on the impact of social media on parenting.

The strongest scientific support for parents' social networks influencing their parenting have been the eminent longitudinal studies (Sroufe et al., 2005; Werner, 1993). Longitudinal studies provide the scientific foundation for child development theory, and specifically parenting in the context of social networks, addressing both the *chicken and egg* and the *nature versus nurture* dilemmas. The downside of longitudinal studies are costly committed resources and time (comprehensive studies can take a generation to get results).

A complexity in the parenting research is that longitudinal studies alone, cannot completely answer the question of genetic contribution. Do genetically endowed parents select "supportive friends," or do supportive friends promote healthy parenting? A breakthrough in the science were the Longitudinal Twin study (Jaffee et al., 2002) and the naturalistic study of the Northern American Ice Storm (Cao-Lei et al., 2015). The emerging field of epigenetics promises to shed more light on the interplay of genetics and environment.

Finally, the development of path analysis and other similar statistical strategies in large and population-level samples allow behavioral scientists

to examine the influence of the parents' social networks and neighborhood context on their parenting. A good example was Newcomb and Locke's (2001) rigorous research design to explain the intergenerational cycle of child abuse. Similarly, Levendosky and Graham-Bermann (2000) used path analysis to link domestic violence to less effective parenting, and thereby elevated levels of child behavior problems. The availability of large datasets, big-data (such as electronic health records), Google analytics and path-analysis will assists scientists in making strong conclusions about the nature and quality of social networks on parenting.

Future Direction of the Research

In 1975, Sameroff and Chandler (1975) argued that the transactional model of development means that "biological insults could be modified by environmental factors and that the developmental vulnerabilities could have social and environmental etiologies" (Meisels & Shonkoff, 2000, p. 11). Although early in the DP discipline, Sameroff and Chandler shifted the conversation from Grisell's (1929) *continuum of reproductive causality* to *continuum of caretaking causality*—moving the enduring *nature versus nurture* debate to the interplay of nature *and* nurture. It was this paradigm shift that helped birth the discipline of DP, and in turn, shift the direction of research, policy and practice. The context that creates humans is human relationships. Although constrained by our genetics, humans will never be whales; the determinism of genetics is no longer valid. The future of research on the impact of the social networks on parenting and, thus, child development is shaping into three directions: (1) big data, (2) epigenetics, and (3) social media.

Big Data

Turing Award winner Jim Gray imagined data science as a *fourth paradigm* of science (empirical, theoretical, computational, and now data-driven) and asserted that "everything about science is changing because of the impact of information technology and the data deluge" (Wikipedia, 2017, para. 3; Tansley & Tolle, 2009). One of the most important big data studies was Felitti et al.'s (1988) study of 13,494 adults who had completed a standardized medical evaluation at a large Health Maintenance Organization on seven categories of adverse childhood experiences (ACEs) with their medical records over time. They showed a strong correlation of ACEs with specific health conditions and early death.

Marr (2016) in Forbes.com argues that "big data will leave no sector untouched as it continues to change the way we think about everything from sales to human resources, and medicine and healthcare are no different" (para. 1). Marr credits the smartphone as a tool for patients and doctors to share "information across disciplines, the quantity and quality of the data available is greater than ever before, which means that the potential for breakthroughs and change is growing just as exponentially" (para. 5). Big data will revolutionize how scientists operate and create discoveries that are here-to-fore unimaginable. For example, scientists can explore the communication patterns within social networks regarding parenting advice and support in real time on Facebook. Another possibility would be for healthcare professionals to systematically collect social and economic variables in electronic health records. The population-based data could then be evaluated to predict, prevent, and/or treat a host of physical and mental health disorders.

Epigenetics

The field of epigenetics explores the relationship between environment and genetic expression. The excitement of this emerging discipline was expressed well by Jacobson (2009): "genomic studies that incorporate a range of social and environmental influences will further our understanding of the complex dance between nature and nurture in human development" (n.p.). Further evidence of the importance of this research pursuit, can be seen in the recent 2017 issue of the *Journal of Child Psychology and Psychiatry* with thirteen articles published on genetics in the field of DP (Halperin, 2017). Given the role of

social networks and communities in a mother's environment, including stressors and supports, epigeneticsists may help to explore its impact on her baby's genetic expression, such as temperament, self-regulation, and attention.

Social Media

We can also expect more research over the next decade to focus on how online groups (e.g., Facebook) influence parenting and child development. Internet research, in general, is primarily limited to business, and more recently Twitter and politics. Although research on the influence of online social networks on parenting is in its nascence, there is currently software, *social analytics*, which can track public conversations between parents and their social networks. It can also, through the tag-system, let researchers know what topics are trending and rapidly moving within social networks.

Love et al.'s (2016) study is an example of using social media to engage highly vulnerable parents in evidence-based parenting programs, and the parents shared in the focus groups that learning online was very helpful. Specifically, they told the researchers that it mattered that the other parents were online. They learned from other parents' lived experiences, and appreciated the social support; it encouraged them to persist when parenting efforts became challenging. Social media is a powerful tool that has not yet been harnessed in healthcare—not only as a delivery option but as a treatment option as well.

Implications for Policy and Practice

The salient message to policy experts is that parents need a menu of evidence-based parent education options that are available, free, immediate (when the parent needs the information), and delivered based on parents' choice of vehicle. Beyond reaching individual parents, practitioners need to intervene to improve the quality of marriages, and specifically to support young families transitioning into the birth of their first child. Moreover, given the presence of grandparents in the family's intimate circle of influence (Aubel, 2014; Bigombe & Khadiagala, 2003; Gray et al., 2005; Lawton et al., 1994; Livingston, 2013; Minkler & Fuller-Thomson, 2005), programs could be developed to support and educate grandparents to give effective advice, emotional and instrumental support, and to model growth-promoting parenting for their adult-children.

Targeted public health campaigns could also be implemented on community and neighborhood levels. An important lesson of Love et al.'s (2016) online parenting program, was that the success of the overall project was a targeted "ground campaign" to develop relationships with key community stakeholders and frontline staff, such as agency workers and parent educators. The education of community workers and the mash-up of the parents' friends and family on and offline (Duggan et al., 2015; PEW Research Centre, 2012), was evident in how an online program (Love et al., 2016) translated into the community to generate interest in and acceptability of the program amongst peers. The online program combined with educating key community workers was successful in disseminating shared language, attitudes and parenting strategies across parents not only online but in their neighborhood (Love et al., 2016).

The other message is that societies need to develop policies that support young parents, especially single and teen mothers with education, housing, food, healthcare and community social capital. Furthermore, given the relationship between poverty and poor parenting (Ghate & Hazel, 2002; Perkins et al., 2013), it would behoove societies to provide economic opportunities and policies that support education and fair wages for all its citizens—supporting communities. Well supported communities, in turn, promote positive parenting and subsequently child well-being!

Conclusion

Practitioners must be trained in scientifically well-supported parent education programs, so that they can deliver, discuss, assess, and support families. Public health practitioners can expand

the impact of parenting by targeted campaigns that educate communities. Moreover, social media has the power to exponentially spread positive parenting through parents' online social networks—reinforcing critical messages. Policy makers must develop strategies that promote economic well-being and successful communities. The impact of concerted and coordinated efforts will promote healthy parenting, and subsequently the long-term health and well-being of children. To quote Professor Matthew Sanders, "good parenting is the clean water of mental health" (M. R. Sanders, personal communication, May 21, 2015).

Social networks influence parenting by modelling what works, persuading their friends to persist when parenting gets tough, teaching knowledge and skills, and by giving emotional support—embedded in a community of social capital and shared beliefs. This is the complex, multidimensional, and ultimately, promising context in which parenting happens.

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Cultural Background and Religious Beliefs

Joey Fung, Maria S. Wong, and Heejung Park

Introduction

Affiliation with social groups shapes people's beliefs, attitudes, and practices across various life domains, including in the realm of parenting. In a multicultural, multireligious society, such as the US, a core social group affiliation stems from one's identification with and belongingness to an ethnic/racial or religious group. The cultural and religious demographics within the US are also changing, bearing implications for parenting beliefs, goals, and behaviors (see Box 1). Specifically, within the broader American national context, different ethnic or religious groups provide varied subcontexts in which child socialization and parenting take place, such as by setting key values and norms that guide parents' beliefs about child-rearing goals and their parenting practices to achieve these goals.

As of 2015, 50.2% of babies younger than 1 year old in the US were ethnic minorities, surpassing the number of non-Hispanic White babies (Pew Research Center, 2016). With Non-Hispanic White European Americans comprising 61.6% of the population, the three major ethnic minority groups in the US currently include Latino American (17.6%), African American (13.3%), and Asian American (5.6%; US Census Bureau, 2015). It is, however, important to bear in mind that ethnic minorities are people of diverse ethnic backgrounds who have varied immigration history and racial experiences, which may have distinctive implications regarding the challenges that they face and the set of adaptive parenting strategies they choose to employ. For example, there are some commonalities between Asian and Latino families with regard to their immigration history. Individuals and families of Asian and Latino descent most often choose to migrate to the US to pursue better education and job opportunities. Another main reason that propels them to migrate is reunification with families following the amendments of the US Immigration and Nationality Act in 1965, which removed the national-origin quotas system and replaced it with a system that was based on skills and family ties to US citizens. In contrast, the historical past of many African American families is markedly different. The transatlantic slave trade brought forth the first wave of enslaved Africans to the US beginning in the sixteenth century. Unlike Latino or Asian Americans, voluntary migration from Africa is relatively recent. Many foreign-born Blacks arrived as a result of

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Box 1 Shifting cultural and religious demographics in the US and its impact on parenting

The ethnic/cultural and religious makeup of American society has continued to change significantly over the past decade. As of 2015, more than half of babies younger than 1 year old in the US were ethnic minorities, surpassing the number of non-Hispanic White (NWH) babies. While NWH currently remains the largest racial/ethnic group in the US, it is projected to comprise less than half of the nation's population by 2060. The rate of foreign-born is also projected to outpace that of US-born, accounting for an increasing percent of the total population. In terms of religion, Protestants, who used to be the dominant religion in the US, may be on the verge of becoming a minority group as US immigrants continue to bring forth other religious traditions to the country, including Islam, Hinduism, and Buddhism. Furthermore, the percent of American adults who do not identify with any particular religious groups are on the rise, as well as those who identify themselves as spiritual but non-religious (often referred to as the "nones").

Within the broader American national context, different ethnic and religious cultures provide varied subcontexts in which child socialization and parenting take place, such as by setting key values and norms that guide parents' beliefs about optimal child-rearing goals and how to best achieve the goals. Despite their common aspiration to raise successful children in the American society, parents from different racial/ethnic or religious histories often face distinct challenges associated with their backgrounds or immigration status, may hold different child-rearing values, and consequently engage in divergent parenting practices. Shifts in the racial/ethnic and religious composition in the US population highlights a growing need to better research and understand what indigenous parenting may look like and its implications.

the Immigration and Nationality Act in 1965 that emphasized skilled immigrant labor, the Refugee Act in 1980 that allowed people from conflict-ridden areas to resettle in the US, and the US Immigration Act of 1990, that encouraged immigration from underrepresented nations. As such, any two ethnic minority families may share little in common given that they have different immigration histories, acculturation processes, heritage cultures, languages, and living conditions in the US. To that end, this chapter highlights and takes into account heterogeneity and diversity among different ethnic minority groups when reviewing the role of cultural backgrounds on parenting.

Religion, although largely overlooked by researchers studying parenting, provides another important social group affiliation that influences people's beliefs, attitudes, and practices in daily life. Similar to ethnic culture, religion decrees certain values and practices as priorities and norms, thereby guiding those with a given religious affiliation to uphold values and engage in actions that align with their religion. Importantly, religiosity has multiple dimensions, including religious affiliation, beliefs, practices, and spirituality (Chan, Tsai, & Fuligni, 2015). Given that religious affiliation is typically a precondition for exercising religious values and practices, we focus on reviewing past research on religious beliefs and practices as determinants of parenting beliefs and practices. We use religiosity as an overarching term that captures both the belief and the practice dimensions, while also attempting to provide an insight into how religious beliefs and religious practices are each associated with parenting.

Religion is an important part of many Americans' lives, and Christianity is a majority religion in the US. In a large survey with more than 35,000 Americans, 70.6% of the respondents endorsed Christian affiliations, 22.8% indicated no religious affiliation, and only 5.6% indicated non-Christian religious affiliations (Pew Research Center, 2017). However, since Christianity is by no means a homogenous group (e.g., 25.4% Evangelical Protestant, 6.5% Historically Black Protestant, 20.8% Catholic), we identify different religious beliefs within

Christianity that are related to specific parenting practices. Furthermore, the religious backgrounds represented within the US population are diverse and it is important to acknowledge religious minority groups (e.g., 0.9% Muslim, 0.7% Buddhist, 0.7% Hindu). Although the majority of our review is based on how different aspects of Christianity are related to specific parenting practices, we also draw from the limited literature on parenting in other religious groups such as Buddhism and Islam. The method of our review follows the fact that most published research articles to date on religion and parenting have focused on Christianity, with scant evidence from other religious groups.

Hence, we begin this chapter with a review of conceptual models and empirical evidence on the role of cultural background in parenting, with a focus on the four major ethnic groups in the US: Non-Hispanic White, African American, Asian American, and Latino American. We primarily focus on parenting research conducted in the US but also include some cross-national studies. In reviewing the link between religion and parenting, we focus on the US majority religion Christianity according to denominational variations. We also review other religions, such as Buddhism and Islam, although there are only limited studies to date. Strengths and limitations in the literature as well as suggestions for future directions are included. Finally, implications for policy and practice in this increasingly multicultural and globalized society are discussed.

Theoretical Background and Evidence

According to Bronfenbrenner's (1980) ecological theory of human development, in addition to the individual characteristics of the parent or the immediate environment of the parent, the quality of parenting may also be shaped by the macrosystem. In this section, we review several frameworks that organize our thoughts about cultural and religious influences on parenting and present the empirical evidence associated with each framework.

Parental Ethnotheories of Development

The first theoretical framework we adopt is Harkness and Super's concept of *ethnotheories*, which highlights the role of implicit beliefs and ideas parents hold about the ideal child and what constitutes effective rearing techniques in order to achieve this ideal (Harkness & Super, 1996). Parents' implicit beliefs and ideas about desirable developmental goals influence the ways in which they interact with their children and how they structure their environment and routines (Miller, 1988). If the goal is to develop the child's self-exploration and confidence, a parent may express interest in the child's play and reinforce initiative and creativity. However, if the goal is to foster academic achievement, parents may spend more time on incidental teaching and structuring formal learning activities (Sui-Chu & Willms, 1996).

Parental ethnotheories are reflected in daily activities and roles taken on by children across cultures. For example, Harkness and Super (1992) examined parents' goals, beliefs, and practices among European American mothers in Cambridge, the US and Kipsigis mothers in Kokwet, Kenya. Whereas Kokwet mothers placed greater emphasis on the development of responsibility and obedience in children, US mothers were more concerned about the development of cognitive capacities and self-reliance. Consequently, researchers observed that Kipsigis children spent nearly a quarter of their time doing household chores, such as cooking and taking care of animals and younger siblings, while US children spent the majority of their time playing and reading, and less than 1% of the time doing household chores. The proportion of time children spend in activities reflects parents' beliefs about how children should develop and how routines should be structured to achieve the prioritized developmental goals.

Even if two parents share the same child-rearing goal, the actual parenting practices believed to encourage development toward that goal may still differ between cultural groups. For example, Chao (1995) found that while both

immigrant Chinese and European American mothers stressed the importance of showing love to their children, the ways in which love was expressed varied between the two groups. Whereas Chinese mothers emphasized the importance of fostering a closeness and dependency in the parent–child relationship as an expression of love, European American mothers stressed the importance of cultivating children's self-esteem.

Within this paradigm of ethnotheories, cultural background is seen as a major source of parental belief systems (Goodnow & Collins, 1990), with different cultures holding distinct models about the relation between the self and others (Markus & Kitayama, 1991). Greenfield, Keller, Fuligni, and Maynard (2003) described two paths of development: one that emphasizes individuation and independence from others, and another that emphasizes interdependence with others and group membership. They suggested that while each developmental pathway leads to universal tasks of human development (e.g., relationship formation), each emphasizes a different optimal balance between autonomy and relatedness. Similarly, Rothbaum, Weisz, Pott, Kazuo, and Morelli (2000) described the North American path of development as one of *generative tension*, in which there is a continual tug between proximity and separation with primary attachment figures in infancy and an emphasis on personal preferences in childhood. On the other hand, the Japanese path is that of *symbiotic harmony*, as characterized by a continual pull toward adapting the self to fit the needs and expectations of others. The authors argue that both paths of development are adaptive and emphasize different aspects of the development of close relationships.

Cultural Self-Construal

Theoretically, many observed differences in parental ethnotheories have been organized around the broad dimensions of individualism/independence and collectivism/interdependence (Greenfield et al., 2003; Harkness & Super, 1996; Keller et al., 2006). Generally speaking, independent cultures, such as North American and other Western cultures, tend to subscribe to the ideal of an independent self, stressing the importance of self-maximization, creativity, assertiveness, and autonomy (Markus & Kitayama, 1991). The desires, needs, and interests of an individual are subsequently emphasized and reinforced. In contrast, collectivistic cultures, such as those of many Asian or Latino countries, have been broadly viewed as interdependent where individuals see themselves as fundamentally connected with others. Accordingly, social relationships, roles, norms, and group harmony play a much greater role than do personal desires and needs in determining one's behavior. Socialization within an interdependent versus independent tradition has a variety of implications for parenting styles and practices. In the next section, we review empirical evidence on how this cultural script may lead to differences in three specific domains of parenting, namely socialization of affect expression, an emphasis on self-enhancement versus self-improvement, and the use of parental control.

Socialization of Affect Expression

Parents vary in the goals they hold for helping their children understand, experience, express, and regulate their emotions (Eisenberg, Cumberland, & Spinrad, 1998). According to the affect valuation theory put forth by Tsai, Miao, Seppala, Fung, and Yeung (2007), individuals differ in the types of affective states they ideally want to experience. In more independent cultures, open expression of emotional states is seen as an appropriate assertion of the independent self. Consequently, European American parents are more likely to encourage and reinforce their children to be aware of their emotions, find socially appropriate ways to express them (Gottman, Katz, & Hooven, 1997), and place greater value on high activation positive affect (e.g., excitement, pride; Tsai et al., 2007). On the other hand, in more interdependent cultures (such as Asian American), where the goal is to maintain harmonious relations, parents tend to value low activation positive affect (e.g., calm, peaceful). Asian parents are also more likely to believe that emotions should be suppressed rather than

expressed (Butler, Lee, & Gross, 2007), and may socialize their children to minimize or avoid expressing strong negative feelings in order to preserve interpersonal harmony (Eisenberg et al., 2006). Indeed, research suggests that Chinese mothers tend to encourage children to control their strong emotional states more than their European American counterparts (Lin & Fu, 1990). In a cross-cultural study, Chinese American children were found to display the lowest levels of emotional expressivity compared to European American children and Chinese children adopted by European American parents, which can be explained in part by the extent to which mothers are strict and emphasize obedience in their children (Camras, Chen, Bakeman, Norris, & Cain, 2006). Interestingly, recent research suggests that although the notion of interdependence self-construal present in East Asian cultures dictates that individuals control and subdue their emotional expressions to maintain social harmony, the opposite norm appears to emerge in other interdependent cultures such as Mexico and other Latin American countries. The Latin American cultural script of *simpatía* (Ramírez-Esparza, Gosling, & Pennebaker, 2008), in fact, encourages open and vibrant expression of positive emotions to promote harmony (Ruby, Falk, Heine, Villa, & Silberstein, 2012).

Self-Enhancement Versus Self-Improvement

Consistent with the individualistic framework, there is an emphasis on self-enhancement among European Americans that focuses on fixed, stable positive attributes that contribute to positive self-regard (Heine, Lehman, Markus, & Kitayama, 1999). For many European American parents, making their children feel good about themselves is an important child-rearing goal as it is considered to be essential to a child's success and well-being (Harwood, Handwerker, Schoelmerich, & Leyendecker, 2001). Compared to Chinese parents, European American parents are more likely to perceive and portray their children in a more positive light (Miller, Fung, & Mintz, 1996). They are also more likely to praise and highlight the accomplishments and downplay the failure of their children than East Asian parents (e.g., Ng, Pomerantz, & Lam, 2007). East Asian parents, on the contrary, tend to emphasize self-improvement (Heine et al., 2001) and the importance of effort (Stevenson & Stigler, 1992). Compared to European American mothers, Taiwanese (Miller, Wang, Sandel, & Cho, 2002), Japanese, and Chinese (Stevenson et al., 1990), as well as Puerto Rican (Harwood, Miller, & Irizarry, 1995) mothers are less likely to regard building self-esteem as a salient parenting goal. However, even within the US, recent concerns have been raised about creating children who are too fragile and vulnerable by overemphasizing their self-esteem (Harkness, Mavridis, Liu, & Super, 2015).

Parental Control

Given that parents from more interdependent societies tend to emphasize obedience and social hierarchy, research has documented significant cultural differences in the use of parental control. Chen et al. (1998) found that Chinese parents in Beijing engaged in more control strategies and were less likely than Canadian parents to perceive the importance of positive affect for their children's social and cognitive development. Children in Mainland China, compared to children in the US, reported that their parents make more decisions about their personal issues (e.g., Qin, Pomerantz, & Wang, 2009) and use more psychological control and less autonomy supporting strategies (e.g., Cheung & Pomerantz, 2011). Chinese immigrant adolescents also reported that their parents exert more psychological control and less autonomy support than European American adolescents (e.g., Chao & Aque, 2009). In a study with Greek, Taiwanese, and US mothers, the researchers found that Taiwanese mothers valued the importance of demonstrating good habits and manners in front of others more so than Greek and US mothers (Tamis-LeMonda, Wang, Koutsouvanou, & Albright, 2002). Any misbehavior in children may be perceived as a threat to the family's honor and parents may feel a greater need to control their children's behavior to ensure that they are well behaved. Similarly, compared to European

American mothers, Latina mothers' parenting behaviors are more controlling and protective (e.g., Livas-Dlott et al., 2010). Latino mothers are more likely to endorse socialization goals that emphasize proper demeanor compared to European American mothers (Calzada, Huang, Anicama, Fernandez, & Brotman, 2012), which is consistent with adhering to the collectivistic values of cultivating respect for authority and interpersonal harmony (Harrison, Wilson, Pine, Chan, & Buriel, 1990).

Indigenous Parenting

Given that parenting behaviors are situated within cultural contexts that shape parents' ideas and beliefs regarding desirable socialization goals, Western parenting typologies may not adequately capture unique characteristics of ethnic minority parenting. In the following section, we review a few central themes and indigenous constructs of ethnic minority parenting. It is difficult, if not impossible, to summarize the rich and diverse beliefs of the many cultural groups in the US. As such, we focus on the three major ethnic minority groups in the US: Latino American, Asian American, and African American. A major caveat to consider is that none of the groups are a single, homogenous group and we need to bear in mind substantial diversity and heterogeneity within each culture.

Latino American: Familism

Familism is a core concept that centers on loyalty and obligation toward the family (Cortes, 1995) and promotes positive family relationships and unity (Rivera et al., 2008). Latino families often have large extended family networks (Miller & Harwood, 2001), thus familism provides stronger support for children and adolescents (Harrison et al., 1990). Socializing children to become an active, productive family member becomes an important parenting goal. In Hispanic families, familism seems to be associated with higher levels of parental monitoring, which in turn protects against the development of behavior problems in adolescents (Romero & Ruiz, 2007). Familism is also associated with more optimal parenting practices, such as higher levels of parental involvement, use of positive parenting and effective discipline, as well as lower levels of avoidance in discipline (Santisteban, Coatsworth, Briones, Kurtines, & Szapocznik, 2012). Moreover, familism serves as a protective factor against the detrimental effect of living in a disadvantaged neighborhood (Barnett, Mortensen, Gonzalez, & Gonzalez, 2016).

Respeto

A concept related to familism is *respeto*, which refers to parents' expectation of proper demeanor in their children (Harwood et al., 1995). Past research has found that Mexican American parents often regard respect and obedience as desirable qualities in children (Arcia & Johnson, 1998), especially among Latino families with lower socioeconomic status (SES; Harwood et al., 2001). There is also evidence suggesting that respeto is an organizing theme in guiding Puerto Rican mothers' socialization goals (Harwood, Schoelmerich, Ventura-Cook, Schulze, & Wilson, 1996) and behaviors (Fuligni, 1998).

Asian American: Filial Piety

Confucianism is an overarching cultural ideology upon which socialization and familial relationships are built in many Asian cultures. In Confucian societies, the guiding principle governing socialization is embodied in the ethic of filial piety. Filial piety entails a system of age veneration where children are taught to respect, honor and obey their parents. Under the doctrine of filial piety, children are taught to obey their parents who are responsible for teaching and discipline, and to fulfill obligations to their families and extended families in return for their many sacrifices in caregiving (e.g., Ho, 1986). Chinese parents are more likely to regard filial piety and family solidarity as essential in an ideal child (Shek & Chan, 1999).

Guan or Training

Chao (1994) described training ideologies which emphasize the responsibility of parents to socialize their children through close monitoring, firm control, and continual governance. Training

emphasizes the importance of instilling self-discipline in children through the internalization of expectations for appropriate conduct. A related notion is the concept of *guan*, which refers to the extent to which parents govern, care for, and love their children. These high levels of monitoring and strict governance function to prevent child transgressions and promote competence (Chao, 2000). Research indicates that training is distinguishable from authoritarian and authoritative parenting, and Chinese parents and children are more likely to perceive the meaning of parental control to be consistent with the concept of guan. Training is also found to be positively associated with children's health and life satisfaction (Bond, 1998), relationship harmony (Stewart, Bond, Deeds, & Chung, 1999), and academic achievement (e.g., Chao, 2000) among Asian American adolescents.

Shaming

Another indigenous construct of parenting behavior involves the socialization of shame noted in Asian cultures. Based on ethnographic observations among Taiwanese families, Fung (1999) described shaming as a routine disciplinary practice among parents which aims to evoke shameful feelings in children who have misbehaved through the use of criticism, threats of abandonment, and upward social comparison. Although the practice of shaming children is sometimes viewed as hostile, shame socialization is distinct from other measures of harsh or authoritarian parenting (Wu et al., 2002). Fung suggests that shaming serves to foster the development of children's awareness and sensitivity to moral values and social rules, an important goal given the interdependence orientation of Asian cultures. Indeed, Chinese parents are more likely than European American parents to discuss their children's transgression during personal storytelling to socialize moral and social standards (Miller, Wiley, Fung, & Liang, 1997). This idea is consistent with the notion of *opportunity education* in Chinese families (Fung, 1994) in that parents are expected to take every possible opportunity to teach their children moral lessons, with the goal of raising well-behaved children who will bring "face" to their family.

African American

Among ethnic/racial minorities, African Americans have the longest immigration history, including a history of slavery in the seventeenth century. Research in this area is relatively scarce compared to that on Asian and Latino indigenous parenting. However, cross-cultural studies can still be drawn to inform us of the central themes associated with indigenous African parenting. Based on observational studies with mothers and infants in Africa, Keller, Borke, Lamm, Lohaus, and Dzeaye Yovsi (2011) found that African mothers from a tribe called Nso in Cameroon engaged in significantly more bodily contacts with their infants compared with German mothers, who engaged in significantly more face-to-face contacts. Their results were interpreted through the cultural script of interdependence versus independence. Given that eye contact and reasoning are emphasized in the US, African indigenous parenting style of relatively less face-to-face contact may be perceived as harsh and nonresponsive. However, as shown in Keller et al.'s study, parents in traditional African communities seem to engage in childcare and express their affection to their babies through bodily contact, stemming from the idea that mothers are one with their babies, rather than treating babies as separate, independent entities. Although SES was a confounder in the study, the study demonstrated aspects of African parenting ethnotheories that were not as common in European households. In another study, Keller, Völker, and Yovsi (2005) showed videotapes of mother–infant interactions from Cameroonian and German communities to women from these two cultures. They found that mothers' bodily contact with babies and body stimulation of babies were considered an important and common part of parenting systems for Cameroonian women more so than for German women. Overall, cross-cultural studies suggest that African indigenous parenting may be characterized as a symbiosis between mother and child with an emphasis on body contact rather than separation between the two individuals.

Migration and Acculturation Considerations

A second theoretical framework that guides our review on cultural background and parenting is an integrated model put forth by Garcia Coll et al. (1996). In the US, ethnic and minority groups experience distinct ecological challenges, including discrimination, racism, prejudice, and poverty, that are profoundly different from the experiences of their European American counterparts. Garcia and colleagues argued that in response to these unique challenges, ethnic minority and immigrant families develop adaptive strategies that take into account these contextual challenges associated with their immigrant and ethnic minority status. In this chapter, we adopt this integrative framework in which we emphasize the importance of understanding how social stratification related to racism, discrimination, and prejudice may influence parenting practices. First, we review practices associated with socialization of ethnic identity in children and discuss how it may help buffer against the effects of racism, discrimination, and prejudice. Second, we discuss the process of acculturation and ways it affects parenting practices.

Socialization of Ethnic Identity

An emerging body of research points to the protective and adaptive role of ethnic identity. Ethnic identity refers to an individual's acquisition and retention of cultural characteristics that are incorporated into one's self-concept and a sense of belonging as a member of a minority ethnic group (Phinney, 1990). Across different ethnic minority groups, ethnic identity mostly buffers against the effects of ethnic discrimination and is associated with positive child outcomes, such as academic adjustment (Fuligni, Witkow, & Garcia, 2005) and self-concept (Phinney, Chavira, & Tate, 1993). The way that parents socialize their children to what it means to be a member of the ethnic/minority group, a process known as racial/ethnic socialization, is pertinent for children's socioemotional adaptation and resilience (Hughes et al., 2006). Through this process, children learn important messages from their parents about their group identity, racial bias, as well as intergroup and intragroup experiences (Lesane-Brown, 2006). Although ethnic/racial socialization is generally associated with more positive ethnic identity, higher self-esteem, and lower levels of behavioral and psychological problems in ethnic and minority children (Neblett, Rivas-Drake, & Umaña-Taylor, 2012), some studies have found a negative association between racial socialization and child outcomes, such as depression (e.g., Davis & Stevenson, 2006), suggesting the need to unpack the messages that parents are sending to their children. Overall, researchers argue for the importance of preparing children for racial bias (Caughy, Nettles, & Lima, 2011), in which parents actively communicate with their children about the potential bias against their ethnic group and possible coping strategies.

Dunbar, Leerkes, Coard, Supple, and Calkins (2017) proposed using both racial/ethnic socialization and emotion socialization as a conceptual framework to understand how African American parents prepare their children for racial bias. In particular, African American parents tend to use both supportive (i.e., encouraging emotional expression, and using emotion-focused and problem-focused coping; Parker et al., 2012) and non-supportive responses (i.e., using punitive and minimizing responses; Nelson, Leerkes, O'Brien, Calkins, & Marcovitch, 2012) in response to children's negative emotions. The use of both responses may be essential in helping children develop better emotion regulation, especially in racially biased situations (Leerkes, Supple, Su, & Cavanaugh, 2015). In a related study, researchers identified four racial and emotion socialization practice profiles in African American mothers. Among these four profiles, children with the most adaptive outcomes had African American mothers who provided high levels of cultural socialization and supportive responses to children's negative emotions, and moderate levels of bias preparation (Dunbar, Perry, Cavanaugh, & Leerkes, 2015).

In a recent study (Tran, Mintert, & Jew, 2017), the association between parental ethnic-racial socialization and social attitudes was examined among different ethnic groups in the

US. While the promotion of mistrust toward other ethnic/racial groups was associated with more biased attitudes toward the other, across all ethnic groups, the socialization and preparation for bias were associated with greater social dominance orientation (i.e., preferring inequality over equality among groups) among European Americans only. To explain this puzzling finding, the researchers speculate that unlike ethnic minority parents, European American parents may struggle to articulate a clear sense of ethnic-racial identity and culture to their children (McDermott & Samson, 2005). It is also possible that these parents are discussing how European Americans may lose their power and privilege because of affirmative action, and as a result these children may develop greater bias toward ethnic and minority groups (Norton & Sommers, 2011). Overall, empirical evidence suggests that messages that combine cultural pride as well as bias preparation are the most beneficial for racial socialization in children (Dunbar et al., 2015).

Acculturation

A related concept in immigrant families is the process of *acculturation*, which refers to the cultural and psychological changes that take place over time because of intercultural interaction (Berry, 2007). Acculturation can be studied via the frequency of participation in the traditions and practices of the mainstream and/or heritage culture (Tsai & Chentsova-Dutton, 2002). In a study of Korean immigrant parents in the US, the researchers found that parents preserve both traditional Korean values and adopt new cultural values in their parenting practices (Choi, Kim, Pekelnicky, & Kim, 2013). Similarly, Chinese immigrant parents accommodate their cultural values and practices to those of the mainstream culture (Cheah, Leung, & Zhou, 2013; Uttal, 2011). Importantly, these mothers demonstrate features of *biculturalism*, which involves creating a hybrid of values and practices associated with both the mainstream and heritage culture. Biculturalism was found to help people to become adaptive to various cultural demands (LaFromboise, Coleman, & Gerton, 1993), and is associated with better psychological adjustment (Nguyen & Benet-Martínez, 2013).

In terms of the relationship between acculturation and parenting practices, Kim, Shen, Huang, Wang, and Orozco-Lapray (2014) found that mothers' orientation to the mainstream American culture was associated with less punitive parenting via lower levels of bicultural management difficulty. Similarly, Chinese American mothers' orientation to the mainstream culture was associated with greater parenting efficacy and positive parenting (Costigan & Koryzma, 2011), and more authoritative and less authoritarian parenting (Yu, Cheah, & Calvin, 2016). Some researchers speculate that immigrant parents who orient to the mainstream culture may have better language proficiency, better understanding of the mainstream culture, and a greater access to mainstream culture social supports, which allow them to communicate with their children about the mainstream culture with greater ease (Costigan & Koryzma, 2011). In a sample of Latino families residing in a metropolitan city in the US, researchers found that parents who were primarily oriented to the Latino culture placed greater emphasis on parental authority and lower emphasis on encouraging autonomy at a young age (Roche et al., 2014). In addition to acculturation, SES, social, and cognitive stressors also interact with acculturation to influence parenting practices (Li-Grining, 2012). For example, living in a disadvantaged neighborhood reduced the likelihood of Mexican American mothers engaging in supportive behavior, but only for mothers who were less acculturated (Barnett et al., 2016). Similarly, Chinese American mothers' daily stressors were associated with greater use of love withdrawal and guilt induction, but only for mothers who were less acculturated (Cheah et al., 2016).

Often, immigrant parents and children do not experience acculturation at the same rate with immigrant children acculturating to the mainstream culture more rapidly than their parents (Berry, 2007). This idea is consistent with what some researchers describe as the *sensitive period* of acculturation in which the younger the children, the easier it will be for them to acculturate

to the mainstream culture (Cheung, Chudek, & Heine, 2011). Although it is possible that parents and children differ in their orientation to both mainstream and heritage culture, Kim, Chen, Wang, Shen, and Orzco-Lapray (2013) found that the discrepancy between parents' and children's orientation to the mainstream American culture had greater effects on adolescents' psychological adjustment. Similarly, Kiang, Glatz, and Buchanan (2016) found that greater acculturation conflict was associated with lower levels of perceived parenting competence among Asian and Latin American parents. Researchers argued that the parent–child conflict over the mainstream culture may indicate the inability of the parents to fully understand the challenges that the children encounter in the American culture. Being less familiar with the mainstream culture than their children may cause these parents to feel less competent in providing guidance for their children (Buki, Ma, Strom, & Strom, 2003; Kim et al., 2013).

Religion and Religious Beliefs

Aside from cultural background, religious affiliation and beliefs are seen as another source that shapes parenting beliefs, attitudes, and behaviors (Bartkowski & Ellison, 1995; Ellison & Sherkat, 1993). Compared to cultural background, there is a significant dearth of existing theoretical frameworks on the role of religious beliefs in parenting. Similar to how it has been conceptualized by previous scholars (e.g., Cohen & Hall, 2009; Tsai, Koopmann-Holm, Miyazaki, & Ochs, 2014), in our review we adopt a *religious culture perspective* in which we view religions as cultural systems. Similar to culture, religion comprises historically and culturally derived ideas and contains shared rituals, practices, and products that are transmitted across generations. Parallel to the paradigm of ethnotheories of development (Harkness & Super, 1996) as reviewed earlier, this review is grounded in the theoretical framework that theological and religious beliefs provide meaning (Emmons, 2005) and shape members of that particular religious groups toward certain valued goals and behaviors, which in turn shapes parenting beliefs and practices. For example, conservative Protestant Christians tend to believe that human nature is fundamentally sinful, thus parents emphasize the need to train their children to embrace the divine authority of God (e.g., Swindoll, 1991). For Muslim parents, their goals are often to instill proper conduct in their children that are consistent with their religious values and to strengthen family and community ties (Frosh, 2004). Earlier research highlighted two different global parental values or characteristics that parents find most important or desirable in children that mediate the relationship between religion and parenting among Christian parents (Ellison & Sherkat, 1993). One is the support for *intellectual heteronomy* (the obedience of children to the commands of authority figures) and the other is support for *intellectual autonomy* (youngsters' inclination to think and reason independently). Ellison and Sherkat (1993) theorized that Conservative Protestants value obedience and devalue intellectual autonomy. They also identified specific theological beliefs beyond religious membership that impact parenting. For example, Conservative Protestants who believe the Bible to be inerrant (i.e., the Bible is without error or fault in all its teaching) tend to emphasize biblical injunctions that children should honor and obey parental authority, and believe that parents are directly responsible for fulfilling biblical parenting dictates. Similarly, parents who believe that individuals are born sinful tend to believe that it is the responsibility of parents and other authority figures to correct a child's misbehavior or misconduct. As such, parents who hold these two beliefs more firmly are more likely to engage in control strategies.

While different religious groups may have varying parenting goals, there are also observed similarities across religions. For example, Schwartz and Huismans (1995) compared Jewish, Protestant, Catholic, and Greek Orthodox practitioners on their endorsement of values. They found that members across the four religions were similar in their endorsement of the four values of benevolence (caring about the wel-

fare of others), tradition (respect for norms), conformity (restraint of actions), and security (safety), although the extent to which religiosity correlated with these values differed for different religious traditions. At the same time, members of the same religious group may hold heterogeneous view in their religious and parenting beliefs (see Mahoney, Pargament, Tarakeshwar, & Swank, 2001). Given that Christianity is the dominant religion in the US, we begin this section by focusing on two specific religious beliefs associated with Christianity: sanctification of parenting and Christian conservatism. We then discuss religiosity (defined as beliefs and practices) and provide empirical evidence on how it relates to parenting. We also turn our discussion to the influence of Buddhism on parenting. Finally, we revisit affect valuation theory and provide evidence on how religion impacts socialization of emotions.

Sanctification of Parenting

Sanctification of parenting refers to the view of parenting as a manifestation of God and that the parenting role has divine character and meaning (Mahoney, Pargament, Murray-Swank, & Murray-Swank, 2003; Pargament & Mahoney, 2005). Parents who are high in sanctification of parenting are more likely to characterize their parenting role in spiritual terms (e.g., holy and blessed) and believe and experience God's presence in their parenting role (Murray-Swank, Mahoney, & Pargament, 2006). Researchers have proposed that parents who sanctify their parental role are more dedicated and invested in their parenting, which in turn, leads to greater likelihood of use of positive parenting practices (Murray-Swank et al., 2006). Indeed, past research found that higher sanctification of parenting is related to greater investment in children (Dumas & Nissley-Tsiopinis, 2006) and greater use of positive socialization practices (e.g., praise; Volling, Mahoney, & Rauer, 2009). Sanctification of parenting appears to protect mothers from higher levels of stress when they experience behavioral problems in their children (Weyand, Laughlin, & Bennett, 2013). Interestingly, mothers' greater sanctification of parenting was related to less frequent use of corporal punishment by mothers with liberal biblical beliefs, but more frequent use of punishment by more conservative mothers (Murray-Swank et al., 2006). Overall, while liberal mothers may be more likely to seek out other disciplinary practices and less likely to resort to corporal punishment, conservative mothers may put greater emphasis on the literal biblical message and use corporal punishment as a means to correct their children's misbehavior.

Christian Conservatism

A great deal of extant parenting research has focused specifically on the role of Christian conservatism. Broadly speaking, Christian conservatism is associated with beliefs in original sin, literal interpretation of biblical passages, and a punitive stance on the consequences of sin (Ellison & Sherkat, 1993). It is also associated with an endorsement of child obedience (e.g., Danso, Hunsberger, & Pratt, 1997) and the use of corporal punishment (e.g., Ellison, Bartkowski, & Segal, 1996; Gershoff, Miller, & Holden, 1999; but see Ellison & Bradshaw, 2009 for a notable exception). Interestingly, the association between Christian conservatism and the *actual* use of physical discipline is less robust than the one between Christian conservatism and the *endorsement* of the use of corporal punishment (Mahoney et al., 2001). In three studies, Christian conservatism was related to more frequent use of spanking of children who were 11 years old or younger (Ellison et al., 1996; Gershoff et al., 1999). In another study, while Christian conservatism was not associated with the endorsement of the use of corporal punishment, other beliefs such as hierarchical images of God were predictive of it (Ellison & Bradshaw, 2009).

Some other research studies have suggested that conservative Christian parents blend both firmness and warmth in their parenting. For example, a study has documented that parents who endorse more conservative Christian views about the Bible reported using more hugs and praise for their preschool and elementary school-aged children (Wilcox, 1998). Other studies have found that parents who were high in conservatism were not more likely to yell (Bartkowski &

Wilcox, 2000) or spank their children (Gershoff et al., 1999), and were just as likely to use other forms of non-punitive disciplinary techniques compared to parents who were low in conservatism (Gershoff et al., 1999). Parents who are high in conservatism are also more likely to have more positive parent–child interactions (Mahoney et al., 2003). Fathers who are higher in Christian conservatism are more likely to be involved in the lives of their children (Marks & Dollahite, 2007).

Religiosity and Parenting Practices

Research among Protestant Christians has highlighted the relationship between parental religiousness and parenting beliefs and practices (Mahoney et al., 2001). Parents' religiousness was associated with more frequent use of authoritative parenting in European-American (Gunnoe, Hetherington, & Reiss, 1999; Simons, Simons, & Conger, 2004) and minority families (Simons et al., 2004). African American parents' church attendance and beliefs about the importance of religion were associated with lower levels of inconsistent parenting (Brody, Stoneman, Flor, & McCrary, 1994) and greater family cohesiveness (Brody, Stoneman, & Flor, 1996). More religious parents were also rated by their children as having more positive and effective parenting (e.g., Power & McKinney, 2013). There is also evidence suggesting that parents' religiosity predicts positive parenting as their children become parents themselves (Spilman, Neppl, Donnellan, Schofield, & Conger, 2013). Maternal ratings of the importance of religion and the congruence between the mother and her child's religiousness were associated with more positive mother–child relationships (Pearce & Axinn, 1998). Furthermore, a recent study has shown that both parents' religious practices mediated the association between religious beliefs and family involvement (Jorgensen, Mancini, Yorgason, & Day, 2016). Overall, it appears that parents who are more religious are more likely to rely on resources from their religious tradition to engage in more positive parenting practices (Mahoney, 2010). However, it is not clear which specific aspects of their religious beliefs are related to their parenting practices. Even though religion is complex and multifaceted, about 75–85% of published articles relied on a single questionnaire item to measure religiousness (e.g., Mahoney et al., 2001). As such, there is a great need to identify specific aspects of religious beliefs that relate to parenting.

Buddhism

While Christianity is the largest Western faith group in the US, Buddhism is the largest non-Western faith group and quite popular among certain cultural groups, such as individuals and families of Asian descent. Although Confucianism is primarily an ethical and philosophical system, it is also much influenced by Buddhism and is a fundamental ideology upon which familial relationships and parent socialization are built in many Asian and East Asian families. Buddhist influences in general posit that children are born to the world as innocent and good, and can only be corrupted by the adult world and not by their own nature (Boocock, 1991). Given this belief, much emphasis is placed on the parent to direct children's paths by providing proper education and guidance. Childhood is also generally regarded as an important, cherished, and pure period in the life course (Chen, 1996). Some scholars have argued that such beliefs may explain the pattern of indulgence among young children before they enter school (Hara & Minagawa, 1996). This is consistent with other early ethnographic work whereby early child-rearing in Chinese families was observed to be characterized by an indulgent approach with few limits and restrictions before children reach the *age of reason* (Ho, 1986). Before children reach the age of reason (about 6 years old) parents do not usually hold children responsible for their course of behaviors and place few demands on them. Parents tend to be more indulgent, permissive, and lenient toward their children's behaviors. However, there is a marked qualitative shift as children matriculate into formal education, especially from kindergarten to elementary school, where they are expected to display good conduct, and carry out obligations and responsibilities for hard work in school.

Religion and Affect Valuation

In addition to ideal affect (i.e., types of affective states individuals ideally want to experience) being influenced by cultural contexts, as reviewed earlier in this chapter, recent work found that religion also shapes ideal affects (Tsai et al., 2007; Tsai et al., 2014). Tsai et al. (2007) compared the affective states that readers are encouraged to feel based on Christian and Buddhist classical texts and contemporary bestselling self-help books. They found that Christian classical texts endorsed high-arousal positive terms (e.g., excitement and enthusiasm) more than Buddhist classical texts did. Christian contemporary self-help books also endorsed high-arousal positive states more and low-arousal positive states less than did bestselling Buddhist self-help books. Tsai and colleagues argue that religious cultures differ in the ideal affective state people are taught or socialized to feel. In another study, Kim-Prieto and Diener (2009) found differences in terms of desired emotions across different religions. Specifically, they found that Christians reported viewing love as more desirable than did Muslims and Buddhists, and Muslims reported viewing sadness and shame as more desirable than did Christians and Buddhists. Similar to cultural practices, religious ideas and behaviors are transmitted through socialization paths such as parental socialization. As such, parenting behaviors may differ depending on the emotional state that the particular religion may prioritize.

Strengths, Limitations, and Future Directions

Research using different methodologies and cultural and religious groups suggests that parenting is shaped by both ethnic cultural and religious beliefs. Notably, our review of the literature highlights that research in this area is an interest to scholars from multiple disciplines that use diverse methods, including ethnographic study, qualitative interviews, surveys, experimental designs, and meta-analysis. Furthermore, our chapter reflects a strength of the existing literature that shifts from equating a major group membership to an entire value system (e.g., collectivism versus individualism) to gaining a more nuanced understanding of identifying facets of values, ideas, and beliefs pervasive in ethnic and religious subgroups that are associated with specific dimensions of parenting ideals and practices. Furthermore, in our review, it is evident that scholars take into account diversity in ethnic minorities' experiences, including immigration history and status, racial experiences, and social change, which represents another strength. Nonetheless, gaps still exist in this research area. In the section below, we discuss current limitations and provide future directions in six areas.

First, compared to the relatively well-researched influences of culture, there is a significant gap in theoretical models and empirical studies that focus on religion as a determinant of parenting beliefs and practice. This gap further widens when attempting to understand how parenting is influenced by non-Christian religions. Although our chapter sheds light onto nuanced variations across denominations within Christianity, as well as offers some understanding of parenting in Buddhist and Muslim families, the extant parenting literature clearly underrepresents non-Christian religious backgrounds. Thus, future research should introduce more theoretical and empirical evidence of religious influences on parenting, as well as expand the scope of investigation to include more diverse religious groups' beliefs and practices. This expansion is particularly important as the demographics of the American population are shifting, with Christianity on a gradual decline, falling from 78.4% in 2007 to 70.6% in 2014 (Pew Research Center, 2015), and the number of documented immigrants from non-Christian backgrounds such as Muslims and Hindus on the rise, from 19% in 1992 to 25% in 2012 (Pew Research Center, 2013). Further, whereas Christianity represents the dominant religion among European American (68%), African American (79%), and Latino Americans (75%), it is not true for Asian Americans, of whom 33% report affiliation with Christianity, 32% non-Christian faith including Hindu, Buddhist, and Muslim, and 31% no religious affiliations (Pew Research Center, 2014).

More refined investigation of religious influences on parenting would move the field forward.

Second, future research should address how ethnic cultural background and religiosity intersect to co-shape parenting. Ethnic cultural and religious beliefs and practices likely influence each other and are entangled, given that various social factors mutually constitute how people interact with their multilayered environments (Markus & Kitayama, 2010). Indeed, a person may simultaneously be affiliated with multiple groups each with its own particular set of values and beliefs. For example, religious environments may play a more significant role than racial backgrounds in the low SES Black community, as illustrated in a study that found that more religious Black mothers were more likely to hold child-oriented disciplinary attitudes (Kelley, Power, & Wimbush, 1992). In an ethnographic study with first-generation Asian Indian parents in the US, researchers found that these parents' child-rearing goals of socializing interpersonal skills as well as the importance of family and social responsibilities in their children were influenced by their ethnic culture (India) and religion (Hinduism; Ganapathy-Coleman, 2013). Thus, it is important that future research assesses facets of both ethnic cultural and religious orientations, and concurrently examine their influences on parenting beliefs and practices. Such investigations would shed light on understanding whether ethnic cultural background or religiosity may exert stronger influences on parenting, as well as identify shared variance between the two systems of beliefs. In addition, it would be important to examine the extent to which religious identity may buffer or exacerbate the effects of different parenting practices in the face of discrimination for different ethnic groups, as it would provide important guides to ethnic minority parents who have religious affiliations. The literature suggests both buffering and exacerbating roles of religious identification in discrimination experiences. Bierman (2006) found that religion buffers the negative effects of discrimination among African Americans, such that the association between perceived discrimination and negative affect was mitigated for those who more frequently attended religious service. Jasperse, Ward, and Jose (2012) found similar effects for Muslim immigrant women, such that engaging in religious practices acted as a buffer against discrimination, but interestingly, stronger Muslim identity exacerbated the association between discrimination and poorer well-being.

Third, there needs to be increased efforts to understand children's influences on parents, especially for ethnic minority and immigrant families who typically navigate more than one or two cultural systems. Updegraff and Umaña-Taylor (2015) pointed out the importance of reciprocal socialization in understanding parent–child dynamics in households where family members are engaging in acculturation. Similarly, the social transactional model posits that children and parents influence each other in bidirectional, reciprocal exchanges (Kuczynski, 2003). This framework is associated with relational developmental systems theories in which there are recurrent reciprocal interchanges between parents and children over time. This view highlights the role of children's capacity for influencing adults through action. Indeed, research on children's temperament has illustrated that the child plays an active role in interactions and actively evokes rewarding or punitive response from parents (Sanson & Rothbart, 1995). Similarly, parent–child disparities in religious affiliation, attendance and involvement also play an important role in family processes (Pearce & Haynie, 2001).

Fourth, the reciprocal socialization between parents and children across diverse ethnic and religious groups needs to be tracked longitudinally. Identifying developmental trajectories over an extended period would provide a more sophisticated understanding of ways in which culture and religion dynamically shape parenting. This approach is important given that culture is not a static system, and cultural beliefs and practices continue to evolve over one's developmental span, generations, historical times, and ecological settings. Similarly, religion is not merely a label but rather, a social group identity from which individuals draw meaning and link to their beliefs and practices. For instance, it is possible that a mother who identifies with a particular reli-

gious group (affiliation) may fluctuate in her involvement with the religious group (participation) or degree of beliefs in God that she draws from the religious practices (spirituality). Such changes over time may be associated with differential degrees and ways of influencing her parenting beliefs and practices.

Fifth, there should be a greater understanding of how individualistic and collectivistic values are integrated. Not all parenting practices are consistent with the individualistic-collectivistic framework. For example, Park, Coello, and Lau (2014) found that East Asian mothers were more likely to endorse individualistic socializing goals compared to Western mothers. Western mothers, on the other hand, were more likely to endorse traditional collectivistic ideologies, such as obedience, unselfishness, and tolerance/respect as their socialization goals than their counterparts. In another study, immigrant Chinese mothers in the US believed in the importance of balancing both individualistic and collectivistic values (Cheah et al., 2013). Even among countries that are individualistic or collectivistic, differences may exist in the extent to which they endorse specific cultural discourse, such as emphases on individual competition in the US versus emphases on self-reliance in Sweden, both individualistic countries (Triandis, 1995). Both identified as collectivistic, China and Japan also differ in their emphasis on loyalty to groups versus obligations to family (e.g., filial piety; Oyserman, Coon, & Kemmelmeier, 2002). Similarly, the individualism-collectivism framework may not best capture the nuances of parents' socialization goals. For example, although the socialization goals are both individualistic in nature, one parent may prioritize their resources in promoting autonomy, uniqueness, and self-expression in children, whereas another parent may choose to focus on helping his/her child achieve individual goals (see Fernández, Paez, & Gonzalez, 2005). Despite the popularity of the individualism-collectivism dichotomy, it may not be sensible to fit in too many aspects of cultural differences within each construct without a careful analysis of their meaning (Harkness & Super, 2002). Thus, researchers should pay special attention to the distinct cultural discourse within and beyond the individualism-collectivism framework, and examine their relationship with parenting practices (Oyserman et al., 2002). This approach would also help to acknowledge culture as a dynamic system and avoid simplifying or stereotyping cultures based on nationality or ethnicity.

Finally, it would be meaningful for future research to examine the ways in which ethnic, cultural and religious beliefs and practices are transmitted across generations. The current era is understood as a period of rapid social change and globalization, fueled by technological advancements and economically driven social change around the globe (Greenfield, 2009). The transformation of social settings and communication tools have led young people to connect with a wide network with people from different cultural and religious backgrounds, as well as adapt new systems of beliefs and practices that are less familiar to their parents' generations, contributing to heightened intergenerational gaps. Although intergenerational gaps have existed previously, the rapidity of social change in the current generation calls for the need to understand how parents may socialize their children according to their ethnic cultural and religious beliefs and practices, and what challenges may arise from such intergenerational gaps.

In sum, gaps in the literature point to future research directions that should integrate the two relatively distinct scholarship areas. Furthermore, the changing demographics of American families in terms of their diversifying cultural and religious affiliations, as well as intergenerational gaps in values and beliefs within households, call for the need to examine various aspects of cultural and religious factors with more diverse methodologies.

Implications for Policy and Practice

Parents are the primary socialization agents for children, so supporting parents to promote optimal child development is of utmost relevance and importance. Parent training is one of the better researched and widely disseminated treatment

approaches in improving parent–child relationships (e.g., Brestan & Eyberg, 1998). Parent training is based on social learning theory where parents are taught to strengthen parent–child relationships by increasing the use of strategies such as positive attention, praise, time-out, problem solving, and logical consequences (e.g., Webster-Stratton & Reid, 2003). While studies have found such interventions to be effective in improving parent–child relationships and child behavior among African, Hispanic, and Asian American families (Reid, Webster-Stratton, & Beauchaine, 2001), challenges have also been documented. Ethnic minority families show lower participation rates (Reid et al., 2001) and higher dropout rates (Kazdin & Whitley, 2003) compared to European American families. Traditional forms of mental health services may present cultural and practical barriers to participation by ethnic minority families, including language difficulty, perceptions about mental health needs, and general stigma about mental health (e.g., Abe-Kim et al., 2007; Leong & Lau, 2001).

Research has found that providing culturally adapted programs helps to improve recruitment of ethnic minority families (Harachi, Catalano, & Hawkins, 1997) and increase retention rates by as much as 41% (Kumpfer, Alvarado, Smith, & Bellamy, 2002). In terms of recruitment, embedding supportive parenting programs within well-accepted community institutions, such as heritage language programs and community schools, tends to increase parental receptiveness. Working closely with credible members and leaders of the targeted community with existing relationships with families can also encourage participation. Furthermore, having bilingual providers who are fluent in both the language and cultural nuances of the particular ethnic/cultural group can also aid in participation, although some studies have found that ethnic match is no longer a significant clinical predictor of decreasing dropout after the first session (Maramba & Nagayama Hall, 2002). Compared to cultural backgrounds, much less work has been conducted looking at recruiting families of different faith or religious backgrounds. Similar to engaging ethnic minority families, it is important to partner with churches, religious communities, or other faith-based organizations to identify and connect needs with resources. It will be important to form working alliances with local religious leaders or authorities when engaging with individuals of a particular faith or religious background.

After ethnic minority families are linked to services or mental health programs, retention is more directly related to their perceived relevance. The skills and perspectives offered in parent training have largely been developed and validated with European American families where the values governing child-rearing and familial relationships may not be congruent with those of ethnic minority families (e.g., Forehand & Kotchick, 1996). As such, programs that incorporate culturally relevant messages or emphasize culturally valued socialization goals (e.g., promoting values of respect, strengthening family cohesion) may increase relevance, retention, and satisfaction. For example, a culturally adapted parent management training for Latino immigrant parents found that parents expressed high satisfaction when they were given opportunities to reflect on issues associated with immigration and biculturalism (Parra Cardona et al., 2012). These parents also consider that it is necessary to devote more time and attention to these cultural themes as they have a profound impact on their daily parenting experiences. Similarly, the traditional hierarchical and patriarchal family system in many East Asian cultures may cause immigrant parents to be reluctant to use techniques, such as praise or giving tangible rewards to children for their positive behaviors (Gorman & Balter, 1997). As such, framing the target parenting techniques within the demands of a bicultural family environment can be effective. For African American families, scholars have argued that culturally based parent training programs need to take into account societal realities of discrimination and racism that many African American families face and include messages of racial socialization (Coard, Wallace, Stevenson, & Brotman, 2004). Overall, a meta-analysis found that culturally adapted treatments were more effective than non-adapted treatments with moderate effect sizes (Griner & Smith, 2006).

Acculturation and acculturation gaps are also important factors to consider. Level of acculturation is linked to likelihood of mental health needs being met (Alegria et al., 2004). Families that are more acculturated are more likely to seek or accept professional help, and ultimately engage in treatment (Power, Eiraldi, Clarke, Mazzuca, & Krain, 2005). Low mental health literacy has been identified as a primary reason for underutilization of care in both Asian American and Latino communities (Collier, Munger, & Moua, 2012). Furthermore, familial conflicts that arise from differential rates of acculturation between parents and children are often a source of stress and concern for immigrant families, yet most typical parent training programs may not necessarily address such concerns. As such, culturally adapted programs designed to address specific contextual stressors or challenges (e.g., acculturation stress or parent–child acculturation gap) that immigrant families face may also improve participation and efficacy.

While it is important to incorporate culturally relevant messages within parent training programs, researchers have also cautioned against compromising the fidelity of the core components of parent training programs that have received empirical support. For example, specific parenting skills (e.g., consistent discipline, skill encouragement) were found to be equally relevant across cultures (Kaminski, Valle, Filene, & Boyle, 2008). For researchers, it is important to continue to conduct high-quality research that identifies culturally universal core mechanisms of change as well as ones that may be specific to particular cultural/ethnic groups. For practitioner and service providers, in addition to being exposed to and adopting intervention programs that are culturally sensitive, in working with parents of a different cultural or religious heritage, it is crucial to take into account their immigration history, generation status, and unique cultural/religious worldview. Practitioners need to learn to think beyond the individual or family's group membership and avoid making assumptions based simply on their skin color, heritage language, or religious membership.

Compared to programs adapted for families of different cultural backgrounds, much less theoretical and empirical work has been conducted on parent training programs for different religious groups or possible ways to adapt existing programs that may enhance its effects or increase the relevance of the message to religious families. For example, religion was found to have a unique positive influence on men and supports responsive fathering (Dollahite, 1998). Overall, more work is needed on developing theoretical frameworks for understanding the role of religion in parent training programs. For example, parent training programs and clinicians can recognize religious identity as a potentially important part of family socialization experiences and provide space for discussing challenges associated with religious identity, especially for religious minorities. Families have been found to provide an important context for the socialization of religion (Gutierrez, Goodwin, Kirkinis, & Mattis, 2014), which refers to the process of learning about attitudes, beliefs, and behaviors related to one's religion (Bengtson, Copen, Putney, & Silverstein, 2008). For example, among Muslim immigrants, religious socialization may involve praying with children, visiting the mosque, and learning about the Qur'an (Spiegler, Güngör, & Leyendecker, 2016). For these religious minority families, who may experience conflicts between the Western-European and Islamic ways of life (Foner & Alba, 2008), parental religious socialization, in particular, may play a crucial role in helping children cope with possible stereotyping, prejudice, and discrimination and developing healthy cultural and religious identities. As such, mental health practitioners can be more mindful in supporting parents in these pursuits.

Conclusions

A way in which both cultural backgrounds and religious beliefs impact parenting practices is via parents' implicit beliefs and ideas about desirable developmental goals and how they want to raise their children to be, as they influence how parents discipline or structure environments and routines.

For cultural background, conceptual models of cultural orientation of independence/individualism (i.e., facilitating the development of autonomy) versus interdependence/collectivism (i.e., fostering a sense of relatedness with others) have been thought to broadly account for differences in parenting beliefs and behaviors between Western and non-Western cultures. Despite considerable within-group heterogeneity and the limitation of relying solely on the rubric of cultural self-construal, it appears that Western cultures tend to prioritize the expression of emotions and value establishing self-esteem in children. On the other hand, non-Western cultures may have a tendency to suppress or minimize strong negative emotions, value self-improvement or self-effacement, and engage in more control strategies. We also reviewed indigenous parenting constructs within each of the three major ethnic minority groups: parents of Latino descent tend to emphasize cultural values of *respecto* and *familismo*, Asian parents emphasize filial piety, *guan*, or shame socialization, and African parents emphasize bodily contact with children. Furthermore, in light of the unique contextual challenges that ethnic minority or immigrant families face, we adopted an integrative framework that considers heritage cultural influences, adaptation processes in migration and acculturation, as well as the unique contextual demands associated with minority group status. We reviewed the benefits of socialization of ethnic identity in children and the role of acculturation and acculturation gaps. We then turned our discussion to how religious affiliation and beliefs may impact parenting practices and acknowledge that much less theoretical and empirical work has been conducted on this topic. A majority of the extant literature focuses on Christianity, most likely due to the fact that it is the most dominant religion in the US. In our review of the literature, we identified two specific religious beliefs within Christianity (sanctification of parenting and Christian conservatism), and discussed how they impact parenting. We also discussed the influence of Buddhism, although the number of studies are quite limited. Finally, we reviewed the need and promise of culturally responsive interventions for meeting the needs of immigrant and ethnic minority families. It would be equally important to identify programs that helpfully engage families of different religious orientation. We believe that a systematic understanding of the role of religiosity or religious beliefs on parenting practices represents a line of inquiry of theoretical interest as well as applied public health importance.

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Work, Poverty, and Financial Stress

Divna M. Haslam and Kylie Burke

This chapter straddles the impact of both work and financial stress or poverty on parenting and by extension on a range of family outcomes. Although distinct constructs, they are similar in their mechanisms of impact on parenting and in terms of associated adverse outcomes for children and families. It is therefore reasonable to combine these separate but sometimes related constructs for the purposes of simplifying overlapping literatures. Employment differs substantially from poverty and financial stress in that in addition to potential negative outcomes, employment is also associated with positive outcomes both in financial terms (including the potential to reduce financial stress or even lift families out of poverty) but also intra-personally in terms of life satisfaction, life enrichment and other personal benefits. Furthermore, poverty and employment are not on a continuum and it is possible to both work and yet remain in relative poverty.

In this chapter, we first provide a contextual background to both relative poverty and employment and briefly outline the negative consequences of problems in either domain and the impact on family. We then turn to the determinants of parenting, where we use Conger's family stress model (Conger et al., 1992) as an overarching model for explaining the mechanisms through which financial stress and employment related pressure impact child outcomes. Finally, we review existing strengths and limitations of the presented literature and outline future research directions.

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Theoretical Background

Poverty and Its Impact on Child Outcomes

Definitions of poverty vary dramatically both between high-income countries and the developing world, but also within different high-income countries. In 1995, the United Nations made perhaps the most important classification of poverty by differentiating between "absolute (extreme) poverty" and "overall (relative) poverty" (United Nations, 1995, p.38). According to these definitions absolute poverty is characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on poor access to basic services. This is the type of poverty most common in low income and low-middle income countries, and is the form of extreme poverty many people imagine when considering the term poverty. Practically speaking, families living in absolute poverty may lack access to

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working toilets, running water and cannot ensure adequate nutrition, housing or health services. Extreme poverty, defined as an income of less than $1.90 USD per day, is a commonly used measure to assess the global prevalence of absolute poverty (UNICEF and The World Bank Group, 2016). In comparison, overall poverty is characterized in relative deprivation based on the standards of the society in which the person lives. It encompasses, among other things, lack of income, inadequate housing, poor access to health services and lack of participation in decision making and cultural or civic life. This type of poverty takes into account multiple systemic factors that contribute to deprivation and occurs in every society including high income countries and regions such as the US, Europe, and Oceania.

For the purposes of this chapter, we limit our review primarily to relative or overall poverty in the developed world. This is not to underplay the importance of absolute poverty which is a global crisis impacting over 385 million children globally (UNICEF and The World Bank Group, 2016) rather it is beyond the scope of the current chapter to cover both types of poverty simultaneously, particularly when also taking into account the role of work and employment. The literature and findings reported in this chapter should therefore be interpreted as relating to overall poverty and/or financial pressure in high-income countries. For simplicity, we use the term *poverty* to indicate overall relative poverty from here on and use the terms absolute or extreme poverty in cases where differentiation is required. We also use the terms financial stress or pressure and economic deprivation to refer to cases where specific criteria for poverty may not be satisfied.

The United Nations Education, Scientific, and Cultural Organisation (UNESCO) has provided a general definition of poverty (at family level), as families that earn below a specified income threshold. Every country has a different established poverty line that defines whether a family is categorized as poor. However despite these slightly different definitions, the rates of children living in poverty or in very low-income families are roughly similar across Western countries. The US federal poverty line is an annual income of less than $21,756 for a family of four (Wight, Chau, Thampi, & Aratani, 2010). In the US, approximately one in five children under the age of 18 live in poverty (Sachs, 2016; Wight et al., 2010). In Australia, poverty is defined as having less than 50% of the median Australian income which equates to a disposable income of less than AUD $426 weekly and means 17.4% of Australian children live in poverty (Social Policy Research Centre, 2016). Canada defines poverty as a comparison to the average family in terms of potential spending power such that a family is considered to be in poverty when a family spends less than 20% of the average family on food, shelter, and clothing (Brcic, Eberdt, & Kaczorowski, 2011). Although family spending (as opposed to income) can be difficult to capture, data suggests 17% of Canadian children live in very low-income households (Statistics Canada, 2017). In the UK, poverty is viewed as living on less than 60% of the median income which equates roughly to £12,600 per person (Cribb, Hood, Joyce, & Norris Keiller, 2017). In the UK, 17% of children live in relative poverty (Department for Work and Pensions, 2017).

These definitions have the utility of capturing perceived deprivation and of being an adequate representation of families' experiences in a given country. For example, a family living in poverty in the US may not experience the same level of deprivation as a family living in absolute poverty in informal settlements or slums in sub-Saharan Africa; however, the stress and pressure associated with living in relative poverty in the developed world is nonetheless significant and detrimental (UNICEF and The World Bank Group, 2016). In fact, compared with the developing world, where absolute poverty is often the norm in many communities, the stress associated with an inability to provide for children in high-income countries may be much broader than the inability to provide basic necessities, with some parents reporting pressure to furnish children with material possessions (Haslam, Patrick, & Kirby, 2015).

In addition to families living in poverty, there are a number of other families who may experience high levels of financial stress or pressure

that has the potential to negatively impact parenting and family outcomes. These include economically vulnerable families such as those living slightly above the official poverty line but who still struggle to provide basic necessities; families who transition in and out of poverty or financial pressure due to periodic unemployment and temporary (or seasonable) employment, and; working or middle-class families impacted by economic downturns, or national or global financial crises or periods of high financial pressure. Financial stress and pressure can take various forms, and may vary across social class; however, the impact on families is similar in terms of the negative impact of pressure on parents. The growing disparity between the "haves" and the "have nots" together with the perception that families must keep up with modern technology or a materialistic lifestyle also adds pressure to families particularly when parents, or indeed children, compare their resources with those of more financially secure families.

It is critical that researchers recognize that the impact of financial stress is not limited only to those living in poverty or under extreme financial disadvantage or hardship. For example, even economically advantaged families may experience significant pressure and associated negative sequelae. For example, stress and pressure experienced by working or middle-class parents at risk of losing the family home or unable to pay college bills due to unemployment or economic crisis can also have a significant and detrimental effect on personal well-being and family functioning.

Exposure to poverty in childhood is a significant risk factor and places children on a road to diminished opportunities for health, social development, and educational attainment and by extension negative life course outcomes. Substantial research has consistently reported clear statistical associations between childhood exposure to poverty or economic deprivation, and negative developmental outcomes across multiple domains impacting children's social-emotional development with the highest risk being early or persistent exposure to deprivation (Hurt & Betancourt, 2016). Exposure to poverty or economic deprivation has been linked with increased child stress levels (Blair & Raver, 2012; Yoshikawa, Aber, & Beardslee, 2012), slower child development, poorer cognitive performance (Betancourt et al., 2015), delayed language development (Perkins, Finegood, & Swain, 2013), poorer well-being (Kiernan & Huerta, 2008), poorer health outcomes (Miller, Chen, & Parker, 2011), as well as lower verbal ability and poorer self-regulation (Flouri, Midouhas, & Joshi, 2014). Economic disadvantage and exposure to poverty have also been consistently linked with higher levels of internalizing and externalizing problems (Flouri et al., 2014; Kiernan & Huerta, 2008; Neppl, Senia, & Donnellan, 2016) including antisocial behavior and child aggression (Schofield et al., 2012).

Just as concerning, experiencing poverty, particularly long-term poverty as a child, has been linked to intergenerational immobility. Children who grow up living in neighborhoods characterized by high poverty are likely to be living in similar neighborhoods as adults (van Ham, Hedman, Manley, Coulter, & Östh, 2014). These effects are exacerbated for individuals from immigrant or refugee backgrounds (van Ham et al., 2014). Experiencing adversity during childhood, such as poverty, affects many aspects of life including: physical and mental health, employment, income, school performance and as already noted, antisocial behavior well into adulthood (Komro, Flay, Biglan, Promise Neighborhoods Research, & Promise Neighborhoods, 2011). Effective parenting can act as a protective factor against the adversities associated with living in poverty and/or dangerous areas; however, parenting is also adversely affected when living in poor and/or dangerous neighborhoods, particularly in the absence of social support (Ceballo & McLoyd, 2002). Parenting practices have also been shown to be passed from one generation to the next, thus adding to the intergenerational transmission of disadvantage for children living in impoverished environments. For example, childhood experience of harsh discipline (Capaldi, Pears, Kerr, & Owen, 2008) and exposure to physical or verbal abuse (Chung et al., 2009) have been found to be

related to use of harsh discipline, such as spanking, with their own children.

Given the vast number of documented associations between exposure to economic disadvantage and negative child outcomes across nearly every child related domain, it is understandable that for many years such relationships were assumed to be direct; however, this is an erroneous conclusion. The relationships are, in fact, substantially more nuanced and there is a surprisingly sparse amount of evidence that shows causal relationships between poverty and negative outcomes particularly in the first few years of life (Duncan, Magnuson, & Votruba-Drzal, 2017). Studies have begun to start examining questions associated with why economic disadvantage and poverty can have a differential effect on children, such that some children display resilience and escape the deleterious effects, whereas others not only succumb to poorer outcomes but continue these throughout the life course and even across generations (Flouri et al., 2014). What is becoming clear is that in fully understanding the impact of poverty, researchers must examine the broader contextual factors that co-occur in families experiencing disadvantage as these can influence family outcomes. For example, research suggests that as neighborhood resources decrease, the protective function of existing social support also reduces, suggesting even the positive cushioning function of protective factors can be limited in certain contexts (Ceballo & McLoyd, 2002). It is therefore critical that interventions target both environment and contextual factors. Such factors may include, but are not limited to, exposure to crime, poor neighborhoods, inadequate education facilities, adverse life experiences, and poor access to mental and general health services, and social support (Flouri & Midouhas, 2017).

The real impact of economic disadvantage appears to be influenced by a constellation of difficulties associated with a range of contextual and environmental factors. To address the impact of poverty, innovative solutions that simultaneously address multiple areas of influence are therefore needed. Of particular note is the role of parenting. Longitudinal data from the Millennium Cohort Study, which tracked over 16,000 children in the UK over time, has confirmed some of the prior associations between poverty and negative outcomes, but also extended previous research using statistical modeling to allow the relative impacts of family related variables to be identified (Flouri et al., 2014). Results found that more than half of the indirect effects of economic deprivation on cognitive development can be explained by parenting variables, and approximately 40% of the total effects of financial hardship on internalizing and externalizing problems can be explained by parenting practices (Flouri et al., 2014). Similar patterns were found for the impact of harsh discipline in later waves of the study (Flouri & Midouhas, 2017). These and similar findings are one reason that interventions targeting the family environment, and parenting in particular, are at the forefront of efforts to reduce enduring negative economic disadvantage (Cates, Weisleder, & Mendelsohn, 2016). Later in this chapter we outline in more detail the determinants of parenting and how poverty and economic pressure and disadvantage change the parenting environment, and how this knowledge can be used to ameliorate the negative impact of disadvantage. However, first we turn our attention to the role of employment on family outcomes, while acknowledging that employment and economic pressure are not mutually exclusive, and it is possible for parents to be both gainfully employed and still living in economic disadvantage.

Employment and Its Impact on Family

Changes in demographic patterns and employment rates, particularly the increase in two income families and working women over the last 40 years, have led to dramatic increases in the numbers of working parents. Employment rates among parents of dependent children (i.e., under 18 years of age) are similar in many high-income countries with 60–70% of mothers working and over 90% of fathers working or looking for work. These rates are similar in Australia (Australian Institute of Family Studies, 2010),

the US (United States Department of Labor: Bureau of Labor Statistics, 2016), and across Europe (Miani & Hoorens, 2014). This makes parents balancing work and family the norm rather than the exception. In addition, technological advances such as the invention of smartphones and the availability of high-speed internet, and moves away from traditional 9.00–5.00 working hours also mean the boundaries between work and home life are more permeable than ever before. For example in the US, survey data suggests more than 35% of employees do unpaid work on the weekend (United States Department of Labor: Bureau of Labor Statistics, 2016). How well families adjust to these changes and technologies, and the extent to which families are able to integrate them successfully into their lives determines the level of their impact (Valcour & Hunter, 2005).

Workforce participation can play an important and positive function in the lives of families over and above financial incentives. For example, parents can derive a sense of satisfaction and a break from family life (Haslam, Patrick, & Kirby, 2015), and having a working mother (in particular) is associated with some better life outcomes such as higher pay in adult life (Goldberg & Lucas-Thompson, 2014; Lucas-Thompson, Goldberg, & Prause, 2010). These and similar effects appear to exert an influence over and above the financial benefits of work. The notion that participation or experience in one role improves performance or benefits the other is known as work–family enrichment (Powell & Greenhaus, 2006; Warner & Hausdorf, 2009). Work–family enrichment can be predicted by a range of factors such as high work status or satisfaction (Stevens, Minnotte, Mannon, & Kiger, 2007), higher education levels and higher social support (Zhou & Buehler, 2016), organizational support (Ghislieri, Emanuel, Molino, Cortese, & Colombo, 2017), and flexible or nonstandard work schedules (Täht & Mills, 2012). With respect to child outcomes, higher work–family enrichment has been inversely associated with children's externalizing problems (Vieira, Matias, Ferreira, Lopez, & Matos, 2016). Despite these positive findings, the literature around the work–family interface has focused predominately on the challenges associated with work–life balance.

The benefits of work notwithstanding, raising children while working can be difficult. Normal childrearing tasks such as getting children up and ready for the day, the dinner time rush or even attending school meetings can be complicated and stressful when parents have concurrent employment demands such as getting to work on time. In addition to the practical competing demands on parents, the emotional resources both roles require can play a role in how well parents are able to balance work and family domains (Hammer, Cullen, Neal, Sinclair, & Shafiro, 2005). For example, it can be difficult for parents who arrive at work stressed and worried following a difficult morning with the children to refocus on the work day and be as productive as they may have been without a stressful morning routine. Conversely some parents struggle to "switch off" when arriving home after work and may find themselves more irritated by usual child behavior. These challenges appear to be the norm, with one recent large scale survey recently finding that 90% of parents report that balancing work and family is stressful (Sanders, Haslam, Stallman, Calam, & Southwell, 2011).

Originally literature focused on emotional *spillover* between work and family life whereby experiences in one domain (e.g., work) spilled over to the other or by work-life *interference* (Grzywacz, Almeida, & McDonald, 2002), and that this could occur in a positive or negative way (Barnett, Marshall, & Sayer, 1992). As research in the field expanded and scientific rigor increased, these nebulous constructs were redefined as work and family conflict. Work and family conflict (also known as work–family conflict) is defined as inter-role conflict that develops from incompatible work and family demands (Greenhaus & Beutell, 1985; Higgins & Duxbury, 1992). It consists of two separate but related directional constructs: work-to-family conflict, and family-to-work conflict. Work-to-family conflict is conceptualized as the negative impact of work on family life due to incompatible work and family roles. For example, a mother who is

distracted at home by work pressure or stress would be said to be experiencing work-to-family conflict. In comparison, family-to-work conflict is said to occur when the responsibilities associated with family and parenting interfere with work related responsibilities or demands. For example, a father who is unable to attend an evening client meeting because he has to pick up his children from childcare, would be said to be experiencing family-to-work conflict. It is possible for parents to experience one or both of these types of conflict either simultaneously or over time. Moreover, it is theoretically possible for parents to experience both work and family conflict and work–family enrichment simultaneously (Cooklin et al., 2015).

Research suggests levels of work and family conflict have increased in the past few decades (Winslow, 2005), remain relatively stable without intervention (Rantanen, Kinnunen, Feldt, & Pulkkinen, 2008), and that is it most common in parents of young or dependent children who live with their parents and are under 18 years of age (Darcy & McCarthy, 2007). Predictors of work and family conflict are typically related to the role from which the conflict is originally generated. Work related factors such as workload, job independence, role ambiguity and occupational stress are stronger predictors of work-to-family conflict (Mesmer-Magnus & Viswesvaran, 2005). In contrast, family-related variables such as child behavior problems, unreliable childcare, relationship pressure, low spousal support, and having younger children predict higher levels of family-to-work conflict (Byron, 2005; Fox & Dwyer, 1999). Gender and age are also differentially related to work and family conflict such that men are more likely to report higher levels of work-to-family conflict, whereas women are more likely to report family-to-work conflict (Byron, 2005). The life stage of dependent children also plays a role with parents of younger children being at the highest risk for work and family conflict, and levels of conflict decreasing as children age (Darcy & McCarthy, 2007). This makes logical sense given that the parenting of young children is substantially more demanding as younger children do not have the same level of independence as older children. An argument has also been made that work and family conflict is higher in the early life stages, when life demands are high and resources are comparatively lower than in later life (Demerouti, Peeters, & van der Heijden, 2012). The values of parents also play a role. Parents who have a work oriented value profile, report higher levels of work-to-family conflict and parents with family focused value profiles report lower levels of work-to-family conflict suggesting parents may prioritize different domains based on their value systems (Lee, McHale, Crouter, Hammer, & Almeida, 2017).

Furthermore, financial stress and work and family conflict may interact with each other to create even more adverse effects on families. Not only does financial pressure increase stress in general, but many of the strategies organizations offer in an attempt to reduce work and family conflict (e.g., flexibility, job sharing etc.) are only offered to highly skilled employees in well-paid jobs. In comparison, many parents experiencing financial stress plus work and family conflict are in jobs where organizational support is unavailable or employment is tenuous or inconsistent placing additional pressure on families. Little research has examined if experiencing both financial stress and high work and family conflict have a synergistic negative effect on individual well-being and family outcomes but it is certainly plausible.

The negative impact of work and family conflict (in either direction) on child and family functioning has been well documented and is widely anecdotally reportedly by working parents everywhere. The impacts can be broadly categorized into three main areas. Firstly, it impacts occupational variables, which can influence an organization's bottom line. Such factors include higher rates of job turnover and associated costs (Panatik, Badri, Rajab, Rahman, & Shah, 2011), occupational stress (Darcy & McCarthy, 2007; Kinnunen, Feldt, Geurts, & Pulkkinen, 2006), increased absenteeism, sick leave, turnover and displaced aggression towards colleagues or family members (Ernst Kossek & Ozeki, 1998; Greenhaus, Parasuraman, & Collins, 2001; Liu et al., 2015), and lower job satisfaction (Chan,

Jiang, & Fung, 2015; Demerouti et al., 2012). Secondly, it impacts individual well-being. For example higher levels of work and family conflict are associated with psychological distress, depression and burnout (Chee, Conger, & Elder Jr., 2009; DePasquale, Polenick, Davis, Berkman, & Cabot, 2017; Fiksenbaum, 2014; Grzywacz & Bass, 2003) and higher incidence of health related problems (Demerouti et al., 2012; Frone, 2003). Finally, and perhaps unsurprisingly work and family conflict has a significant impact on family functioning and child outcomes. In the next section we discuss the work-related determinants of parenting, but very much like the role of financial stress, high levels of work and family conflict are associated with a range of negative family outcomes including lower involvement in parent roles (Lee et al., 2017), adolescent problem behavior, mood and poor academic involvement (Sallinen, Kinnunen, & Ronka, 2004), and child internalizing and externalizing behavior problems (McLoyd, Toyokawa, & Kaplan, 2008) (Box 1).

Box 1 Case Study

Andrea and Zac, both 37, are a couple with a young daughter, 3-year-old Amelia. They both work full time as corporate lawyers in the city center and Amelia stays in a long-hour daycare in the building in which they work. Zac has recently been promoted and his new role requires him to travel a lot, leaving Andrea to juggle work and parenting by herself most of the time. Andrea finds it difficult to balance work commitments and parenting responsibilities. Sometimes while at work Andrea finds herself worrying about Amelia and in the evening she is often too exhausted to really enjoy parenting. Sometimes she also has late-night conference calls that require her to work from home. Andrea also feels obliged to take these calls despite the impact on her family life because she does not want to lose the opportunity to make partner in the legal firm just because she is a mother. Zac does not have any similar concerns and Andrea sometimes wonders whether she has to perform twice as well as her male counterparts to be taken seriously and respected at work.

Amelia is generally a well-behaved child although she is a little anxious and occasionally complains about having to go to daycare every day. Andrea worries this might be because she doesn't get enough time with her parents and is concerned that the long hours in daycare might be detrimental in some way. This leadsto her feeling guilty at times, but Zac reminds her she has nothing to feel guilty about and highlights the things they can afford to provide for Amelia. Although generally happy, Andrea and Zac also find themselves arguing more than they did in the past. Andrea wonders if this is partly because they are both passionate about their careers and experience some frustration at having to compromise a little to adjust to parenthood and sometimes resent the changes. On the other hand, both parents report work is fulfilling and makes them appreciate the time they do have with Amelia. Working in reliable high paying jobs also means they do not experience much financial pressure.

In this example, both parents report some level of work–family conflict with the mother reporting more difficulty balancing competing responsibilities which is common in this area. The family has a number of protective factors including valuing career (choosing to work), being generally happily married, low levels of financial stress and some work flexibility but also some risk factors related to work pressure, high standards of success and difficulties with work flexibility that impact home life. There are also signs of work–family enrichment associated with career satisfaction and appreciating the time they have with their daughter.

Evidence for Determinants of Parenting

Given the substantial amount of research outlining the negative impact of poverty or financial stress and employment on family outcomes it is logical to consider the mechanisms through which these stressors exert their influence. There are a number of theorized mechanisms to explain these including epigenetic influences, and the direct impact on brain development, which have various levels of empirical support (Blair & Raver, 2012; Perkins et al., 2013). However, one commonly recognized area is the influence of poverty and work and family conflict on parenting style and the parent–child relationship. As stated earlier, it is not merely the presence of financial stress or of work and family conflict that determines the extent or nature of family impact but rather it is *how* parents respond to these stressors that is critical. The determinants of parenting across any domain are multifactorial and interactive (Belsky, 1984) and researchers must take into account the broader ecological context in which the parenting occurs, including financial stress and the work environment. This section outlines the specific impact of how living under financial stress or struggling to manage work and family commitments impacts parenting, and proposes the use of the Family Stress Model as an explanatory model for these relationships.

The evidence of the impact of financial stress on parent functioning is clear. Poverty or stress from either (or both) financial stress and work and family conflict can impact not only the ways in which parents interact with their children but also the very nature of the parent–child relationship. For example, qualitative research has found that parents living in poverty are less likely to play with their children because it is not perceived as the parents' role to interact via play with their children (Smith, Stagnitti, Lewis, & Pepin, 2015). Other research has shown parents living in poverty are less warm and sensitive, and are more likely to have inconsistent and chaotic households (Spano, Rivera, & Bolland, 2011; Vernon-Feagans, Garrett-Peters, Willoughby, Mills-Koonce, & The Family Life Project Key, 2012). Parents facing poverty and financial stress are also at higher risk for poor parental adjustment (Yoshikawa et al., 2012) including depressed mood (Neppl et al., 2016), low parental efficacy (Scaramella, Sohr-Preston, Callahan, & Mirabile, 2008), and couple conflict (Masarik et al., 2016).

A very similar pattern of relationships has been demonstrated between levels of work and family conflict and a range of parenting factors. High levels of work and family conflict are associated with higher maternal distress and less nurturing parenting (Chee et al., 2009), poorer parental self-efficacy and poorer quality of parent–child relationships (Cinamon, Weisel, & Tzuk, 2007), lower perceived time for parenting and family, and decreased routines (Lee et al., 2015). In a sample of over 2000 mothers, Cooklin et al. (2015) found that high levels of work and family conflict were significantly associated with less warm and more irritable parent–child interactions and poorer couple relationships. In contrast, they found work–family enrichment was associated with higher parental consistency and parental warmth (Cooklin et al., 2015).

One model that has the potential to explain the relationships between both financial pressure and work and family conflict, and family outcomes is the Family Stress Model (Conger et al., 1992). Conger's model posits that financial stressors (e.g., low income, unstable work, etc.) trigger financial pressure, which in turn creates psychological distress. In turn, these lead to marital conflict and distress in parents. Finally, this distress leads to less nurturing and involved parenting, and, by extension, poor child or adolescent outcomes. A substantial amount of empirical research has demonstrated the utility of this model in the domain of financial stress and poverty across contexts and over time (Conger, Conger, Matthews, & Elder Jr., 1999; Conger, Ge, Elder, Lorenz, & Simons, 1994; Melby, Conger, Fang, Wickrama, & Conger, 2008; Neppl et al., 2016) and it is widely accepted as a key explanatory theory for the relationship between poverty and child outcomes (Perkins et al., 2013).

To our knowledge no research has explicitly examined the potential fit of the Family Stress

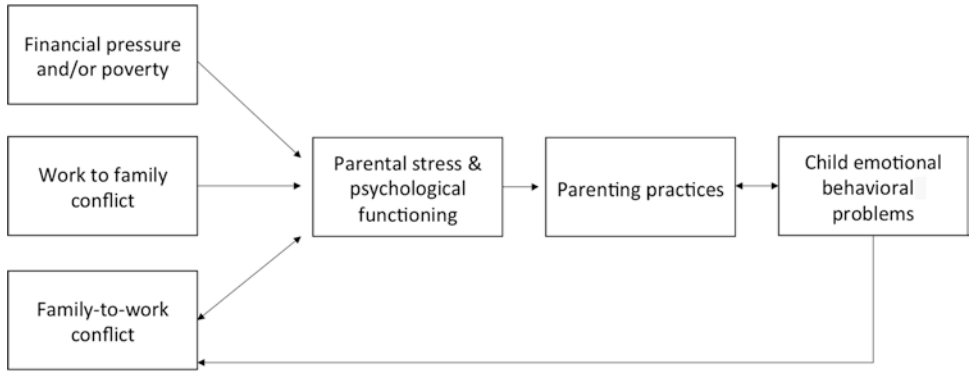


Fig. 1 Model of the relationship between work and family conflict, financial pressure, and child parenting outcomes

Model to examine the impact of work and family conflict on child and family outcomes. However, a similar explanatory path is plausible (see Fig. 1). Employment and family related stressors (e.g., limited time, inflexible work environments, low organizational support, dependent children, and family responsibilities) predict work and family conflict in much the same way as unstable financial situations predict financial pressure. Work and family conflict (in both directions) predict stress and distress in parents, which, in turn leads to changes in parenting practices and subsequent child emotional and behavioral problems. There is one additional path in this model between child emotional or behavioral problems and family to work conflict. This model also has the potential to include financial pressure to allow the relative influence of each variable to be identified in situations where parents experience both work and family conflict and financial pressure simultaneously. The bulk of these paths have been shown across numerous different studies, but work is needed to determine the goodness of fit with all variables simultaneously.

Strengths and Limitations of the Evidence Base

The literature outlined in this chapter, and indeed the extant literature in general, has a number of strengths and limitations. Strengths include the use of well validated and objective measures of family variables and of poverty, strong theoretical frameworks, large samples and the use of quantitative and qualitative methods. However, our knowledge is limited by a number of factors. First and foremost is that much of the research across both poverty and employment literatures is correlational in nature which limits the causal inferences that can be made. The sheer number of correlational studies reporting significant effects (especially in the poverty literature) presents an incomplete and at times misleading picture of these relationships. For example, a recent review specifically aimed at examining data only from experimental and quasi experimental studies, showed a differential impact of income based on child age such that when based solely on empirically robust experimental designs there was no relationship between economic deprivation in the first few years of life and child outcomes in the first years of life; however, this relationship was observed when older children are exposed to deprivation (Duncan et al., 2017).

There are also limitations in definitions used across different studies. Although some headway has been made in common definitions, many studies fail to properly operationally define key variables and it can be difficult to disentangle similar studies where different definitions have been used. For example, some studies use the term work–family interference as analogous to work and family conflict, whereas others treat these as entirely separate constructs. Much of the

research has also been conducted in Western or individualistic countries and much of it has been conducted primarily with at risk families. Little is therefore known about the impact of culture, where extended family plays a more significant role and if this changes parents' experiences of work and family conflict or if similar relationships exist in community samples who are not considered at risk. For example, exposure to poverty may play a more detrimental effect in high risk samples such as those with multiple other stressors or concurrent work and family stress. Conversely interventions may be more effective with high risk samples than community samples. Without knowledge about the similarities and differences between the two samples it is impossible to generalize findings from one sample to the other.

Future Directions for Research

As outlined in this chapter, there is substantial evidence of the negative impact of relative poverty on parenting, and by extension, child development and a range of child outcomes. Similarly, there is an ever-increasing literature on the impact of employment patterns, work–family conflict and stress on family functioning and outcomes. Comparatively less research has examined the potentially synergistic negative effects of both simultaneously. It is not the case that employment automatically relieves financial pressure. In fact, for many of the "working poor" the daily experience is working in inflexible jobs for low wages that are insufficient to alleviate financial stress. A person or family is considered a part of the working poor if, despite some level of employment, their overall income remains below the official poverty line, with estimates of numbers of the working poor ranging from 2% to 19% in the US depending on measurement (Theide, Lichter, & Sanders, 2015). These families, who are working and managing work and family conflict but still live in poverty, are an underresearched group. Little is known about whether there are cumulative effects of multiple stressors or indeed the best ways to support these families. Similarly, relatively little research has examined how quickly parenting changes in response to changes in financial or work related stressors, or for families moving in and out of periods of high financial or work related stress. Is there, for example, an adjustment period where parents are able to continue parenting and functioning at optimal levels until a threshold is reached? And if so what is the threshold when parenting is impacted?

A second area that warrants substantial research is the potential role of evidence-based parenting support as a means of reducing the negative impact of financial stress and poverty. As outlined earlier in this chapter, parenting accounts for a substantial amount of the variance in the impact of poverty on child behavior problems. Less research has empirically examined whether the provision of parenting support would have lasting protective factors that would continue long beyond the life of the program or whether top up interventions would be needed, or if these effects are limited to less extreme levels of poverty. Randomized controlled trials, particularly those with long term follow up have the potential to significantly add to our understanding about the potential value of parenting support within this context as a part of long term prevention. The issues associated with the intergenerational transmission of poverty are another area that warrants more research. Is it possible to intervene in one generation to reduce the transmission of negative family patterns and parenting practices and to positively shift the expectations and aspirations for educational attainment and employment across generations such that intergenerational immobility is interrupted? This chapter has also limited its focus to relative poverty; however, researchers are already calling for similar research to be conducted examining the potential role of parenting support in low-and-middle-income countries where parents face absolute poverty (Meija, Haslam, Sanders, & Penman, 2017).

A third area where substantially more research is needed is in empirically examining the benefits parenting interventions could bring and how policy changes might improve the family experi-

ence. Some intervention trials have demonstrated that the provision of parenting programs delivered to working parents are effective at simultaneously reducing work and family conflict and improving parenting practices (Hartung & Hahlweg, 2011; Haslam, Sanders, & Sofronoff, 2013; Sanders, Stallman, & McHale, 2011) and that parents are highly receptive of such initiatives (Haslam, Filus, Morawska, Sanders, & Fletcher, 2015; Sanders, Haslam, et al., 2011). Such interventions therefore seem a plausible way forward; however, little is known about the mechanisms via which such interventions effect change or even if specific workplace interventions are needed, or if general parenting programs that improve parenting practices might be sufficient. Additionally, to date, most workplace parenting programs have focused on parents of young children and little is known about whether supporting parents of older children would result in similar effects. Given research showing that work and family conflict changes concurrently with life and parenting stages this is clearly needed (Demerouti et al., 2012). Since parents appear to prioritize certain environments and use limited resources in a way consistent with their values, interventions should focus on how to increase available resources or use limited resources more efficiently as well as ways to reduce work and family conflict (Lee et al., 2017). Similarly, more research examining the interplay between work–family enrichment and work and family conflict would be beneficial both in increasing our theoretical understanding of the work–family interface but also in informing intervention development.

This section has highlighted some key areas that warrant further research but it is by no means exhaustive. In the area of both financial stress and/or poverty and the impact of employment there is plenty of scope for further research. Our intention in this section is to whet the appetite of researchers. In particular, we call for researchers to conduct more practical research with direct policy implications. The issues associated with poverty and financial stress and with employment are broad and impact large percentages of the population and warrant policy attention. We argue that researchers should focus explicitly, but not exclusively, on addressing the broad-based issues that can be used to inform policy development and maximize population impact.

Implications for Policy and Practice

In terms of implications for policy and practice, this chapter has focused specifically on the critical role parenting plays in attenuating the effects of poverty, economic deprivation stress and employment on child and family outcomes. Based on the substantial amount of evidence these stressors place on parents and the negative consequences that result from inadequate or unhelpful parenting, we argue that the provision of parenting support is a necessary and logical inclusion in broader policy efforts to target the impact of poverty and employee functioning. Parenting has the potential to simultaneously improve a range of outcomes across different domains in cost-effective ways. One chapter (Burke, Haslam, & Butler, 2018) of this book focuses specifically on the role of policy impact and the incentive for governments to support the relationship between children and families for the benefit of communities. We suggest that such policy attempts should include the active provision of parenting support, which can be used as part of a broader approach to reduce the impact of economic disadvantage and to ensure a happy and sustainable workforce.

Additionally, given the associations between work and family conflict and organizational outcomes, we recommend that organizational policies and human resources practices should consider widespread implementation of family-friendly policies that include the specific provision of skills-based parenting support with the potential to reduce work and family conflict. Although some advances have been made in terms of organizational level policy support for employees, and balancing work and life, such policies are sadly still limited to large organizations and are not widely available to the majority of the workforce who would benefit. Additionally, the presence of such policies in isolation is not

sufficient to reduce work and family conflict, particularly where organizations do not actively support employees to use such benefits (Mesmer-Magnus & Viswesvaran, 2006). A much more specific focus is needed in terms of ensuring that policies include the provision of parenting support congruent with the needs of parents at different life stages, and in terms of actively encouraging the use of existing provisions.

Conclusions

This chapter outlines the impact of poverty and financial stress, and of employment on child and family outcomes via the mechanism of parenting. We argue that in order to ensure children have the best possible opportunities to thrive, it is important that family functioning be considered in light of the broader ecological contexts and environments in which families exist. This includes factors such as the economic environment and the role of parental employment. We highlight the critical role of parenting in explaining relationships between stress resulting from financial or work pressure and negative outcomes on children and family life. The key point illustrated is that it is not exposure to poverty or work related pressure per se that negatively impacts family but rather the impact of these stressors on the parents' personal experiences, which influences their parenting practices and style, and by extension child and family outcomes. From an intervention point of view this distinction is critical, as it is highlights the potential role of parenting support as a cost-effective mechanism to ameliorate the negative outcomes of poverty and work and family conflict on families and improve lifecourse outcomes for children. We focus on knowledge gathered to date in this area, but also emphasize the great amount that is still to be empirically examined. We call upon researchers to continue examining the protective role supportive, nurturing parenting can play in buffering the negative effects of life stressors from a range of domains.

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Long-Distance Parenting: The Impact of Parental Separation and Absence due to Work Commitments on Families

Cassandra K. Dittman

Introduction

Over the past two decades, issues of work–family balance have received more attention as greater economic and social demands are placed on parents to work longer hours outside of the home. Further, there are a growing number of families around the world exposed to nontraditional work schedules and arrangements, some of which can have negative implications for family life (such as shift work and long-distance commuting), while others are designed to support work–family balance (such as flexible work schedules and working from home). Work practices in which one or both parents are separated from their children for an extended period of time may have far-reaching consequences for parenting, parental mental health, parent–child relationships and child well-being.

This chapter reviews the theory and research related to the impact of parental separation due to work commitments on family life, with a particular focus on two categories of parental work absences: (1) long-distance commuting; and (2) military service and deployment. There is significant diversity both between and within these categories of parental absence in terms of length and timing of separation, the context and reasons for separation, and the risks associated with the parent's employment. However, they are characterized by challenges not generally experienced by other working families, including transitions in family routines and parenting roles and responsibilities, reliance on the functioning of the at-home parent or family member, and ongoing disruptions to parent–child relationships. The impact of these transitions and disruptions is only beginning to be understood. This chapter reviews the research on the effects of parental absence due to work on parenting, family relationships, and child adjustment, and aims to identify factors that influence outcomes for families. Note that in the vast majority of the literature, the absent parent is the father, and the at-home parent is the mother; exceptions to this are noted throughout the review. The chapter also highlights areas for further research, and concludes with evidence-based recommendations for policy and practice.

Overview of Categories of Parental Absence due to Work Commitments

Long–Distance Commuting

Long-distance commuting (LDC), termed in Australia as Fly-in/Fly-out (FIFO) or Drive-in/Drive-out (DIDO) in reference to workers' extensive travel to and from remote worksites, involve block rosters where workers live on-site for the

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duration of their roster and then travel home for their time off. These work practices have become commonplace within Australia over the past two decades, particularly in the mining, natural resources and construction sectors, but are also used in the mining industry in Canada (Jones & Southcott, 2015) and the off-shore oil industry in countries such as the UK, Norway, and China (W. Chen, Wong, Yu, Lin, & Cooper, 2003; Parkes, 1998). LDC work patterns are variable, but typically involve multiple-week cycling rosters of 12-h shifts, in which workers are on-site for between 1 and 6 weeks followed by a comparable period of leave.

Military Service and Deployment

Families with a parent serving in the military experience a range of stressors that are rarely experienced by their civilian counterparts, including prolonged and recurrent separation from one parent due to deployment or other military duties, regular relocation due to postings, and the social and educational challenges associated with resettlement. Of these, parental deployment has received the most research attention and is thought to have the largest impact on children and families.

Since the turn of the century and the advent of military action against terrorist and extremist groups, defense personnel from around the world have been engaged in frequent and lengthy deployments, often involving extremely harsh environmental conditions (McFarlane, Hodson, Van Hooff, & Davies, 2011; Tanielian & Jaycox, 2008). The nature and level of risk associated with each deployment varies widely depending on the commitment of the service member's nation and service branch (e.g., Army, Air Force, Navy, Marines), but can vary from active combat to training, peacekeeping, border protection, responding to natural disasters, and rebuilding operations. There is also variation in the length of deployment, with deployments lasting anywhere between 2 and 15 months, and often additional time away from home for pre-deployment training and briefing.

Theoretical Background

A growing number of researchers (DeVoe & Ross, 2012; MacDermid Wadsworth et al., 2013; Paley, Lester, & Mogil, 2013; Riggs & Riggs, 2011) have acknowledged the value of applying family systems and ecological perspectives to better understand the complex nature of parental and child adjustment to deployment and military life. While the research on the impact of LDC on families tends to be atheoretical, the same conceptual frameworks can provide insight into the coping of families separated due to these types of work commitments.

A family systems perspective emphasizes and acknowledges the interdependence between family members, and between different relationships in the family (e.g., the inter-parental relationship, parent–child relationships, and sibling relationships; Cox & Paley, 1997). Specifically, this approach argues that individuals within a family exert a continuing and reciprocal influence on one another, and that an individual's behavior can only be understood in the context of the larger family system (Cox & Paley, 1997). Thus, in relation to parental work absences, any stressor applied to one family member is likely to have consequences for other family members and family relationships. A parent who is absent for a long time may return home with feelings of disconnectedness, loneliness or work-related stress, or in more serious circumstances, such as returning from military combat operations, mental health problems and trauma. The at-home parent and children will be affected by the difficulties experienced by the returning parent, perhaps because of a lack of emotional availability, or because they are easily upset or over-reactive to small issues. The reactions of the at-home parent and children, such as warmth, acceptance and efforts to include the returning parent, will have a positive impact on that family member, but negative reactions, such as anger or detachment, may exacerbate the returning partner's coping difficulties.

Furthermore, the functioning of particular relationships within the family will have a bidirectional influence on the adjustment of individual

family members, and other family relationships (Cox & Paley, 1997). A strained couple relationship is likely to negatively affect the coping of individual children, as well as the functioning of parent–child relationships. Correspondingly, problems in the parent–child relationship, perhaps due to poor or ineffective parenting practices and/or child behavior problems, will place additional stress on the couple relationship. Importantly, however, in terms of potential intervention targets, a family systems perspective posits that parental and child adjustment to parental work absences will be mediated through relationships within the family, meaning that strong parent–child relationships and coparenting relationships should have positive flow-on effects for the well-being of each parent and child in the family (Paley et al., 2013).

A family systems perspective helps to explain how the coping and adjustment of individuals within a family interacts with, and is dependent on, the functioning of other family members and family relationships. However, it is also important to acknowledge, consistent with a social-ecological framework (Bronfenbrenner, 2005), that parent and child responses to parental work absence are affected by the individual's personal characteristics, biology and history, other environments outside of the family, and the larger systems within which families are embedded, and how each of these change and develop across time. Each child and parent brings both strengths (e.g., easy temperament, coping skills) and weaknesses (e.g., preexisting behavioral or emotional problems, trauma history) that could lead them to respond in certain ways to parental separations, with these reactions potentially changing and evolving during a particular absence, and over the course of repeated separations and reunions (Paley et al., 2013). This cycle of transition and adaptation to parental separation has been described in the literature on military families as the emotional cycle of deployment (DeVoe & Ross, 2012), and has also been applied to the phases of adjustment for LDC families (Gallegos, 2005). The phases identified in the cycle, encompassing pre-departure and preparation, departure and separation, and return and reintegration, are accompanied by a range of emotional reactions from family members, and a number of parenting tasks and challenges. Parents' capacity to manage their own emotions and support their children's emotional coping, and tackle the parenting challenges of each phase of this cycle, will affect family adjustment and well-being over time.

The ability of other environments and systems, including a child's school or childcare, family support networks, and medical and mental health providers, to support children and parents affected by parental work absences, and the extent to which families effectively seek support and access services will also influence how families cope. Similarly, factors related to the parent's work absence, such as length and frequency, level of risk or danger, and financial rewards, can either buffer or exacerbate any negative effects of parental work absence. The level of support provided by the organizations engaging a parent in sustained and regular work absences, also plays a role in child and parent adjustment.

Evidence for Determinants of Parenting: How Does Parental Absence Affect Parenting?

Impact on Parenting

When one parent is absent due to work commitments, a unique situation arises in which families transition from being a dual-parent household to a single-parent household. In LDC families, this happens on a regular, relatively predictable basis and over generally shorter periods of time, while in military families, this transition is less regular, but is for generally greater periods of time. This transition brings changes in the parenting roles and responsibilities for the absent parent, most often the father, and the at-home parent, typically the mother.

Little is known about how the parent who is away at work manages the challenges of parenting from a distance (DeVoe & Ross, 2012; Meredith, Robinson, & Rush, 2014), with most of our knowledge coming from qualitative work with fathers who are working away. This research indicates that the well-being of their children and

partner are a significant concern during times of separation and that away parents work hard to stay connected to their family even though their capacity to be involved in day-to-day parenting and household tasks is obviously severely limited (Gallegos, 2005; Torkington, Larkins, & Gupta, 2011; Wadsworth, 2010; Willerton, Schwarz, MacDermid Wadsworth, & Oglesby, 2011). Many parents make use of telecommunications technology to ensure they remain connected and a part of the family routine. For instance, LDC workers and military fathers report using telephone and video calls (i.e., Skype, FaceTime) to read their children their bedtime story at nighttime or help with homework, and call or message at-home partners to check in about the day (Gallegos, 2005; Henry, Hamilton, Watson, & MacDonald, 2013; Jones & Southcott, 2015; Louie & Cromer, 2014). Other fathers, however, report that it is easier for them to cope with being away by emotionally distancing themselves from their partners and children just before and during separations or investing more of their energy into work than into their families (Henry et al., 2013; Willerton et al., 2011), with military fathers wary of the impact of stressful or emotionally charged contact with home influencing their ability to focus on their own safety and security when deployed in combat zones (Willerton et al., 2011).

Despite the availability of modern communications technology to stay connected with their families, military and LDC parents report feelings of sadness, loneliness and disconnection when they are separated from their families (Gallegos, 2005; Watts, 2004; Willerton et al., 2011). Many workers note that missing out on important family events (e.g., birth of children, birthdays, events important to their children such as concerts or sporting finals) and not being available during emergencies or difficult family situations, as being one of the most difficult aspects of being away from their families (Gallegos, 2005; Jones & Southcott, 2015; Torkington et al., 2011). Furthermore, fathers of young children report feelings of guilt and loss associated with missing out on large and significant periods of their child's early life, and that reunion and reintegration can be difficult as a result, as the process of reconnecting with their child can take longer than anticipated (Louie & Cromer, 2014; Walsh et al., 2014; Willerton et al., 2011). Thus, there may be an emotional toll for parents who are separated from their families due to work commitments, and the degree to which parents can effectively manage these feelings is likely to influence their relationships with partners and children upon returning home.

For the at-home parent, who is typically the mother, the absence of their partner and coparent places additional stress and burden on their daily lives. The at-home parent becomes solely responsible for daily childcare and household tasks, taking over tasks that are typically the responsibility of the away parent, such as managing finances, doing household and yard maintenance, or assisting with homework (Atkins, 2009; Chandra, 2016; DeVoe & Ross, 2012). The at-home parent may also be managing their own outside employment, or may have had to make changes in their employment to accommodate being solely responsible for childcare, such as reduced work hours or altered schedules, or giving up paid employment altogether (Atkins, 2009; Lara-Cinisomo et al., 2012). Additional stress may arise from at-home parents having reduced opportunity for respite or alone time, as well as concerns about their partner's safety and well-being and the impact of the separation on their children (Chandra, 2016).

Qualitative research with at-home military and LDC parents has provided insight into the major parenting challenges faced while the other parent is away for work (Atkins, 2009; Bradbury, 2011; Lara-Cinisomo et al., 2012; Rhodes, 2009; Torkington et al., 2011). In one study of 50 at-home caregivers of deployed military personnel, most caregivers reported that the increased responsibility for household chores and intensified parenting role were the main stressors during their partner's absence (Lara-Cinisomo et al., 2012). At-home parents discussed the emotional impact of the changes in family responsibilities, with feeling stressed and overwhelmed reported as one of the main consequences. Parents also noted the professional sacrifices they needed to

make to manage the escalation in household and parenting obligations. Similar findings were reported in an interview study with 48 at-home LDC parents (Bradbury, 2011). Over two-thirds of these parents indicated that the primary disadvantage of the LDC lifestyle was coping alone effectively as a single parent while their partner is away, noting that the increased responsibilities in parenting and household management led to feeling stressed and burdened by the additional demands. Importantly, these partners noted that often these feelings of stress did not resolve upon their partner's return, as new challenges arose related to adjusting family routines and roles to accommodate their partner and negotiating rules and expectations regarding rules and discipline of children. Notably, at-home partners in these and other studies found personal benefits in the separation from their partner. The female participants indicated that the added demands led to personal growth as they developed greater independence and self-reliance, and developed confidence in their capacity to manage new responsibilities (Baptist et al., 2011; Bradbury, 2011; Lara-Cinisomo et al., 2012; Parkes, Carnell, & Farmer, 2005).

Survey research with larger samples of military and LDC families provides confirmation of the parenting and household challenges faced by at-home parents. Australian research by Kaczmarek and Sibbel (2008) that compared the adjustment of mining LDC and military families, found that both types of families were generally well-functioning in comparison to a community control group. However, both the at-home partners of LDC workers and military personnel reported difficulty with clear and open communication of feelings and needs in comparison to community parents, while LDC at-home partners also reported greater challenges with the maintenance and consistency of parenting and general household rules and procedures. In one of the very few longitudinal studies of military family adjustment, research by Chandra et al. (2011) detailed the challenges faced by over 1000 at-home parents of adolescents at three points in the course of a year, and how these challenges changed during periods of separation compared to periods of reintegration. The main household management challenges over the course of the year reported by at-home parents were not having the time to do things they wanted (53%), and having too many responsibilities at home (47%), while the key parenting challenges related to concerns about the child's behavior at school (42%) and at home (31%). During deployment, issues with household management and parenting were amplified, with most parents reporting difficulty taking on more responsibilities at home (83%) and helping their adolescent deal with the separation from the deployed parent (80%). The return of the deployed parent, on the other hand, was accompanied by challenges fitting the deployed parent back into the home routine (71%) and renegotiating childcare responsibilities (61%). Other Australian research that assessed the support needs of LDC parents reflects this shift in the challenges for the at-home parent, depending on the phase of separation and reunion being experienced by the family (Dittman, Henriquez, & Roxburgh, 2016). The most preferred topics for coverage in a parenting program identified by these parents were helping the LDC worker stay connected with their children (86%) and with the at-home partner (83%) while they are away, along with developing consistency in rules and discipline across separation and reintegration (83%), supporting the at-home partner as a parent (81%), and managing changes in child emotions and behavior when the LDC worker departs and returns (79%).

Overall, the research suggests that there are significant demands placed on at-home parents and that these responsibilities change and fluctuate as families transition between separation and reintegration. Despite these challenges, research indicates that many at-home parents manage these parenting and household demands successfully. Parents who cope well, develop strategies to manage the practical and emotional aspects of separation, including developing effective family routines, communicating with their partners about parenting, preparing children for departures and reunions and seeking support from social networks and community organizations (Atkins, 2009; Fresle, 2010; Gallegos, 2005;

Green, Nurius, & Lester, 2013; Lara-Cinisomo et al., 2012; Lester et al., 2015; Parkes et al., 2005).

Impact on Parental Mental Health

Importantly, however, a small number of studies suggest that the challenges of parenting alone places some at-home parents at-risk of mental health problems. Research by Green et al. (2013), for instance, found that everyday family stressors and family strain predicted the psychological well-being of military partners, even after controlling for deployment and socioeconomic factors. Furthermore, other US research has found evidence for elevated levels of depression (Chartrand, Frank, White, & Shope, 2008) and anxiety (Lester et al., 2010) in partners of deployed military personnel compared to partners of non-deployed personnel; while a study conducted with a primary-care seeking sample of military families found that at-home partners exhibited rates of depression and anxiety comparable to rates reported by military personnel returning from overseas combat operations (Eaton et al., 2008). Finally, in a study by Mansfield et al. (2010) that examined the medical records of over 250,000 partners of active-duty US Army personnel between 2003 and 2006, the rates of mental health diagnoses for partners of personnel deployed for 1–11 months and for over 11 months were between 18% and 40% higher, compared to partners of personnel who were not deployed. Rates were notably elevated for depressive disorders, sleep disorders, anxiety disorders, acute stress reaction and adjustment disorders. Furthermore, use of mental health services for any mental health diagnosis was 19% higher for partners of service members deployed for 1–11 months, and 27% higher among those with partners deployed for over 11 months, when compared to partners with a non-deployed military partner. Although the authors do not specify whether the partners in this study were parents, it does provide particularly strong evidence for the impact of deployment on partners' mental health.

Published research on the functioning of military partners in other countries is severely limited. One Australian study indicated that at-home partners may not be similarly affected by their partner's deployment (McGuire et al., 2012). In a large-scale study of military personnel deployed for peacekeeping operations to Timor-Leste, there were no differences in mental health problems or rates of elevated psychological distress among the almost 2000 partners of these service members in comparison to partners of service members who were not deployed to Timor-Leste (McGuire et al., 2012). One limitation of this study, however, is that there was no indication whether this comparison group experienced deployment elsewhere during the study period making it difficult to draw firm conclusions about the effect of deployment on these partners. Furthermore, other US research has found that deployment with combat exposure is associated with greater levels of stress among at-home partners (Allen, Rhoades, Stanley, & Markman, 2011), which might explain the low levels of mental health problems in this sample whose partners were deployed on a largely peacekeeping operation.

With regard to at-home parents in LDC families, there are mixed findings regarding their emotional functioning. In research with small samples of LDC families, at-home mothers were found to display levels of psychological well-being in the normal range compared to community norms in one study (Sibbel, 2010), while a separate study found evidence of elevated levels of stress (Bradbury, 2011). A larger study with 232 female partners found that these mothers reported higher levels of depression, stress, and anxiety compared to a sample of community mothers, with these differences remaining after controlling for a range of socioeconomic factors (Dittman et al., 2016).

Children and at-home partners may be additionally affected by the increased risk of mental health problems among away parents (Buckman et al., 2011; Henry et al., 2013). Research suggests that mental health issues are a challenge for defense personnel. Over the past two decades, increasing international evidence has emerged on the impact of deployment and combat exposure on service men and women (Buckman et al., 2011). While there are mixed findings across

countries, samples and methodologies in terms of exact prevalence rates, there is convergence on the types of mental health difficulties experienced by this population. In particular, large-scale cohort studies from the UK, the US, Canada, and Australia, mostly with soldiers returning from deployment in Iraq or Afghanistan, report that defense personnel exhibit elevated levels of posttraumatic disorder (PTSD; Bleier et al., 2011; Duma, Reger, Canning, McNeil, & Gahm, 2010; Eisen et al., 2012; Fear et al., 2010; Gewirtz, Polusny, DeGarmo, Khaylis, & Erbes, 2010; Hoge, Auchterlonie, & Milliken, 2006; Hotopf et al., 2006; Kim, Thomas, Wilk, Castro, & Hoge, 2010; Maguen, Luxton, Skopp, & Madden, 2012; McFarlane et al., 2011; Milliken, Auchterlonie, & Hoge, 2007; Rona et al., 2007; Sareen et al., 2008); depression (Kim et al., 2010; Maguen et al., 2012; McFarlane et al., 2011; Milliken et al., 2007; Sareen et al., 2008); alcohol misuse disorders (Eisen et al., 2012; Fear et al., 2007, 2010; Hotopf et al., 2006; Maguen et al., 2012; Milliken et al., 2007; Rona et al., 2007; Sareen et al., 2008) and general psychological distress (Bleier et al., 2011; Fear et al., 2010; Hoglund & Schwartz, 2014; Hotopf et al., 2006; Rona et al., 2007). The primary deployment-related factors associated with increased mental health and alcohol problems are being deployed in a combat or war zone (Fear et al., 2010; Hoge et al., 2006; Hoglund & Schwartz, 2014; Maguen et al., 2012; Sareen et al., 2007), and increased duration and/or frequency of deployment within a short time period (e.g., 3 years; Bleier et al., 2011; Rona et al., 2007). Thus, there may be worse mental health outcomes for military parents from countries such as the US and the UK who have had more concentrated involvement in conflicts in the Middle East compared to countries like Canada and Australia.

Parent gender is likely to play a role in the type of parental mental health challenges brought home to families after deployment. Research has found a higher prevalence of general mental health problems (Hoglund & Schwartz, 2014) and depressive symptoms (Maguen et al., 2012; Sareen et al., 2008) among women compared to men, while men report higher levels of alcohol and other substance use problems (Eisen et al., 2012; Maguen et al., 2012; Sareen et al., 2008). Similar levels of PTSD symptoms among men and women have been found in some studies (Eisen et al., 2012; Maguen et al., 2012), but not others (Sareen et al., 2008). Interestingly, in a unique study by Gewirtz, McMorris, Hanson, and Davis (2014) examining the personal and family adjustment of military families, deployed military mothers were found to have higher levels of depression and PTSD symptoms than at-home mothers with deployed military partners, suggesting that the deployment experience places additional stress on women who leave behind children and partners.

The personal consequences of LDC have also started to be documented. Large-scale surveys suggest that there are serious consequences for LDC workers' health and well-being, with these workers more likely to smoke, drink alcohol at risky levels and be overweight or obese compared to shift workers (Joyce, Tomlin, Somerford, & Weeramanthri, 2013), and to have a higher prevalence of psychological distress compared to the general community (Henry et al., 2013). Similar reports of negative personal experiences have been documented among Canadian mining staff engaged in long-distance commuting (Jones & Southcott, 2015) and in offshore workers in the UK, Norway, and China (Chen et al., 2003; Parkes, 1998).

The findings that long-term separations from families negatively influences the mental health of both parents is concerning given that there is extensive evidence that parental depression, anxiety, and other mental health problems are a risk factor for child emotional and behavioral problems among the general population (Goodman et al., 2011; Kane & Garber, 2004; McClure, Brennan, Hammen, & Le Brocque, 2001). Depression, in particular, is thought to have a significant impact on one's ability to parent effectively, leading parents to be disengaged, irritable, and hostile towards their child and have a reduced capacity for warmth, affection, and positive parent–child interactions (Lovejoy, Graczyk, O'Hare, & Neuman, 2000; Wilson & Durbin, 2010). Within the literature on military families,

PTSD has been highlighted as a key risk factor for family distress following deployment, resulting in compromised parenting, interrupted parent–child and couple relationships, and increased hostility and physical aggression (Dekel & Monson, 2010; Galovski & Lyons, 2004). For instance, in one longitudinal study with fathers returning from combat operations in Iraq, increases in PTSD symptoms predicted greater levels of ineffective parenting and poorer couple adjustment 1 year post-deployment (Gewirtz et al., 2010). Other research has highlighted that the avoidance and numbing symptoms of PTSD have the largest impact on parenting and parent–children relationships because they diminish the parent's ability to reestablish and maintain emotional bonds with their child (Ruscio, Weathers, King, & King, 2002). Further research is required, particularly with at-home parents, to assess the mechanisms by which parental mental health and coping skills influence family and child well-being within the context of parental work absences.

Impact on Use of Harsh and Coercive Discipline Practices and Risk of Child Maltreatment

An additional concern within LDC and military families is the extent to which the pressures of partner absence make parents vulnerable to the use of harsh or coercive discipline practices, including verbal and physical aggression and corporal punishment. For instance, in the only study investigating parenting practices among LDC families, Dittman et al. (2016) found that the frequency of coercive discipline practices (e.g., yelling, shouting and screaming; smacking on the bottom; slapping the hand, arm, or leg) used by at-home LDC mothers was greater compared to community mothers. Furthermore, higher usage of coercive discipline was a unique predictor of more child behavior and emotional problems within these families, which is consistent with a large body of research that has found that coercive parenting places children at risk of a range of negative outcomes including conduct problems, aggression, depression, and low self-esteem (Bender et al., 2007; Gershoff, 2002).

At the more extreme end, coercive parenting can constitute child maltreatment, including physical and emotional abuse and neglect. Child maltreatment is associated with particularly adverse outcomes for children, including serious mental health problems such as posttraumatic stress disorder and suicidality, alcohol and drug misuse or dependence, criminal behavior, risky and early-onset sexual behavior, and physical health problems (Gilbert et al., 2009; Norman et al., 2012). Early research with US military families found that rates of child maltreatment were generally lower in these families in comparison to families in the general community, possibly because the steady income and availability of support services in the military minimizes risk factors typically linked with child maltreatment, such as poverty, homelessness and poor access to family support services (McCarroll, Ursano, Fan, & Newby, 2004; Raiha & Soma, 1997). However, rates of coercive child maltreatment among US military families have become a concern since the onset of the wars in Iraq and Afghanistan and the associated rise in more frequent and longer-term deployments. This body of research has found evidence for an association between combat-related deployment and increased rates of child maltreatment. Two longitudinal studies using archival data compared trends in substantiated cases of child maltreatment between military and community families following large-scale deployments to the Middle East (McCarroll, Fan, Newby, & Ursano, 2008; Rentz et al., 2007). Rentz et al. (2007) found that rates of child maltreatment cases doubled in military families in the 2 years following the September 11 terrorist attacks in the US, a trend not mirrored in state-level population estimates of rates in the general community. Furthermore, while substantiated cases of maltreatment were significantly lower in military families in 2000, by 2003 rates were 22% higher, with the largest increase observed among at-home parents as perpetrators, underscoring the additional stress and pressure at-home parents are experiencing while their partner is away. The study by McCarroll et al. (2008) provides insight into the specific type of child maltreatment associated with

military deployment. Findings indicated that rates of physical and sexual abuse generally decreased from 1990 to 2004 among military families, a time period that coincided with two large-scale deployments to wars in the Middle East. However, rates of emotional abuse and child neglect fluctuated, but both increased overall during the study period, with rates of neglect showing a particular rise in the years following the September 11 attacks, a finding consistent with the research by Rentz et al. These studies suggest that there is a temporal association between high deployment activity and increases in child maltreatment, lending support to the notion that long-term parental separation makes families vulnerable to harsh parenting and child maltreatment.

While concerning, these studies do not provide evidence for a definitive relationship between deployment and greater risk of child maltreatment because they do not provide a direct examination of rates of child maltreatment during periods of non-deployment compared to periods of deployment. In their research, Gibbs, Martin, Kupper, and Johnson (2007) found that the overall rate of child maltreatment, particularly moderate or severe maltreatment, was higher during deployment compared to non-deployment. Consistent with the research by Rentz et al. (2007), this increase was accounted for by incidents committed by female at-home partners, with rates of child neglect four times greater, and physical abuse nearly twice as great when their partner was away on deployment compared to when they were at home with the families. Another archival study of substantiated cases of child maltreatment focused on the prevalence of incidents perpetrated by service members themselves before and after deployment to Iraq and Afghanistan (Thomsen et al., 2014). They found that the frequency of more common and milder forms of child maltreatment (i.e., emotional abuse and mild neglect) declined from pre- to post-deployment, whereas incidents of more severe and less common forms of maltreatment either remained stable over time (i.e., physical abuse) or were higher following deployment (i.e., sexual abuse and severe neglect, particularly when it involved perpetrator alcohol abuse). An alternative approach used by Hisle-Gorman et al. (2015) involved comparing rates of medical visits for child maltreatment injuries between families with a deployed parent, families with a deployed parent who returned with one or more deployment-related physical injuries or psychological disorders (*injured* parents) and families unexposed to parental deployment. In the post-deployment period, children of deployed parents had a 20% higher rate of child maltreatment visits, while children of deployed and injured parents had more than twice the rate of visits, compared to non-exposed families. Among this latter category of families, there was no differences in rates of child maltreatment visits based on whether the injury was physical or psychological in nature, however there was a significant increase in maltreatment visits for each additional parent injury diagnosis. Thus, this study and the work by Thomsen et al. (2014), indicates that the association between parental separations due to deployment may not be straightforward, and further research is needed to examine how combinations of risk factors (e.g., alcohol abuse, mental health disorders, physical injuries) might affect the occurrence of child maltreatment within these families. Moreover, research is needed outside of the US to determine whether these findings apply to defense personnel and their families experiencing deployment in other countries.

Collectively, the research with US military families and the one study with Australian LDC families indicates that parental separation due to deployment places children at risk of harsh discipline practices and, more significantly, parenting practices that meet the threshold of child maltreatment. It seems that at-home partners, in particular, are more likely to physically or emotionally hurt or neglect their children when their partner is absent for a long period of time. This, combined with the increased likelihood of mental health problems among at-home parents, indicates that there is an urgent need to develop, evaluate, and implement effective support mechanisms for families experiencing parental separation with a focus on enhancing the psycho-

logical adjustment and parenting of at-home parents.

Impact on the Couple and Coparenting Relationship

The stability and quality of the couple relationship is another family factor known to contribute to child and family adjustment. In particular, extensive research with the general community has found that the functioning of the coparenting relationship (Teubert & Pinquart, 2010), and the level of interparental conflict (Rhoades, 2008; Yap, Pilkington, Ryan, & Jorm, 2014) are important predictors of psychological adjustment in children.

Research conducted in the context of parental separation due to work commitments has examined whether these separations have an impact on the couple relationship. Research with LDC families has mostly been qualitative, and suggests that couple relationship quality is not greatly affected by the LDC lifestyle. Interviews and focus groups with workers and their partners suggests that the decision to initiate and continue LDC is a mutual and purposeful decision in which benefits including financial gains, greater separation of work and home, living in a desired location with better access to health, educational, and other facilities rather than a remote mining town, and being able to spend larger blocks of quality time with partners and children, are reported by couples as outweighing any negative aspects of the lifestyle (Gallegos, 2005; Henry et al., 2013; Sibbel, 2010). Some couples reported that the work circumstances strengthen the couple relationship because there is a focus on making the time spent together positive and enjoyable and avoiding arguments about minor issues and hassles (Henry et al., 2013; Parkes et al., 2005; Torkington et al., 2011). Other parents, however, report that their role in disciplining and managing children and contributing to childcare and domestic duties are a significant source of conflict between themselves and their partners, with workers reporting feeling like an *outsider* when it comes to parenting and disciplining their children (Henry et al., 2013; Torkington et al., 2011).

Quantitative research supports this mixed view of the impact of LDC on the couple relationship. Survey research has reported no differences in overall relationship functioning when LDC couples are compared to community norms (Bradbury, 2011) and a community control group (Dittman et al., 2016). However, when looking specifically at interparental conflict over parenting and discipline, Bradbury (2011) found that both mothers and fathers scored significantly higher than expected based on community norms, and around 60% of the sample reported interparental conflict in the clinical range. Thus, it seems that general relationship satisfaction is not affected by these work circumstances, but that the separations may influence the capacity of couples to agree on rules and discipline and parent their children in a consistent manner. Importantly, however, this conclusion is based on very limited, cross-sectional research on the relationship functioning of LDC parents, and longitudinal research is needed to track the effects of LDC on partners over time.

In comparison to the literature on LDC families, there is a building evidence base regarding the impact of deployment on the couple relationship in military families. Similar themes emerge from qualitative research with military parents and their partners, with some parents emphasizing that the separations mean that they place higher value on each other and the time they have together, while acknowledging that conflict over parenting and discipline is a significant source of stress during the post-deployment phase (Baptist et al., 2011; Louie & Cromer, 2014). Interestingly, interviews with male service members and military spouses suggests that there are particularly negative outcomes when military personnel have traumatic combat experiences, with at-home parents indicating their spouses are more irritable and easily aggravated, and are disconnected from their partners and children (Baptist et al., 2011).

The complex relationship between couple functioning, combat exposure, and the mental health of returning soldiers is illustrated in larger-scale quantitative research (de Burgh, White, Fear, & Iversen, 2011; Dekel & Monson, 2010). Overall, there is mixed evidence regarding the

impact of deployment on relationship functioning, with some studies indicating that deployment has no effect on the couple relationship (Allen, Rhoades, Stanley, & Markman, 2010; McGuire et al., 2012), and others suggesting that greater deployment exposure is predictive of instability or problems in the couple relationship (Burrell, Adams, Durand, & Castro, 2006; Lara-Cinisomo et al., 2012; Lester et al., 2016). Findings from studies that have considered the role of trauma exposure and associated PTSD symptoms of returning service personnel may explain these conflicting results. In cross-sectional research with a large sample of married military couples by Allen et al. (2010), deployment in the past year was associated with increased PTSD symptoms in service personnel, with these symptoms associated with a range of couple relationship outcomes, including lower satisfaction, confidence, positive bonding and dedication to the relationship. Furthermore, Goff, Crow, Reisbig, and Hamilton (2007) found that the association between service personnel's mental health and couple relationship functioning is specific to PTSD symptomatology, and there is no comparable association between depression or anxiety and relationship outcomes. These findings are supported by longitudinal research that has documented the impact of persistent PTSD on couple functioning among Vietnam veterans and their spouses (Koenen, Stellman, Sommer, & Stellman, 2008; Lunney & Schnurr, 2007).

Impact on Children

An area that is beginning to receive more attention is the extent to which parental separations influence outcomes for children, and what role parental well-being plays in the likelihood that children will exhibit social, emotional, or behavioral (SEB) problems. In the literature on military families, there are mixed findings regarding the association between parental separation due to deployment and child outcomes. While two systematic reviews (Creech, Hadley, & Borsari, 2014; Trautmann, Alhusen, & Gross, 2015) have concluded that deployment is linked to increased child emotional and behavioral difficulties, a meta-analytic review of 16 US studies found only a small but significant relationship between deployment and poorer child adjustment, which encompassed behavioral, emotional, and academic difficulties (Card et al., 2011). Stronger effects were found for studies that employed parent report (either at-home or away parent) and for studies that involved comparison to civilian children, as opposed to comparisons with children with non-deployed parents, or longitudinal studies with the same children prior to and during deployment, which generally found small or no effects of deployment on child outcomes. The authors cautioned, however, that the heterogeneity in the study results, along with their inability to consistently code for likely deployment-related predictors (e.g., length, combat exposure) and parental factors, indicates that there is likely to be substantial variability in child responses to parental separations due to deployment that warrant further attention.

More recent research lends support to this notion, and suggest that child reactions depend on deployment circumstances and experiences. For instance, Australian research examining the impact of the Timor-Leste military operations on families found that children (aged between 4 and 17 years) whose parent had experienced two or more deployments were more likely to score in the clinical range on a measure of child SEB problems, according to reports from away and at-home parents (McGuire et al., 2012). Consistent with this, Cederbaum et al. (2014) found that, among a community sample of US secondary school students, the likelihood of adolescents self-reporting feelings of sadness and hopelessness, and suicidal ideation, increased with the number of parental deployments they had experienced in the past 10 years. Similar results regarding the impact on child emotional functioning were found in a recent US study conducted by Mustillo, MacDermid Wadsworth, and Lester (2016). They examined the influence of timing, duration and cumulative deployment experience on SEB outcomes among a nationally representative sample of military children aged birth to 10 years. Across the sample, children were exposed to deployment between one fifth and one sixth of their lives. The findings revealed that

among 3- to 5-year-old children, higher percentage of life exposed to deployment, along with recent long deployment, was associated with elevated levels of anxiety. Furthermore, for 6- to 10-year-olds, recent long deployment was associated with elevated emotional problems. Importantly, among this age group, deployment during birth was also related to emotional, behavioral, and peer problems, providing the first evidence that deployment may act as a prenatal and/or postnatal maternal stressor that leads to long-term effects on child adjustment.

Other studies have highlighted the important role of parental functioning as determining how well children cope with deployment, with research suggesting that the mental health of both the at-home and away parent influences children's adjustment. For instance, in the audit study of military health records carried out by Hisle-Gorman et al. (2015), the deployment and injury status of the military parent was associated with a greater frequency of child mental and behavioral health care use. Specifically, when compared to children with non-deployed parents, there was an 82% increase in mental health care visits among children who had a parent return from deployment with either a physical injury or a psychological injury, and a 67% increase relative to children of deployed and uninjured parents. In comparison, the psychological functioning of the at-home parent has been highlighted in other research. Chandra et al. (2009) conducted telephone interviews with over 1500 adolescents and their at-home parent, and found that the mental health of the at-home parent, along with cumulative deployment exposure in the last 3 years, were the most robust predictors of adolescent- and parent-reported child SEB difficulties even after controlling for a range of child, parent and military-related factors. This finding held for reports of functioning during deployment, and during the parental reintegration phase.

A similar pattern of findings was reported in two studies conducted by Lester and colleagues (Lester, Aralis, et al., 2016; Lester et al., 2010). In the first study with children aged 6–12 years, Lester et al. (2010) found that child emotional and behavioral problems were predicted by elevated levels of anxiety and depression among at-home caregivers and cumulative months of parental deployment during the child's lifetime. In separate analyses that did not include deployment length in the model, the away parent's depression and anxiety symptoms predicted child emotional problems, while behavioral problems were predicted by depression and PTSD symptoms. These findings were confirmed in a much larger sample of families with children aged 10 years or less (Lester, Aralis, et al., 2016). After controlling for socioeconomic factors, family functioning and military service factors including deployment exposure, the at-home parent's level of depression was consistently a predictor of elevated anxiety in preschool-aged children, and emotional, conduct, and peer problems in school-aged children. Moreover, in similarly controlled models, the military parent's PTSD severity uniquely predicted increased separation anxiety among preschoolers, and emotional problems and total SEB difficulties in school-aged children. Conversely, parental sensitivity of the at-home parent acted as a protective factor for children, predicting lower levels of preschooler anxiety, and emotional, conduct, and peer problems in school-aged children. Bearing in mind that this research was all cross-sectional, and did not simultaneously examine the influence of at-home and away parents' psychological functioning, it does suggest that parental mental health plays an integral role in the way that children adjust to parental separations due to military service, and that this may be equally or more important than deployment-related factors. Further research is needed to explore whether these effects hold over time in longitudinal research, and whether there are differential effects of each parent's mental health functioning on child outcomes. Specifically, it is likely that the at-home parent's functioning is paramount during times of separation, whereas there may be interactive effects of the at-home and away parent's psychological functioning during reintegration periods.

Similar to research with military families, there are some inconsistent findings in the small number of studies with LDC families. For example, in the study by Kaczmarek and Sibbel (2008)

that compared family functioning of mining LDC workers and military personnel, the children in LDC families did not significantly differ from control families on levels of child depression or anxiety. Similar findings were reported by Bradbury (2011), who found that parent reports of child behavioral and emotional problems did not differ significantly from Australian community norms. Children self-reported similar levels of conduct and emotional problems compared to community norms, but higher levels of hyperactivity. Moreover, in a larger study of over 270 LDC at-home and away parents, there were no differences between LDC parents and community parents in reports of behavioral or emotional difficulties in children aged 2–12 years (Dittman et al., 2016). In contrast, a greater risk of elevated levels of anxiety were found among the school-aged children of Iranian offshore workers in comparison to children whose fathers were resident workers (Zargham-Boroujeni, Shahba, & Abedi, 2015). Similarly, in a large community sample of Australian secondary school students, adolescents who had a parent involved in LDC were more likely to self-report experiencing clinically significant symptoms of depression and levels of SEB problems in the borderline or abnormal range, in comparison to control adolescents (Lester, Watson, Waters, & Cross, 2016). Notably, however, most adolescents were functioning in the normal range on the standardized measures employed in this study. Thus, overall this small body of cross-sectional research suggests that most, but not all children adapt well to the prolonged and regular absences they experience when their parent is working away from home.

Some of this research has recognized that there is variability in child reactions to LDC work arrangements, exploring factors that are associated with child outcomes. These studies suggest that child adjustment is unlikely to be affected by LDC work circumstances, such as roster type and duration of parental absence (Bradbury, 2011; Dittman et al., 2016). Instead, and in line with findings from the military family literature, parental adaptation to these separations, including psychological functioning (Dittman et al., 2016), use of ineffective parenting practices (Dittman et al., 2016), and parent–child and family connectedness (Lester, Aralis, et al., 2016), play a key role in determining how children cope with LDC work practices.

In combination, the literature on military and LDC families suggests that most children are resilient and cope adequately with the disruptions to the parent–child relationship and family environment brought about by prolonged and repeated separations from one parent due to work circumstances. However, there is marked variability in outcomes for children who experience parental absences, with a significant proportion of children negatively affected. Research with both types of families suggests that, while circumstances related to the length or frequency of parental separations influence child well-being, parental psychological adjustment, particularly the functioning of the at-home parent, plays a central role in determining if children cope with parental separation. This is not surprising given the large body of research in the general community that parental mental health problems, such as depression and anxiety, place children at risk of poor SEB adjustment (Goodman et al., 2011; Kane & Garber, 2004; McClure et al., 2001). This finding has important practical implications. While circumstances associated with the length and nature of parental separations are controlled by employing organizations (e.g., the military, mining companies), parental psychological functioning can be successfully modified via evidence-based psychological interventions.

A major caveat to this conclusion is that it is based on cross-sectional research, and longitudinal research is needed to confirm the causal progression from parental psychological maladjustment to poor child functioning within families experiencing parental absence. A further limitation is that the role of other family factors, such as parenting practices and couple relationship functioning, that are known to predict child outcomes in the general community and have been shown to be impacted by parental separations, have not been comprehensively considered in this literature. For instance, only two studies have examined the role of parenting practices in

determining child SEB outcomes. In both studies, parenting practices were unique predictors of child SEB problems, either serving a protective function, as was the case of parental sensitivity in a study with military families (Lester, Aralis, et al., 2016), or placing children at greater risk of poor outcomes, as was the case with coercive discipline in a study with LDC families (Dittman et al., 2016). Further research is needed to explore the role of parenting practices and other modifiable family factors, as these are likely to be critical targets for intervention efforts (Box 1).

Box 1 Rural-to-Urban Migration in China and the Case of "Left-Behind Children"

Rural-to-urban migration (RTUM) is a phenomenon common in low and middle income countries, in which adults migrate from their home to a larger urban center, and often to another country, for work. RTUM occurs in a wide range of countries, including Mexico, India, Indonesia, Thailand, and the Philippines, but is particularly common in China. Over the past 40 years, accelerating industrialization and the rapid globalization of China's economy saw demand for labor in manufacturing and service industries increase in urban areas, resulting in millions of Chinese men and women migrating to urban areas for better economic opportunities for themselves and their families. Recent reports indicate that the magnitude and speed of RTUM in China represents the largest human migration in history, with numbers of Chinese rural migrants increasing from 12 million in 1985, to 37 million in 1994, 130 million in 2005, and an estimated 220 million migrants in 2011 (Chen, Liang, & Ostertag, 2017).

One notable social consequence of RTUM has been the impact on the millions of children left behind by one or more migrant parents. These children are often left behind because of the exorbitant costs of housing and raising children in Chinese cities and are cared for by the non-migrant parent, grandparents, other extended family, or left to care for themselves (Liu, Li, & Ge, 2009). Recent estimates indicate that over 61 million children—or approximately one in five Chinese children—experience separation from their mother, father or both parents due to RTUM (Chen, Yang, & Ren, 2015). This separation is vastly different from the separation experienced by children in LDC and military families, as the parent's migration is typically permanent, meaning that children only see their parents for short visits once every year or several years.

Over the last 15 years, there has been an explosion of research examining the social, psychological and academic ramifications of RTUM on left-behind children (Jiang & Björn, 2010). A recent meta-analysis of 32 studies involving 28,629 children suggests that the mental health impact on children is striking (Zhao & Yu, 2016), with left-behind children displaying elevated levels of SEB problems in comparison to non-left-behind rural children, at an overall effect size of $d = 0.40$. Large effects were seen in the areas of loneliness, physical symptoms of anxiety and depression, and behavioral problems. Furthermore, a nationally representative study of around 9000 Chinese children suggests that the effects of extended separation from parents due to RTUM have a pervasive impact across many domains of child development (Chen et al., 2015). In this study, left-behind children were found to be disadvantaged compared to other Chinese children in their physical health (e.g., higher levels of illness, low birth weight), psychological and social functioning, and educational opportunities and academic functioning (e.g., lower kindergarten participation, low school satisfaction and self-efficacy, lower verbal and mathematics performance). Furthermore, this was one of the first stud-

(continued)

Box 1 (continued)

ies to examine the quality of parenting experienced by these children. The researchers found that left-behind children were less likely to have stimulating home environments, have caregivers involved in their learning and education, and be exposed to positive parenting, which had a significant impact on left-behind children's psychological and social well-being. Clearly, there is much work to be done to ameliorate the circumstances for Chinese left-behind children, with enhancing the home environments and competence of the caregivers of these children an obvious window of intervention opportunity that could make a substantial difference in the lives of these vulnerable children.

Strengths and Limitations of the Evidence Base

There is growing evidence that prolonged parental absence due to work commitments has a far-reaching influence on individuals, partners and children. The military literature, in particular, is beginning to give a comprehensive account of the impact of these work circumstances across different domains of individual and family functioning. The use of multi-informant methodology, covering away and at-home partners, children and teachers, along with the use of standardized and well-validated questionnaires is an additional strength of both the military and LDC literature. The many qualitative studies within the evidence base are also a notable strength, as they provide complementary support to findings from quantitative research and give in-depth and valuable information regarding the challenges and benefit-finding that occurs within these families.

Despite this, there are still many gaps in the literature, and a number of major limitations. For the most part, research in this area is correlational and cross-sectional, and draws its conclusions from standardized questionnaires. It is therefore impossible to draw firm conclusions regarding the direction of effects. The few longitudinal studies that do exist have been conducted with military families, and give early support to the notion that deployment-related parental absence leads to detrimental outcomes for individuals, children and families (e.g., Card et al., 2011; Chandra et al., 2011; Gewirtz et al., 2010; McCarroll et al., 2008; Rentz et al., 2007). Another limitation common to both bodies of evidence is that much of the research on the partner and child impact of military deployment comes from the US, while the research on LDC comes almost exclusively from Australia, and has generally been conducted with small samples. The latter might make sense given that LDC work practices are common in Australia, particularly in the mining and construction industries; however, nontraditional work practices involving parental separation are used around the world in a range of industries, particularly as organizations require greater flexibility and transferability of their employees to meet global staffing demands. Overall, the limited research on parental separation due to work from other countries around the world makes generalization to different cultures and national contexts difficult.

One final limitation is that much of the research has been conducted with families in which the father is the parent that leaves the family for extended periods of time for work, and the mother remains at home. Although this reflects the majority of families managing parental separations, women are increasingly employed in occupations that require them to be absent from their families. In the US military, for instance, the conflicts in Iraq and Afghanistan have seen unprecedented numbers of women deployed, both in terms of total numbers and as percentage of the overall force, and it is estimated that up to 40% of these women are mothers (Institute of Medicine, 2013). In addition, in the past two decades, countries including Australia, Canada, New Zealand, the Netherlands, and Norway have lifted restrictions on women serving in direct combat roles, and there is a significant proportion of women that serve in a range of combat support roles (Australian Human Rights

Commission, 2012). Furthermore, within the mining industry in Australia, in which LDC practices are common, it is estimated that around 15% of the workforce is female (Australian Bureau of Statistics, 2013). Thus, as gender diversity increases in traditionally male-dominated organizations like the military and mining companies, there will be greater need to evaluate the impact of maternal separations and absence on parenting and individual, partner, and child functioning.

Future Directions for Research

There are a number of areas of research that should be pursued in examining the impact of parental absence due to work commitments. Many of these stem from the current limitations in the evidence base, particularly the overreliance on cross-sectional research that focuses on two or three organizational or family factors and their role in determining child and family outcomes. Consistent with family systems and social-ecological frameworks, there is a complex and interdependent interplay of family and environmental factors that contribute to healthy child development and family functioning. Thus, longitudinal research with large samples is needed that allows for comprehensive and simultaneous examination of the parenting, parental mental health, couple relationship, and separation-related factors that are likely to mediate the relationship between parental separation and child and family adjustment. Furthermore, longitudinal approaches will help answer questions about the impact of the timing, frequency and accumulative exposure of parental separations (e.g., are there *critical* periods in a child's development in which parental absence has a stronger effect?), and whether any short-term impact dissipates or intensifies over time.

An additional direction for future research is to employ more diverse samples, including families from other countries or industries in which parents are required to be separated from their families for work. Diversity should also be addressed in terms of family composition, with further research needed to investigate how single-parent families and families in which the mother or both parents travel away for work, cope with parental separations and absence. Diversity in outcomes is a further future research direction. Most research has assumed separation has a detrimental effect on families, and have therefore focused on negative outcomes. While it is clearly important to document the potential negative effects, it is also important to consider that parental absence may promote positive behaviors and outcomes, such as enhanced self-reliance and resilience in individuals, partners and children. Some qualitative research with LDC and military children and families suggests that this is the case, with many individuals developing effective coping strategies and able to find benefits in the experience of being separated from a partner or parent (Gallegos, 2005; Lara-Cinisomo et al., 2012; Skomorovsky & Bullock, 2017).

Finally, in recognition of a social-ecological conceptualization of child adjustment, the effect of technology, and the challenges and benefits this may engender, is a topic worthy of increased attention. The availability of instant and effective communication via video conferencing, email and social networking sites has the potential to ameliorate the experience of parental absence, and enable families to stay connected and maintain relationships. However, the extent to which this is possible depends on the nature of the away parent's work circumstances and the availability of reliable telecommunications, with qualitative research suggesting that the capacity to communicate regularly and reliably influences the quality of the deployment or LDC experience (Atkins, 2009; Henry et al., 2013). Thus, there is the potential for negative effects, with away parents feeling more isolated or lonely when they see they are missing out on important family events or child milestones, or helpless when there are difficulties or problems at home. Contact may also be negative for at-home partners and children for similar reasons, and, particularly in military families, lead to increased anxiety or worry about the away parent's safety if they are able to see or hear signs of the dangers or risk involved in the parent's deployment.

Implications for Policy and Practice

Overall, the evidence reviewed in this chapter provides strong justification for the need for support mechanisms to be made available to families who experience regular and/or prolonged separations from one parent. Within the military and companies who use LDC work practices, there has been for some time recognition of the need to support the mental health of their staff. The military, in particular, has a system of well-established screening and personal support services. However, there is increasing recognition from researchers, organizations, governments and the community that the well-being of workers is inextricably linked to the coping and adjustment of their partners and children (House of Representatives Standing Committee on Regional Australia, 2013; Paley et al., 2013). Thus, there have been growing calls regarding the need for family-based prevention and intervention approaches to buffer any negative effects of parental separation and promote positive outcomes for children and families (MacDermid Wadsworth et al., 2013; Meredith et al., 2014).

The findings from the literature on parental separation and absence have important implications for the design of family-based interventions. The findings suggest that such interventions should include strategies to enhance the capacity of parents to parent their children effectively, have a strong relationship with their partner and manage any negative emotions that may arise due to the demands of the LDC lifestyle or military deployment. The potential for higher rates of child maltreatment among military families with deployed parents (Creech et al., 2014) and evidence for a higher prevalence of coercive discipline practices in LDC families (Dittman et al., 2016), combined with the strong evidence from the general community on the pervasive and detrimental effects of such parenting practices for children (e.g., Gershoff, 2002; Gilbert et al., 2009), suggests that a critical intervention target is helping these families to develop alternative and effective strategies to deal with difficult child behavior. There is overwhelming evidence that, by enhancing positive parenting skills and parental confidence, parenting interventions are effective in reducing levels of harsh discipline, ineffective parenting and child behavior problems by enhancing positive parenting skills and parental confidence (Lundahl, Nimer, & Parsons, 2006; Maughan, Christiansen, Jenson, Olympia, & Clark, 2005; Sanders, Kirby, Tellegen, & Day, 2014). Thus, the development and evaluation of parenting interventions for this group of potentially vulnerable families is an important area for future research.

There are no evidence-based parenting interventions specifically developed for LDC families. However, within the literature on military families, several family-focused programs, parent education programs and parenting interventions have been developed (see Creech et al., 2014 for a review). Two notable programs, because of their theoretical orientation and coverage of relevant content, are Families Overcoming Under Stress (FOCUS; Lester et al., 2011) and After Deployment Adaptive Parenting Tools (ADAPT; Gewirtz, Erbes, Polusny, Forgatch, & DeGarmo, 2011), which is based on the Parent Management Training-Oregon model. There are no controlled outcome data currently available to assess the efficacy of these programs. However, a controlled trial of ADAPT is underway (Gewirtz, Pinna, Hanson, & Brockberg, 2014), and pre-post outcomes from service evaluations of the FOCUS program suggest promising improvements in family functioning and reductions in child distress (Lester et al., 2012, 2013).

An important consideration in the dissemination of family-focused or parenting support interventions is the extent to which the stigma attached to help-seeking among LDC and military populations might affect attendance and engagement. In a cross-national study encompassing armed services in the US, UK, Canada, Australia, and New Zealand, service personnel were most concerned about the stigma attached to seeking help for mental health problems, including concerns that they would be perceived as weak or would be treated negatively by colleagues and supervisors rather than practical access barriers (Gould et al., 2010). Research has also identified that stigma is a key barrier for seeking help about mental health

in the LDC workforce (Henry et al., 2013). Importantly, other research has found an association between higher endorsement of stigma-related beliefs and lower mental health care service utilization (Kim et al., 2010). Whether perceived stigma plays a role in accessing support for parenting or child mental health problems among military and LDC families is an issue that warrants further research attention, and one that should be addressed through active normalization of seeking support when planning and disseminating parenting services.

A promising solution for addressing stigma-related barriers to accessing support may lie in workplace delivery of parenting and mental health support, such as through employee assistance or induction programs. Previous research has demonstrated that employer endorsement of a parenting program through workplace delivery is an effective strategy for engaging parents, alongside being associated with positive outcomes for worker job commitment and satisfaction, work–family conflict, parenting, and personal emotional adjustment (Sanders, Stallman, & McHale, 2011). An alternative approach is to develop innovative partnerships with schools and community organizations that have high acceptance with military and LDC families, and to build the capacity of professionals within these services to deliver evidence-based parenting support (Aronson & Perkins, 2013).

Conclusions

The transitions and separations that occur when one parent is absent on a frequent or prolonged basis due to work commitments bring about important changes in parenting roles and responsibilities, family dynamics, and day-to-day interactions among family members that contribute to the quality of family relationships. The literature reviewed in this chapter suggests that these absences may have a particular impact on the mental health of the parent who has travelled away from their family, and the parent who is managing on their own at home. Parents in these circumstances may also be vulnerable to the use of coercive discipline practices and child maltreatment. Findings on the association between parental separations and the couple relationship and child adjustment are more mixed, most likely because these relationships are mediated by other modifiable family risk factors, particularly parental psychological functioning and possibly parenting practices, although further research is needed. There are several key gaps and important limitations in the literature, including the need for longitudinal research that tests more comprehensive and theoretically informed models of mediators and predictors of family and child adjustment to parental separation and absence. Further research is also needed to develop and test parenting interventions that address the major areas likely to be affected by parental separation, including parental mental health, harsh and coercive parenting practices, and child emotional and behavioral well-being.

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Communities, Neighborhoods, and Housing

Anilena Mejia

Introduction

Human development unfolds in a physical environment. If this environment does not meet the necessary conditions, normal development is impeded. Children grow and spend the majority of their time in their house, and their social relations take place in a specific neighborhood and community. Although context influences development, effects are bidirectional and children also form and shape their context.

Bronfenbrenner (1979a) epitomizes the use of contextual frameworks to the study of child development and family processes. In his Ecological Systems Theory, he proposes that in order to understand human development, one must consider the entire ecological system in which growth occurs. Prior to Bronfenbrenner's theory, developmental psychologists restricted the understanding of behavior to biological and psychological processes only within the individual. In Bronfenbrenner's words, *child psychology was a science of development-out-of-context* (Bronfenbrenner, 1979b, p. 844), and researchers were studying variables that influence behavior in a decontextualized manner. For example, Belsky (1984) proposed one of the most often used models of parenting that considered the characteristics of the child (e.g., temperament), characteristics of the parent (e.g., psychological well-being), and characteristics of the family environment (e.g., stress and support) in the development of parenting practices. While this is considered a popular model among parenting researchers, it stopped short of including the broader social environment in which parents and children operate. Current models of parenting have extended their focus beyond factors in the family environment in order to consider how neighborhood or community impact the parent–child relationship. Researchers nowadays consider ecological factors, such as community context, socioeconomic status, neighborhood characteristics, and social support networks. Ten years after Belsky's theoretical proposal, Luster and Okagaki (1993) provided a widely used model to conceptualize the ecology of parenting (Fig. 1).

Wilson (1991) is one of the main authors emphasizing the critical importance of communities and systems external to the family in shaping parenting practices and child development. He specifically introduced neighborhoods as a topic for investigation, and his studies led to the development of the Chicago School of Sociologists. Wilson was one of the first to argue that families living in impoverished neighborhoods often struggle to protect their children and to promote positive development. Importantly, he proposed

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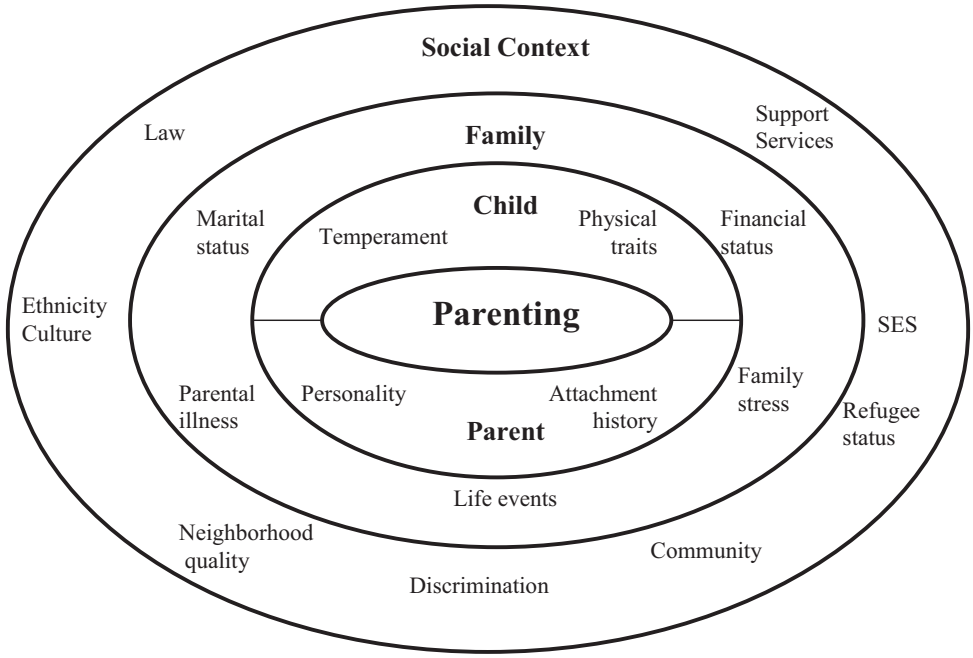


Fig. 1 Adaptation of the ecology of parenting by Luster and Okagaki (1993)

that poor neighborhoods stimulate family disorganization that leads to problematic child behavior.

The implications of considering the context in parenting and human development are profound. It involves shifting the focus from interventions directed specifically at the child, to broader programs considering various systems and their interaction. In particular, it has prompted a body of research examining the impact of housing quality, neighborhood characteristics and community systems on children's behavioral and socio-emotional development. Although in the present chapter I specifically focus on environmental factors that affect child development and family processes, it is key to keep in mind that these environmental factors complement and interact with individual characteristics throughout the lifespan.

In this chapter, the main theoretical frameworks recognizing the influence of the environment on child and family processes are discussed, including Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1979a). I then summarize research exploring the impact of housing, neighborhood quality and communities on child development and parenting practices. In terms of housing, I discuss studies exploring the impact of crowding, residential mobility and toxins/hazards on children's academic, social, and emotional problems. Research on neighborhoods examines structural factors (such as poverty, residential instability, and ethnic heterogeneity), and their ability to promote neighborhood organization and maintain public order. Research on community factors, although related to neighborhood characteristics, focuses mainly on social support networks available to children and their families. In the final sections, the strengths and limitations of this research are discussed and the implications for policy and intervention are reviewed.

Theoretical Background

In developmental psychology, ecological models view the child and their family in the context of environments or ecological systems in which they reside—extended family, peer group, neighborhood, community, and institutions (such as the

school or the workplace). The most widespread ecological model is that proposed by Bronfenbrenner (1979a), and known as the Ecological Systems Theory. According to this theory, human behavior takes place within a social context and mutual accommodation between organism and environment constantly occurs due to interactions between systems. The theory incorporates proximal settings in which the child directly interacts and more distal contexts that indirectly influence development, as well as the interactions between all the different systems.

The Ecological Systems Theory can be visualized as a set of various nested structures, each laid inside the other (see Fig. 2). The first structure known as the *microsystem* can be defined as the direct interpersonal relationships experienced by the person in a daily face-to-face setting. In other words, it is the direct environment in one person's life. Most research on developmental psychology has focused on microsystems, such as the family and the school, and how these affect child behavior. The second system is the *mesosystem* defined as the relationships between the microsystems, such as the relations between home and school. A mesosystem is a system of microsystems. The third system is the *exosystem*, which includes links between two or more contexts, one that does not include the individual, but in which events occur that indirectly influence processes within the individual's immediate setting. An example of an exosystem affecting child development is the parents' workplace. Work-related stress has been associated with more hostile parenting practices (Repetti & Wood, 1997) and conflictive family relationships (Byron, 2005), both directly impacting the developing child. The *macrosystem* is the culture encompassing belief systems, bodies of knowledge, customs, heritage, lifestyles, and opportunity structures, all of which are embedded in each of the other systems. One aspect of the macrosystem commonly studied is socioeconomic status and how poverty impacts the developing child and family processes. Finally, the *chronosystem* refers to the passage of time and transitions over the life course, as well as sociohistorical changes. For example, changes in family structure, employment, and residence are all aspects of the chronosystem. Later in this chapter, I review empirical evidence suggesting that residential instability, an important factor that is part of the chronosystem, negatively affects child development and parenting.

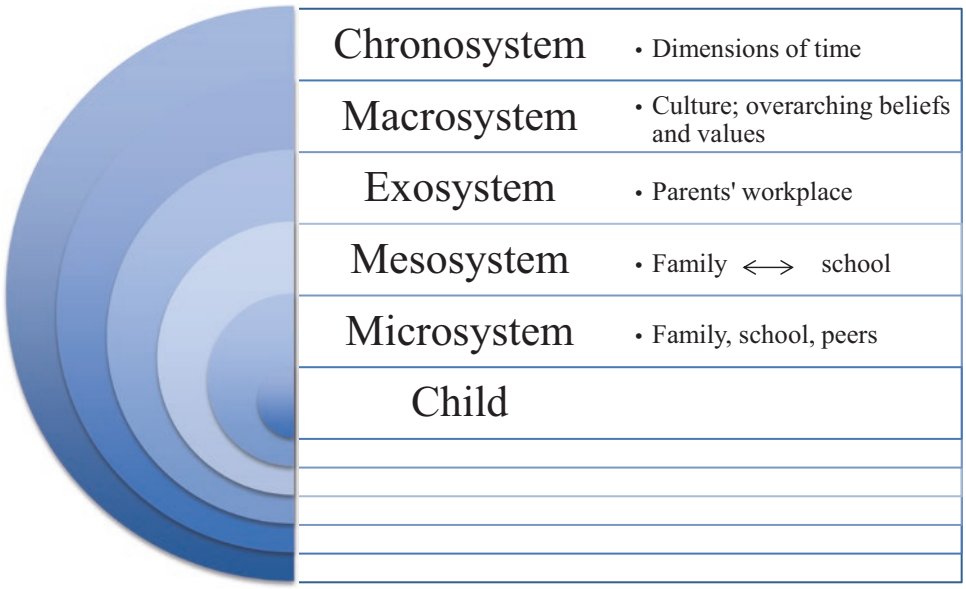


Fig. 2 Ecological systems theory by Bronfenbrenner (1979a)

Bronfenbrenner's theory led to the development of other models that recognize the importance of the environment in shaping human development. For example, there are several theoretical frameworks intending to explain the impact of neighborhoods on child development, most of which come from the Chicago School of Sociologists. One of these is *contagion theory*, which focuses on the power of peer influences to spread problem behavior. Evidence suggests that children's interactions with neighborhood peers are linked to increases in problem behavior, such as drug use, delinquency and violence (Brody et al., 2001). The rationale is that individuals in a confined geographical space are more likely to share common beliefs, attitudes and behaviors (Jencks & Mayer, 1989). Contagion theory proposes that peers transmit norms and ways of living. This influence process often occurs outside of awareness, or in other words, neighbors may not intend to influence others in their community but they engage in relationship behaviors that satisfy immediate needs for an audience or companionship, and these behaviors inadvertently influence others.

Another framework is the *collective socialization model* that focuses on the role of community adults and role models, beyond the family, in promoting negative and positive behaviors in children. According to this model, all of these forms of monitoring systems in neighborhoods impact child socialization. On the other hand, when thinking about the development of maladaptive behavior, *social disorganization theory* recognizes the importance of neighborhood structure in managing social problems (Shaw & McKay, 1942). Community social disorganization is conceptualized as the inability of a community structure to create common values among its residents and maintain effective social control. Social control is understood as the capacity of a social unit, in this case the neighborhood, to regulate itself according to desired principles and to attain collective goals (Janowitz, 1975). The main premise of social disorganization theory is that structural neighborhood factors (such as poverty, residential instability, and ethnic heterogeneity) could compromise local social ties and impede the control of crime and other problem behaviors within a neighborhood. This theory has been mainly used to explain crime and violence rates within neighborhoods.

Another important theoretical framework is the eco-bio-developmental model (Shonkoff, 2010), which proposes that human development is an interaction between biology and ecology, this last defined as the social and physical environment in which growth takes place. It incorporates a lifelong perspective paying particular attention to the first years of life and the exposure to toxic stress. At the biological level, it recognizes the interactions between genes and environment during sensitive periods and the physiological adaptations that take place over time. At the ecological level, it identifies the importance of policies, community programs and the need for stable and responsive relationships for healthy development.

A common theme across all of these theories is their recognition of contextual factors as crucial for shaping individual behaviors, including parenting practices. These frameworks allow us to understand parenting in the context of a neighborhood, a community, and a culture. They have led to the systematic study of environmental factors and its impact on family processes, which will be reviewed in the following section.

Evidence for Determinants of Parenting

In this section, a body of empirical evidence addressing various environmental factors and their impact on child development and parenting practices is discussed. I will start by reviewing housing characteristics, including structural factors (such as crowding and noise) and processes (such as residential mobility and homeownership). I will then review the evidence linking neighborhood and community characteristics with family processes.

Housing Characteristics

There is a body of literature examining the association between *housing quality* (i.e., physical

adequacy and safety of the unit) and child development. Firstly, contamination due to mold and lead paint has been linked to poor respiratory health and neurological damage in young children (Leighton, Klitzman, Sedlar, Matte, & Cohen, 2003), and to greater school absenteeism (Shaw, 2004). Older housing has been associated with more accidents in children (Shenassa, Stubbendick, & Brown, 2004), and limitations on activity (Sharfstein, Sandel, Kahn, & Bauchner, 2001). Children that grow up in high-rise dwellings also show more behavioral problems and restricted play opportunities. They also tend to have less socially supportive relationships with neighbors (Evans, 2003). The relationship between housing quality and child development is mediated by family and parenting practices. Poor housing limits opportunities for stimulation and creates stress and conflict among family members. In addition, studies have found that parents are less responsive and harsher in poor housing conditions (Evans, Maxwell, & Hart, 1999).

Crowding, defined as the number of people per room, is another aspect of housing that has been widely studied. Early studies intending to explore its effects on human development randomly exposed children to different levels of density (e.g., Liddell & Kruger, 1987). They found that children under crowded conditions show higher levels of social withdrawal (Evans, Rhee, Forbes, Allen, & Lepore, 2000), and more behavioral problems (Drazen, 2015; Maxwell, 2003). Social withdrawal has been explained as a mechanism for coping with too much unwanted social interaction. Children in overcrowded homes show physiological markers of stress, such as elevated skin conductance (Evans, Lepore, Shejwal, & Palsane, 1998). They also show cognitive delays on standardized cognitive assessments and tend to fall behind in reading acquisition in comparison with their low-density counterparts (Goux & Maurin, 2005). Most explanatory processes linking crowding with developmental outcomes focus on parent–child relationships. Family interactions are more negative in high-density homes (Bartlett, 1998) and there are more reports of child maltreatment (Zuravin, 1986). Research suggests that parents are less responsive to young children in more crowded homes (Evans & Ricciuti, 2010), and show reduced parental monitoring (Supplee, Unikel, & Shaw, 2007). Importantly, there is evidence of elevated conflict and hostility among parents and children in crowded homes. Parents report greater irritability and more corporal punishment (Youssef, Attia, & Kamel, 1998). In addition, weaker social ties among family members have been found (Lepore, Evans, & Schneider, 1991).

Studies suggest that *noise* exposure also has detrimental effects on children's cognitive development. For example, children exposed to airport noise in their house show delays in reading (Klatte, Bergström, & Lachmann, 2013). Chronic noise exposure also seems to affect long term memory and attention (Haines, Stansfeld, Job, Berglund, & Head, 2001; Matsui, Stansfeld, Haines, & Head, 2004). Importantly, noise might affect adults around children, who as a consequence provide less supportive and affectionate caregiving. For example, teachers in noisy schools report greater fatigue and less patience than their counterparts in quiet schools (Kristiansen et al., 2014), while parents in noisier and more chaotic homes are less responsive to their children (Corapci & Wachs, 2002).

Chaos is another housing variable that has been widely studied. It is defined as unpredictability and confusion in the home (Coldwell, Pike, & Dunn, 2006). Research has found that chaotic homes are associated with psychological distress in children (Evans, Gonnella, Marcynyszyn, Gentile, & Salpekar, 2005), worse academic outcomes (Petrill, Pike, Price, & Plomin, 2004), and more behavioral adjustment problems (Fisher & Shirley, 1998). As with other housing characteristics, chaos affects child development through family and self-regulatory pathways. Families in chaotic homes are less cohesive and have more conflict, while parents are less responsive (Valiente, Lemery-Chalfant, & Reiser, 2007). Research also suggests that children have more difficulty self-regulating (Hardaway, Wilson, Shaw, & Dishion, 2012), which might be a process leading to behavioral problems and distress.

Another well-studied aspect associated with housing is *residential mobility*. Research suggests that residential mobility has a negative impact on school achievement (Pribesh & Downey, 1999), especially in children from single-parent families. Moving also has a detrimental impact on behavioral and emotional adjustment of children (Adam & Chase-Lansdale, 2002; Anderson & Leventhal, 2016; Gasper, DeLuca, & Estacion, 2010), with one study finding that children who moved often tend to start sexual behavior earlier in life (Stack, 1994). The adverse effects of residential mobility on child development seem to be cumulative, with additional moves being increasingly more negative than one or two moves. Parenting quality is a strong moderator of this relationship, with more supportive parenting diminishing the impact of residential mobility on children's adjustment (Hagan, MacMillan, & Wheaton, 1996).

Related to residential mobility is *home ownership*. Children that grow up in an owned rather than in a rented home tend to do better on a variety of outcomes. For instance, they show better health (Ortiz & Zimmerman, 2013), fewer behavioral problems (Boyle, 2002; Haurin, Parcel, & Haurin, 2000), higher achievement in school (Li, 2016), and lower school dropout rates (Aaronson, 1999). Haurin, Parcel, and Haurin (2002) found that owning a home rather than renting leads to a 13% to 23% better quality home environment and greater cognitive abilities in children, with reading achievement being up to 7% higher (Haurin et al., 2002). There are several explanations for why children of homeowners have better developmental outcomes. Firstly, homeowners are less mobile than those who rent, thus being able to establish support networks in a particular neighborhood and having greater stability (Dietz & Haurin, 2003). Second, it is possible they are better at maintaining their dwelling and thus the structural quality of their housing might be better. However, not all studies have found an association between home ownership and positive child outcomes, with some suggesting that the effects vanish after controlling for variables that affect both home ownership and family stability, such as residential stability (Barker & Miller, 2009; Galster, Marcotte, Mandell, Wolman, & Augustine, 2007).

Parenting practices seem to be an important mediating factor for most features of housing linked to child outcomes. Poor housing quality, overcrowding, noise, chaos, renting, and residential instability seem to affect the parent–child relationship and increase family conflict, leading to poorer child outcomes. Interventions to support parents might be particularly necessary for those struggling with decent housing conditions.

Neighborhood Characteristics

Families interact with neighbors and neighborhood services, and this is the unit where children receive social, health, and educational services. Children also develop a sense of belonging and safety in neighborhoods. There are several ways to define neighborhoods. Some studies use local knowledge of boundaries in cities, while others use health districts, police districts, school districts, or census information.

Theories describing the impact of neighborhood on child development often differentiate between those characteristics that are structural and those that have to do with their social organization. Structural characteristics most often studied are (1) income or neighborhood poverty levels; (2) racial/ethnic diversity; and (3) residential instability. Social organizational aspects include (1) social control; (2) social cohesion; and (3) collective efficacy.

Poverty levels or neighborhood income level could affect children and families in several ways. Firstly, they are strongly linked to the quality of public and private services, including schools, police protection and recreational areas. In accordance with the collective socialization model described in the previous section, neighborhood poverty levels also determine the type of available role models and monitoring systems for child behavior. For example, it has been suggested that deprived neighborhoods have a higher concentration of male joblessness and female-headed households, which might lead to social isolation and a shift in cultural norms and beliefs

(Wilson, 1991). Some of these family cultural norms include a focus on the present rather than the future, poor planning and organization, little sense of personal control over events, and a lack of emphasis on school or job-related skills, all of which affect the parent–child relationship. Research shows that children that grow up in poorer neighborhoods have more internalizing and externalizing problems (Leventhal & Brooks-Gunn, 2000). This influence is more powerful during late childhood and early adolescence. Neighborhood deprivation also impacts children's cognitive ability (McCulloch & Joshi, 2001), and is associated with higher rates of drop out from high school and teenage parenthood (Brooks-Gunn, Duncan, & Aber, 1997). These outcomes seem to be mediated by the physical environment at home and by parental responsiveness. There is also some evidence that living in a poorer neighborhood is associated with less maternal warmth toward the children and poorer quality of the home environment (Klebanov, Brooks-Gunn, & Duncan, 1994). In addition, families living in poor neighborhoods have to deal with a greater number of daily stressors which could weaken their psychological functioning and lead to impaired parenting behavior. Finally, living in impoverished neighborhoods has also been associated with more restrictive parenting practices and more control (Cleland et al., 2010). Although overprotection and control are often not considered effective parenting practices, they might be considered evolutionarily advantageous in neighborhoods with high levels of poverty and crime. It seems logical that parents prefer to closely manage where their children spend unsupervised time to minimize the risk of them being involved in crime or illegal activities (Leventhal & Brooks-Gunn, 2000).

Racial/ethnic diversity is often measured as the proportion of immigrant residents in the neighborhood. Researchers propose that racial/ethnic diversity reduces contact and prevents interaction among groups of people coming from different ethnic backgrounds, and that this diminishes the capacity to build trust and implement strategies to keep the neighborhood safe and healthy (Browning & Cagney, 2002). Thus, racial/ethnic diversity is strongly related to a neighborhood's social cohesion and prejudice. Sociologists propose that diverse social environments might induce a feeling of threat and anxiety between majority and minority groups, particularly arising out of real or perceived competition over scarce resources and relative positions in power (Pennant, 2005). For example, Alesina and Ferrara (2002) refer to a pattern they call *natural aversion to heterogeneity*, proposing that individuals prefer to interact with others who are similar to themselves in terms of income, race, or ethnicity. This pattern has to do with the dominant group fearing to lose economic and social privileges. Importantly, research suggests that those living in areas where there is lower concentration of ethnic/racial diversity are better off than those living in areas with a higher concentration (Lleras, 2017; Williams & Collins, 2001). Thus, poverty is another characteristic of highly diverse neighborhoods. Concentration of ethnic minorities in a neighborhood is often associated with health disadvantage for children and youth; specifically, they tend to show higher rates of depression. Some argue that worse psychosocial outcomes might be related to the stress of social stigma and a lack of social affiliations within the majority community (Pickett & Wilkinson, 2008). Moreover, racial/ethnic diversity is linked to governmental underinvestment, limiting the development of health, educational and recreational services in the neighborhood (Montalvo & Reynol-Querol, 2005; Williams & Collins, 2001).

Another neighborhood characteristic often studied is *residential instability*, which has to do with the proportion of residents who have moved within a certain number of years, the proportion of households who have lived in the same home for less than 10 years, or the proportion of homeowners. Higher levels of residential instability within a neighborhood have been linked to child maltreatment (Coulton, Korbin, Su, & Chow, 1995), alcohol and drug use in children (Ennett, Flewelling, Lindrooth, & Norton, 1997), and mental health difficulties in adolescents (Aneshensel & Sucoff, 1996). A potential pathway through which residential instability leads to

poorer psychosocial outcomes has to do with social organization of neighborhoods. High rates of residential mobility might result in fewer social ties in a particular environment and less investment on collective projects to improve services. However, some studies have found the opposite and reported that residential instability might have positive health effects (Ross, Reynolds, & Geis, 2000). In a study by Drukker, Kaplan, and Os (2005), residential instability appeared to protect against the negative effects of neighborhood poverty and was beneficial to residents' quality of life. In other words, families in poor neighborhoods could perceive residential stability as being trapped and powerless in a dangerous and frightening place.

In terms of organizational aspects of neighborhoods, *social cohesion and social control* have been widely studied, especially by the Chicago School of Sociologists. Social cohesion has been defined as the absence of social conflict and the presence of strong social bonds and mutual trust between neighbors (Putnam, 1993). Studies have reported the beneficial effects of social cohesion on parenting practices. For example, it has been suggested that perceptions of neighborhood cohesion are associated with less hostile parenting practices and fewer externalizing problems in children (Byrnes & Miller, 2012; Silk, Sessa, Morris, Steinberg, & Avenevoli, 2004). Interestingly, the relationship between social cohesion and child maltreatment has also been explored. It has been found that neighborhood social cohesion has a protective role in some acts of neglect such as in parents' ability to meet the child's basic needs (Maguire-Jack & Showalter, 2016). Increased access to social support might be why parenting practices are more effective in neighborhoods with high social cohesion. Neighborhoods with low social cohesion tend to have neighbors who are less likely to assist with childcare or engage in exchanges. Social disorganization theory, on the other hand, suggests that distressed neighborhoods with low cohesion might put parents at additional risk for maltreatment and ineffective parenting because of the multiple stressors surrounding them and the lack of social norms that encourage a supportive environment for positive parenting (Groves & Sampson, 1989).

Social control is another neighborhood characteristic often related to parenting practices. It refers to the norms of a community and the willingness to intervene when such norms are being violated. Parents might be more likely to avoid maltreating behaviors in neighborhoods with high levels of social control for fear of being accused and reprimanded. Garbarino and Crouter (1978) have extensively reviewed the ecology of child maltreatment, and have described how high-risk neighborhoods defined as those with more stressors, less support, and less control, can lead to social impoverishment and higher rates of maltreatment.

Collective efficacy is another organizational aspect of neighborhoods widely studied. The concept of collective efficacy links both social cohesion and social control. It is defined as social cohesion among neighbors, combined with shared values, mutual trust, and their willingness to intervene on behalf of the public good (Sampson, Raudenbush, & Earls, 1997). Collective efficacy is measured by summing scales that assess social cohesion and social control. Research suggests that higher collective efficacy in a neighborhood is associated with more authoritative parenting (Simons, Simons, Burt, Brody, & Cutrona, 2005). This makes sense, given that both collective efficacy and authoritative parenting incorporate elements of support with control or monitoring. Research also suggests that neighborhoods with higher collective efficacy have lower rates of externalizing difficulties in children and youth, such as criminal and antisocial behavior (Odgers et al., 2009). This can be partially explained by authoritative parenting which tends to be associated with better adjustment in children.

Collective efficacy has also been associated with psychological adjustment in children and lower rates of suicide (Maimon, Browning, & Brooks-Gunn, 2010). The reduced probability that youth will attempt suicide seems to be explained by the existence of social ties between parents and youth, and expectations for intergenerational support and supervision in neighbor-

hoods with higher collective efficacy. Neighborhoods with high collective efficacy tend to reinforce family expectations and norms, which protect children and youth from mental health difficulties.

Research reviewed in this section focused on the interactive relationship between neighborhood characteristics and family processes, and how it impacts child development. Children are nested within families, and families are nested within neighborhoods that have organizational and structural aspects influencing micro-level processes. Any behavior should be seen from a multilevel lens considering the interactions between multiple systems. In the next section, research on communities, or in other words, social networks, and how they impact family processes and child development is reviewed.

Community Characteristics

There is a common premise in sociology that social units are more than the sum of their members. Social units involve a set of complex interactions that lead to the development of communities. While neighborhoods are defined by physical boundaries and tend to refer to structural environmental aspects, communities do not. They are often defined as a group of people who are related to each other in some way and have established support mechanisms. In other words, communities are networks of relationships. These networks often share culture, social norms and traditions. Cohesive and well-functioning local communities are the backbone of civil society. They exist at work, at school, in neighborhoods and among people with shared interests, and they can be understood along a number of different dimensions, such as size, proximity, stability, frequency of contact between members and density.

Communities that provide social support have consistently been found to be associated with positive outcomes in children and families. For example, mothers who have a close adult who supports them in raising young children report greater well-being and more effective parenting practices (Armstrong, Birnie-Lefcovitch, & Ungar, 2005). On the other hand, social isolation has been found to be a key feature of families in which child maltreatment occurs (Gracia & Musitu, 2003). Research suggests that neglectful parents tend to perceive their community as a non-supportive environment and isolate themselves from any type of social contact (Polansky, Gaudin, Ammons, & Davis, 1985). This social deprivation increases the risk of a deteriorated family environment, given that social networks and support provide an important protection from child maltreatment (Korbin, 1995). Individual or personality factors might explain social isolation in neglectful parents. For example, neglectful or abusive parents might avoid others given their troubled developmental history that taught them not to get too close to others for fear of being emotionally hurt. Also, they might have had few opportunities to develop social skills needed to be effective neighbors.

Parents living in poverty are likely to have fewer social, emotional and tangible sources of support. As stated by Wilson (1991), parents living in poor neighborhoods experience social isolation due to their lack of employment and the experience of community violence that have a detrimental impact on building social relationships. Thus, support networks may work differently for disadvantaged families. Some authors report that social support might be less effective for poor parents because of the number of stressors they face and the tendencies for other members in their networks to be experiencing similar stressful events (Ceballo & McLoyd, 2002). In other words, poor families might have social networks with fewer resources and without the necessary capacity to provide appropriate and effective support. Other authors suggest the opposite: that social support is even more important for families living in poverty (Taylor, Casten, & Flickinger, 1993). Kotchick, Dorsey, and Heller (2005) reported that social support buffered the impact of neighborhood stressors and psychological distress on parenting practices of African American single mothers living in poor neighborhoods. Izzo, Weiss, Shanahan, and Rodriguez-Brown (2000) reported similar find-

ings in their study with Mexican immigrant parents in the US. Social support had a positive influence on parenting practices, and these effects were stronger for more stressed families.

In sum, having a supportive community seems to positively impact parenting. However, highly stressed and at-risk populations might benefit differently from social support. Chronic stress and lack of resources in their social networks might weaken the impact that support could have on parenting behavior. Conversely, in other families, ongoing stress may activate the need for social support, and this will have a positive impact on parenting practices. Regardless of the impact that support networks have on impoverished families, most studies are consistent in finding that socialization with neighbors is relatively uncommon in dangerous neighborhoods. In these neighborhoods, families tend to keep to themselves and monitor their children more closely.

Strengths and Limitations of the Evidence Base

Although there has been an increasing interest in understanding environmental factors that shape parenting behaviors and child development, this body of work is still scarce. As pointed out by Kotchick and Forehand (2002), there is evidence that contextual factors shape parenting, but more work needs to be done to identify how these variables interact together. In other words, it is difficult to disaggregate the effects of different community and neighborhood variables on family outcomes in order to establish what matters most. Importantly, a comprehensive model of parenting that includes the context (i.e., housing, communities and neighborhoods) is still needed in order to design interventions that target a broader range of influences.

There is little doubt that housing, neighborhoods and communities have a strong effect on parenting, family processes and child development, but more research is needed to understand the causal mechanisms that produce them, under which circumstances and where these effects are important. Simply put, one of the main challenges in this field of research is the identification of true causal effects. Most studies just show correlations between individual outcomes (i.e., parenting practices, family processes) and neighborhood characteristics.

Methodologically, most studies in this field are cross-sectional, thus it is difficult to establish how these variables relate across time, and whether one is a consequence of the other. The evidence in this field comes largely from non-experimental studies of non-representative samples of low-income families. Much of the research is descriptive and its generalizability is therefore unknown. In addition, many studies underestimate variation across and within neighborhoods, making wide assumptions in very complex presentations. That is to say, it is often assumed that poverty is homogeneously distributed across a neighborhood, when in reality neighborhoods are characterized by heterogeneous presentations and diverse levels of risk.

Although most studies exploring the impact of housing, neighborhoods and communities provide useful information, relatively little attention has been paid to the time frame necessary for these conditions to affect parenting and child development. To put it differently, exposure to adverse environmental conditions may need to accumulate over time to affect development, or might only affect development after a lag period. The relevant timeframe may differ for different outcomes. However, current studies are unable to explore these timeframes of exposure as they often explore effects cross-sectionally.

Another limitation widely recognized among scholars in the field is the selection bias, also known as the omitted variable bias. This refers to the fact that unmeasured characteristics associated with neighborhood residence might really account for observed neighborhood effects. For example, families that move into poor neighborhoods might differ in a variety of ways from those who, even though equally poor, make different choices. These differences could actually account for reported neighborhood effects, leading to an overestimation of these effects.

A final limitation in the field is that it is difficult to measure the impact of interventions

directed at improving wider contexts such as neighborhoods and communities. Building strong communities takes considerable time and impacts might be visible after a whole generation. As some authors have suggested, it is easier to show that disorganized communities are not good for children than to demonstrate the opposite through evaluation of interventions (Samson, 2008). Intervention studies in communities and neighborhoods become more complicated when considering that families tend to move, making interactions and structural characteristics dynamic and changeable across time. Nevertheless, there are some experiments, such as the Moving to Opportunity Experiment in the US (Chetty, Hendren, & Katz, 2016; Raver, Blair, & Garrett-Peters, 2015) that allowed systematic observation of different environments on family processes. Results from the Moving to Opportunity Experiment consistently suggest that parenting practices are sensitive to the outer world, and that by improving this outer world it is possible to achieve better family and child outcomes (Leventhal & Brooks-Gunn, 2003).

Future Directions for Research

There are important questions in the field that remain unanswered. Firstly, it is key to explore the specific processes through which housing and neighborhood characteristics affect family processes. Most research has found associations between poor environmental conditions, inadequate parenting practices and suboptimal child development. However, the mechanisms or pathways through which poor housing and neighborhood conditions lead to these negative outcomes are unclear. Conceptual models of the specific processes are needed, as these models are crucial to developing operational hypotheses to be tested.

Future research should also aim to answer whether intentional changes in environmental conditions, such as housing and neighborhood, produce an effect on health and family processes. The ideal approach for answering this question is to conduct randomized controlled trials (RCTs). RCTs in this field are virtually nonexistent, except for one frequently cited example—Moving to Opportunities in the US (Chetty et al., 2016; Ludwig et al., 2013). However, in this RCT families were randomized to moving or not moving to non-poor areas and a neighborhood-level intervention was not directly examined. The main challenge for conducting RCTs in this field is the lack of a clear understanding of what the intervention should be. Designing housing and neighborhood interventions requires further elucidation into the processes and mechanisms through which these environmental factors affect the child and the family. Some authors have suggested that emotional dysregulation and negative emotions (such as frustration and irritability due to the myriad of hassles associated with substandard living conditions) are a potential mechanism that can be targeted through psychological interventions (Kim et al., 2013; Raver et al., 2015). Another underlying mechanism that could be targeted is stimulus overload and chaos through neighborhood redesign and reshaping initiatives. In sum, better theory is needed in order to design interventions and build a stronger research base.

In terms of measurement, there is a need to develop housing and neighborhood measures that are relevant to child development. Measurement of key dimensions varies widely across studies and some suggest the need to reach a consensus on the physical, financial, and psychological aspects of the home that should be included. Finally, it is important that longitudinal and cohort studies of children include reliable and valid measures of housing and neighborhood characteristics. Environmental and physical factors surrounding children and families should be measured more often and incorporated into future studies.

Implications for Policy and Practice

While some parenting programs consider the broader context by incorporating a population health framework, other programs operate as if families live in a vacuum, or in other words, as if they exist without social relationships beyond their immediate circle. Research suggests that

macro-level systems, such as the neighborhood and the community, have a powerful impact on parenting practices and the way families relate. Thus, it is important to consider the broader context in which parenting occurs when designing and implementing parenting interventions.

It is clear from the research reviewed so far that housing, neighborhoods and communities contribute to the decisions parents make about how to raise their children. Interventions need to be developed taking into account this evidence. In terms of housing, public policies should focus on offering parents of young children the necessary stability to reduce psychological distress and coercive practices that put child development at risk. Importantly, research suggests that parents in poor neighborhoods tend to isolate from others and engage in more restrictive parenting practices. Interventions should focus on building community networks and reducing this sense of isolation, thus also contributing to increasing collective efficacy, social cohesion, and social control within a particular setting.

Governments should make consistent efforts to strengthen communities. This starts by investing in those local institutions that affect children the most: child care and school services, as well as after school programs. Importantly, community systems should identify those parents that are positive, capable role models and connect them with other parents who might be able to learn from their experience. Families should also be empowered to search for support and agitate for better services. If interventions to increase parental agency are targeted to leaders within a community it is possible to increase community agency through a snowballing effect. Housing design can facilitate or inhibit the formation and maintenance of support networks. Therefore, housing should include spaces to support informal contact with neighbors and adequate safe play spaces for children.

In sum, public policies so far have mainly focused on the design and implementation of micro-level interventions to support parents and provide them with the necessary skills for relating with their children. However, this relationship does not occur in isolation. The parent–child relationship is shaped by the context in which it occurs. For positive human development, it is key to implement interventions that prompt the development of support and community networks, and assist families in having adequate housing and living conditions.

Conclusions

Purely individual-based explanations for parenting and family processes are insufficient and fail to capture important contextual and social determinants. A body of research suggests that housing, neighborhoods and communities have an important effect on parenting practices and child development. Specifically, poor quality and unstable housing is associated with harsh and ineffective parenting practices which contribute to poorer cognitive, emotional, and behavioral outcomes for children. Neighborhood structural characteristics (such as high levels of poverty and ethnic diversity) lead to family isolation and fewer opportunities for social support, which in turns affects parents and children. Poor neighborhoods are also characterized by lower social control and less social cohesion. These organizational aspects of neighborhoods impact the development of community networks, which are important to prevent child maltreatment. Parents who have community support report less psychological stress and more effective parenting practices.

Research in this field is growing. Nevertheless, scholars still need to disentangle causal pathways through which these environmental factors impact family processes, and develop conceptual models that will allow the design of interventions. RCTs testing the effectiveness of macro-level interventions, such as the Moving to Opportunities Experiment in the US, are few. Although changing communities might take several generations, impact evaluations are needed in order to improve the lives of those living in suboptimal environmental conditions.

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Policies and Services Affecting Parenting

Kylie Burke, Divna Haslam, and Keny Butler

Introduction

Federal and state governments invest significant time and effort into the development of policy and funding of services designed to improve the lives of citizens and society. How these efforts impact one of the most important tasks of people and communities, raising children (parenting), is a critical and largely unanswered question. Many policies that affect parents and their capacity to be available and responsive to their children have arisen from the need to address other issues affecting society, namely, the labor force market. The need to ensure an appropriate, sustainable and productive workforce has led to shifts in policy, law and work practices that have had flow on effects for parents and children. Examples include antidiscrimination laws, childcare subsidies, flexible work arrangements, provisions for leave from and return to work (i.e., parental leave, annual recreation leave, personal and carers leave), hours of work, and other employment conditions. Other policies have come from societal changes and demand for or interest in issues such as changes in social structure (e.g., the increase in single-parent households), equality and the need to address poverty, mental health problems, substance abuse, and child maltreatment.

Some policies do however directly target parenting. These policies are designed to promote parent–child bonding and to make it easier for parents to afford the day-to-day expenses associated with raising children. This chapter explores the types of policies and services that either directly or indirectly affect the capacity of parents to care for and promote the development of their children.

Theoretical Background

The Changing Shape of the Family

Across the world the structure and nature of families are changing. While life expectancy has risen, birth rates have declined over recent decades. The age women have their first child is increasing and women are having fewer children and for many, none at all, resulting in reductions in household size (OECD, 2011). Delays in becoming parents are related to greater access to contraception, which has provided more control over timing and occurrence of births, and a push to become established in the labor and housing markets prior to parenthood. Large increases in educational attainment and participation in the workforce by women have also occurred, in part

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due to women having more opportunity to seek their own career aspirations and in part due to the financial strains of providing for a family. Alongside these changes, there has been a decline in marriage rates and an overall increase in divorce rates since 1970, with some countries continuing to increase while others have shown stabilizing or falls in divorce rates between 1995 and 2014 (OECD, 2016). However, the combined effect of reductions in marriage rates and an overall increase in divorce over time, has contributed to an increase in sole parent families and "re-partnered" or blended families. There has also been an increase in forms of family other than marriage, with an increase in cohabitation and other alternative living arrangements between couples. Changes in the partnership arrangements of parents have also resulted in changes to where and how children are raised, with shared custody arrangements meaning children often live across more than one household. Greater social mobility and globalization means that many families may live in communities isolated from their extended families (Weldon-Johns, 2013).

The evolving characteristics of families are influenced by and directly affect government policy. Consideration of these changes to family structures are important for policy makers as they influence labor force and educational opportunities of parents and their children. Socioeconomic factors have been shown to be transferred between generations, as are parenting practices (Capaldi, Pears, Kerr, & Owen, 2008; Chung et al., 2009). Combined with an aging population, governments need to consider policies that seek to reduce transference of intergenerational disadvantage to promote the development and well-being of citizens, ensure an adequately supplied labor force and meet the welfare demands of their constituents in future decades.

Work–Life Balance

From the earliest laws designed to improve productivity and conditions for workers, to policies specifically relating to work–family balance and parenting, government policy has a long history of affecting the health and well-being of families. For example, the introduction of the 5-day week and 8-h working day in many Western countries had the spillover effect of enabling men to participate more in family life. Previous research identified factors such as job design (Bakker, Demerouti, & Verbeke, 2004), work satisfaction (Böckerman & Ilmakunnas, 2012; Kalliath & Morris, 2002) and hours of work (Barnett, Gareis, & Brennan, 1999; Halpern, 2005) as critical to higher productivity and reductions in worker burnout.

Combined with labor force changes, educational opportunities and social changes such as a focus on gender equality, we have seen a number of subsequent changes in family lives. For example, there has been a significant increase in women's educational attainment and participation in the labor force. In many countries, children are being raised in homes where both parents work, whether by active choice for both parents to pursue a career or by necessity, to make ends meet (OECD, 2011). As the structure of families has changed, the attention of policy makers has turned to factors that affect child and family well-being and work–life balance.

This focal shift has spurred a large amount of research on balancing work and family and the impact of women's involvement in work outside the home on the care and well-being of children (Weldon-Johns, 2013). Research on work–life balance has implications for reducing stress, increasing commitment and productivity of workers (OECD, 2011). It has been suggested that conflicts between work and home-life may be associated with declining birth rates, continued discrimination of women in the labor market and negative effects for an individual's quality of life (OECD, 2011). For example, people who have trouble balancing their work and personal lives perform less effectively in both domains, placing them at greater risk for health problems and are implicated in declining quality of life (Abendroth & den Dulk, 2011).

Much of the focus of the impact of work–family policies has been on organizational and employee outcomes such as productivity. The

UK periodically conducts an evaluation of its work–life balance policy. The Work–Life Balance Survey (Hogarth, Hasluck, Pierre, Winterbotham, & Vivian, 2000) has shown shifts in a range of practices and employee behaviors since the introduction of its Work–Life Balance Campaign in 2000. This survey has shown that employers and employees perceive work–family balance policies to be beneficial to both employees and the workplace. The third and fourth iterations of the survey found an increase and maintenance of the availability and use of provisions such as flexible working arrangements, increases in the number of employees taking maternity leave, but with variable availability of paid maternity leave. Further, there was an increase in the number of fathers taking paternity leave (paid and unpaid) and the proportion of workplaces providing childcare facilities (Harward, Fong, & Thornton, 2007).

Very little research has explored the direct impact of work–family arrangements on parenting. However, the existing research indicates that organizational strategies aiming to support a work–life balance are helpful to the family. Estes (2005) in a study of 158 mothers found that mothers reported that family friendly work arrangements, such as ability to work from home and schedule flexibility combined with supervisor support, facilitated their parenting activities such as shared meals and assertive discipline. This is an area of research that requires much greater attention if we are to better inform policy and organizational work–family priorities.

This research, along with public advocacy and shifting society mores about the role and rights of women, have led to countries across the world introducing policies designed to better support the capacity of women to self-educate and pursue careers and/or financial security for their family. Accompanying this has been an increased demand for alternative ways for families to find childcare support, such as formal childcare and family day care. It has also led to changes to working conditions that seek to enhance parental capacity to meet their parenting responsibilities while maintaining a sustainable and productive workforce via work–family balance initiatives.

Family-Focused Policy

Most public policy and spending for supporting families is given in the form of financial support, such as government-funded parental leave, child allowances, and tax benefits for families. However, family policy is not just about these financial assists; promotion of child health and education, and reducing barriers to parental employment (OECD, 2011) are also critical.

Approaches to supporting families vary from country to country and are vulnerable to changes in economic conditions in ways that other policies often are not. Support for work–family balance tends to come from a mix of support from governments, employers, and personal sources (extended family and friends). For example, at the public policy level governments may provide publicly funded childcare, statutory leave, and return to work provisions or policies regarding flexible working practices. These types of government initiatives have been implemented across many industrialized nations, including Australia, New Zealand, the UK, and European countries such as Sweden and Finland (Abendroth & den Dulk, 2011; Baxter & Renda, 2015). The most extensive family policies are found in Scandinavian countries, with these countries taking public health approaches to the provision of support for the entire population, with support also provided by the business sector. In other countries, such as the US, Germany, the UK, and Australia, personal and organizational support play a more significant role. The US for example has adopted a targeted rather than universal approach, with government policy targeting at-risk populations such as low-income parents, teenage parents, and parents with disabilities (Katz, Levine Coley, McDermott, McPherran, & Yaya, 2010). The variations across countries are based in the country's specific history, attitudes towards families, the role of government and the relative weight given to the underlying objectives of family policies (e.g., work–family balance versus increasing birth rates, increasing labor supply via women's participation, or promotion of child development and well-being; OECD, 2011).

Glass, Simon, and Andersson (2016) in their review of the European Social Surveys and International Social Survey Programme found that parents experience lower levels of emotional well-being than non-parents across industrialized societies. The negative impact of parenting on the emotional well-being of parents tends to be smaller in countries where government provides greater levels of resources and support to families. The more generous the government support for parenting, particularly paid time off and childcare subsidies, the smaller the disparities in well-being between parents and non-parents. Given the demonstrated impact of mental well-being on worker productivity and job satisfaction (Glass et al., 2016), the greater participation of women in the workforce and the early research exploring the impact of these policies and procedures on the family, it seems clear that governments cannot afford to ignore the importance of the parental role for individuals and society.

The decisions about where to allocate limited financial resources are impacted by a country's priority areas and by extension tend to set cultural expectations and values. Esping-Andersen (1990) described a classification approach that captures the differences between countries and their welfare approach:

1. Liberal welfare states—characterized by low level of state-provided welfare and higher reliance on market solutions (e.g., UK, US, Australia, and Canada)
2. Conservative welfare states—the family is prioritized with government emphasizing the family as the main provider of welfare to individuals (e.g., France, Italy, Germany)
3. Social Democratic welfare states—characterized by state provision of services and benefits, with both available equally to everyone (e.g., Sweden, Denmark, Netherlands).

The US: A Liberal Welfare State Approach

Rather than a universal approach to child and family policies, the US takes a targeted approach to support for families. Policies and interventions primarily focus on the provision of support to at-risk populations such as low-income parents, teenage parents, and parents with disabilities (Katz et al., 2010). Yet access to these services varies across states and the level of support provided within these programs can be limited. For example, the US does not offer a universal family allowance scheme but offers the Temporary Assistance for Needy Families (TANF) grant to states. States are free to set their own eligibility requirements and implementation strategy for TANF benefits, and a lifetime limit of 5 years for cash payments is in place (Schott, 2009). Disparity of eligibility and benefits offered across states fails to systematically support families in need or consistently reduce gaps in disadvantage.

A fragmented and restricted approach to parental leave is also evident in the US. Out of 173 countries, the US is one of only four countries not to offer government sponsored paid maternity or parental leave (Heymann, Earle, & Hayes, 2008). Across the US, the 1993 Family and Medical Leave Act (FMLA) entitles eligible employees to twelve weeks of unpaid leave. However, small companies are exempt, individuals must have worked a minimum number of hours in the year prior to leave, and job reinstatement is not guaranteed for certain employees (Ruhm, 2011). Among individual states, only three states offer paid parental leave without job protection, and five states offer temporary disability insurance which treats pregnancy as a short-term disability and entitles mothers to a partial interim payment without job protection (Fass, 2009). While progress has been made by individual states to offer some form of payment during maternity leave, inconsistency across states and lack of job protection do little to ease the challenges faced by new parents.

Furthermore, the abrupt return to work by mothers after giving birth has been found to have detrimental effects on maternal and child health (Berger, Hill, & Waldfogel, 2005; Walsh, 2011). A lack of paid leave places families in financial hardship, and negatively impacts employment status through demotions, or denial of promotions and raises (Walsh, 2011). Meanwhile in countries where parental leave is paid, job continuity increases and the earning power of

individuals is largely unaffected (Ruhm, 2011). In the US, a considerable proportion of families enter poverty after the birth of a child (Rynell, 2008). Providing paid parental leave can assist in keeping parents employed, circumventing bankruptcy and poverty—benefits which the US is yet to realize.

Germany: Moving Beyond a Conservative Welfare Approach

Family policy in Germany is undergoing a transformation to become less conservative, shifting towards new policies that support working parents and a healthy work–life balance. In 2007, a new parental leave policy was put in place, giving parents access to parental leave until the child turns three. During this period both parents are entitled to parental leave and their employment position is protected. Families also have access to parental allowance which compensates them for the loss of income for up to 12 months equal to 65% of earnings prior to leave, capped at 1800 euros of net income per month (Federal Ministry for Family Affairs, Senior Citizens, Women and Youth, 2015). This policy was primarily designed to encourage skilled mothers to have children and improve their continuity of employment (Ostner, 2010). The policy also encourages fathers to take a more active carer role by offering an additional 2 months in payments when both parents access the allowance to cover lost income during leave.

When parents return to work, publically funded childcare is available with priority access given to socially and economically disadvantaged families (Immervoll & Barber, 2005). Fees for parents vary by region, however a large proportion of childcare costs are recovered by generous deductions on tax returns, keeping the cost of childcare relatively low. Beyond parental leave and accessible childcare in the early years, ongoing child benefits are paid monthly to all families irrespective of income until the child is 18 years old, or until 25 years old if the child is studying. Providing long-term financial aid to parents reflects the government's view that parents need to support their children until they become independent and enter employment (Leitner, Ostner, & Schmitt, 2008). The establishment of policies that financially support parents in their role demonstrates Germany's desire to shift towards a social democratic model where benefits and support are available for all.

Sweden: A Social Democratic Approach

Sweden is known as a country with generous family policies that over many decades has resulted in a high level of value placed on family and children among the Swedish population. In Sweden, supporting families is a clear national priority. This changes perceptions of the importance of family and may contribute to the increasing birth rates in Sweden at a time when birth rates in most developed countries are falling. The policies and family entitlements simply make it easier for families to have more children and to focus on raising them well. One key policy for which the country is known is exceptionally generous parental leave entitlements of up to 480 days of paid leave (including 240 days of paid paternal leave) at 80% of full pay. Although many countries encourage both parents to take leave (e.g., Australia allows either parent to take parental leave after the birth of a child), Sweden is relatively unique in that 90 days of parental leave is set aside exclusively for each parent (and cannot be transferred). This is designed to ensure both parents have an equal opportunity to develop strong attachment with the children and has the added benefit of encouraging active father involvement in the parenting role from birth. In addition, Sweden has a range of other family provisions such as (almost) free healthcare, free schooling and the option of using 120 days per year of temporary parental leave to care for sick children. Such provisions are costs at a government level and the tax rates in Sweden are higher than countries such as the US; however, many Swedish families would argue that investing in families is investing in the future and is worthwhile.

Supporting the Vulnerable

As the disparity between those who have and those who do not has grown, governments have developed policies and funded services designed

to better support the most vulnerable members of society. Policies designed to reduce child maltreatment, provide health care and safe neighborhoods via crime reduction are all examples of strategies that have implications for parenting.

Attention has also turned to addressing participation in the workforce and reducing reliance on welfare systems with a worldwide move to "Welfare to Work" policies. These initiatives directly affect parenting, particularly mothers, with the results often seen to be detrimental. For example, in 2005, Australia introduced Welfare to Work activities designed to target primary carers in receipt of a Parenting Payment and in particular single parents, with the stated aim of increasing individual financial and subjective well-being (Commonwealth of Australia, 2005). Results however showed that the outcomes have not matched the aims (Brady & Cook, 2015) with sole parents seen to move further into poverty, experiencing increased stress and concerns about future security. In the US, welfare reforms targeting parents via work requirements, time limits and childcare subsidies have been shown to increase employment rates among sole mothers. However, there is also evidence of increased maternal depression symptoms and impacts on child well-being (e.g., less breastfeeding, lower reading to child rates; Herbst, 2017). These findings demonstrate the critical need to assess policy impacts across multiple domains that cover both the employment sector and individual, family, and child well-being.

Child maltreatment policies designed to protect children from harm have resulted in varying laws and procedures. These laws have been informed by broader international policies such as the UN's Charter on Child Rights, which have informed Sweden's decision to make spanking a child illegal, and initiated government investigations and reports into critical incidents (e.g., Carmody Report in Queensland, Australia). A broadly adopted facet for many countries is that of mandatory reporting, in which responsible professionals (e.g., health providers, police, educators) are required to notify child protection authorities when they suspect a child is subject to maltreatment. The focus on mandatory reporting and parenting within the child protection sector has led to an increase in the number of at risk children being identified and families requiring support services. In response, governments have grappled with how to best protect the rights of children and deal with the demand for services. Most aim to keep families intact with the aim to assess and where possible improve parents' capacity to be responsive and available to their children in ways that keep them safe and promote their development. Different jurisdictions use differing approaches to achieve this. Some emphasize parent education and support, while others use parenting contracts to force parent compliance. In the US, child welfare service agencies are mandated to provide parenting programs for families, with a push to the use of evidence-based programs. In Australia, the child protection system has recently undergone significant restructure, with a move away from a primarily statutory response to a family support focus. This has led to restructuring of the service system in several states with the emphasis on early identification and community response via intensive family support rather than a statutory investigation focus. It is too early to assess the impact that these changes will have on the intergenerational problem of child maltreatment, but such an approach seems positive and likely to decrease the stigma associated with seeking support.

Policies designed to build safe neighborhoods also have the potential to impact parenting. Research shows that parenting is adversely affected when living in dangerous neighborhoods and that effective parenting can act as a protective factor against the adversities associated with living in poverty and/or dangerous areas (Ceballo & McLoyd, 2002). Conversely, living in neighborhoods characterized by common goals such as ensuring the health and safety of children and where services such as mental health and substance abuse support are accessible is linked with lower levels of child maltreatment (Maguire-Jack & Klein, 2015).

Health care policies also have an impact on parenting. Population level government initiatives have been shown to result in significant reductions in prevalence of health risks such as tobacco use. For example, tobacco control strategies and public health education campaigns have resulted in a significant reduction in the preva-

lence of tobacco smoking across the past 30 years across gender and age groups (Australian Bureau of Statistics, 2015; White, Hill, Siahpush, & Bobevski, 2003). These changes have resulted in direct and indirect improvements in the well-being of children, including reduction in exposure to the dangers of passive smoking and reductions in the number of young people commencing or continuing smoking (US Department of Health and Human Services, 2006, 2012). Similarly, policies targeting parenting practices associated with child health issues such as sleep safe policies for children and their associated public education campaigns have been shown to enhance parenting practices associated with these issues and to reduce the incidence of Sudden Infant Death Syndrome (SIDS; Pollack & Frohna, 2002; Task Force on Sudden Infant Death Syndrome, 2011). Given the detrimental effects of alcohol consumption during pregnancy such as Foetal Alcohol Syndrome (FASD), government attention and initiatives have also begun to target alcohol use during pregnancy. For example, the Australian Government developed an action plan aiming to take a whole of population approach to reduce the impact of FASD across Australia (The Foundation for Alcohol Research and Education, 2013). However, as is often the case, rigorous evaluation of such initiatives is limited.

At a broad level, government regulation of health care is a significant factor with potential to improve the lives of children and families. When a family has access to good health care it eases the burden of everyday and more serious health issues that can affect a parent's capacity to remain in the workforce (either due to their own ill health or due to the need to care for their children). Inadequate health care has major implications for the development and well-being of children. It increases parental stress and burden, places financial strain on the family and places children at risk of poor outcomes and even death.

Parenting Specific Policy

There is very limited evaluation of policy affecting families and in particular those that directly target the role of parenting. However, what does seem to be emerging is evidence that when governments invest more in the health and well-being of families, including conditions for parenting (e.g., flexible working hours, financial support, availability of affordable, high quality childcare) then there are reductions in financial stress and improvements in emotional well-being of parents (Glass et al., 2016). Parenting is an important aspect of an individual's life and a critical risk and protective factor for the well-being of the next generation. Governments in recent decades have turned to initiatives and policy directives directly targeting parenting via the implementation of parenting support programs. Some governments take a more evidence-based approach to their focus on parenting. This is in part determined by the type of government category, whereby more liberal or social democratic societies are more likely to fund or be supportive of evidence-based approaches, while more conservative governments tend to take a much more localized community approach with locally developed programs and little focus on manualized evidence-based programs. Across all, the approach to parenting support has tended to be localized to focus on specific contextual issues, but with many moving towards a greater emphasis on agencies selecting programs that are identified as evidence-based on an approved registry, such as the US's California Evidence-based Clearing House for Child Welfare (CEBC; www.cebc4cw.org) or Blueprints for Healthy Youth Development (www.blueprintsprogram.com) registries.

Countries such as the UK, Denmark, France, Germany, Italy, and the Netherlands all have explicit national policies prioritizing parents and families with the policies covering social inclusion, maternal labor force participation and the changing structure of the family (e.g., increases in sole parent families). In 2015, Indonesia established a Directorate General of Parenting Education within its Early Childhood Education Directorate for the purpose of providing online support to parents to promote their child's success at school. These policies represent important shifts in recognition of the role of government in supporting parenting as a means to reduce social and health issues that have

persistent and intergenerational effects on individuals and community indicators of social disadvantage and adversity.

The UK experience is one such example of the shifting focus and prioritization of parenting to improve individual and community outcomes, even among liberal nations where government involvement in welfare has tended to be lower than in social democratic nations. In the late 1990s, the UK established family policy as a key part of their agenda with government reports (Every Child Matters, H M Government, 2003 and the Children's Plan, Department for Children, Schools and Families, 2007) and legislation (Children Act, 2004, H M Government, 2004) emerging as a direct result. Underpinning the family policy drive was a strategy for supporting families: in 2006 the UK government published the Respect Action Plan which vowed to improve the provision of parenting programs to support vulnerable families (Home Office, 2006). This action plan allowed the Department for Children, Schools and Families (now the Department for Education) to fund the implementation of the Parenting Early Intervention Program (PEIP) from 2008 to 2011 (Lindsay & Cullen, 2011). The PEIP offered five evidence-based parenting programs to parents of children aged 8–13 years via local authorities, with a focus on reaching parents whose children were at risk or experiencing behavioral difficulties (Lindsay & Strand, 2013). Programs funded for delivery were Triple P, Incredible Years, Strengthening Families Strengthening Communities, Families and Schools Together (FAST), and the Strengthening Families Program. It was the responsibility of local authorities to determine how to implement one or more of the funded programs to reach target families in their region. The aim of the trial was to evaluate the short and long-term effectiveness of parenting programs when disseminated at a national level (Lindsay & Strand, 2013).

The trial found the roll-out of parenting programs at a national level to be effective in improving parents' mental well-being, parenting style and child behavior after program attendance and 1 year later (Lindsay & Strand, 2013). The trial was also successful in reaching vulnerable families, as well as engaging families from a broad demographic (Lindsay & Cullen, 2011). Effective delivery across varying local infrastructures and environments showed the strength of evidence-based programs in achieving positive parent and child outcomes regardless of implementation setting. The overall success of the trial provided evidence that government funded dissemination of evidence-based programs could meet the goals of government policies and strategies. As such the trial was influential in seeing successive UK governments support the implementation of evidence-based programs at a population level, an example being the CANparent initiative (see Box 1 for more detail on this initiative).

Box 1 Case Study: Support for Parenting in the UK

Despite changes in government, over the past 20 years UK government strategies and policies have continued to emphasize parenting support and early intervention to benefit families and society (Cullen, Cullen, & Lindsay, 2017). Following the success of the Parenting Early Intervention Programme (PEIP) and despite a change in power, the UK government continued to show its commitment to families by launching the CANparent trial in May 2012. The CANparent trial was a high-profile yet small-scale initiative targeting parents with children aged 0–5 years living in three English districts. The goal of the trial was to examine whether the provision of free parenting classes and the creation of a parenting class market could normalize and destigmatize parenting class attendance (Cullen et al., 2017; Lindsay et al., 2014). The parenting class market was established by allowing participating service providers to offer evidence-based parenting programs to parents in exchange for a CANparent course voucher. Vouchers were advertised and available to parents at pharmacies (Boots branches), community and health

(continued)

Box 1 (continued)
settings, as well as online from the CANparent website (Cullen et al., 2017; Lindsay et al., 2014).

In March 2014, the CANparent trial concluded. The trial achieved positive outcomes for parents who attended courses, it also succeeded in reducing stigma among parents in attending parenting classes, and aroused some demand for access to parenting courses (Lindsay et al., 2014). However, penetration of the initiative remained low, with only 6% of eligible parents taking up a parenting course via the CANparent initiative (Cullen et al., 2017). Reviews of the trial have identified several contributing factors including limited funding, lack of program awareness and lack of buy-in from providers in the parenting class market model (Cullen et al., 2017; Lindsay et al., 2014). Despite low uptake, the trial offered key insights into the dissemination of evidence-based parenting programs via a market model. Subsequently, the UK government announced in January 2016 that its latest Life Chances Strategy would include a focus on the dissemination of parenting programs via a voucher scheme (Gov. UK, 2016).

A major outcome of government policy is the funding of services designed to address strategic priorities. Typically programs and service initiatives related to family and child focused policy have targeted provision of support for the most vulnerable children and families. Some examples include: school lunch/breakfast programs, before and after school care, refugee and migrant support services. However, a range of universal prevention programs have also been funded across the world with some of these targeting whole communities such as America's Strong Communities for Children Initiative and the UK's Sure Start Initiative. The UK's Parenting Early Intervention Programme (PEIP) and CANparent trial are two examples of Family Policy driven government funded initiatives designed to enhance parental capacity.

Strengths and Limitation of the Evidence Base

It is clear that the prioritizing of families and specifically parenting has increased over the past two decades with many countries now having explicit policy directives aimed at enhancing family cohesion and well-being. Such a focus is likely to make a significant difference on the health and well-being of children and communities. Despite this increased focus on family by policy makers, there are still relatively few studies that have explored the impact of policies directly on the role of parenting.

The focus on family as a government priority has spawned several attempts at population-level implementation evaluation designed to enhance parenting confidence and capacity in disadvantaged communities with the aim of reducing prevalence of child maltreatment and other social problems. Examples include the UK's PEIP (Lindsay & Cullen, 2011) and CANparent (Cullen et al., 2017), the US's population level trial of the Triple P—Positive Parenting Program (Triple P; Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009) and Ireland's population-level evaluation of Triple P in Longford Westmeath (Fives, Pursell, Heary, Gabhainn, & Canavan, 2014).

The US Triple P System Population trial was a government funded initiative evaluating the effects of an evidence-based parenting intervention, namely the Triple P System, on the prevalence of child maltreatment at a population level. Using a place-randomized design, 18 counties in South Carolina received either care-as-usual or the Triple P System. At the conclusion of the intervention, counties receiving Triple P had lower rates of substantiated child maltreatment cases and lower rates of injuries, hospitalizations and out-of-home placements resulting from maltreatment (Prinz et al., 2009). Through the broad dissemination of an evidence-based parenting program and the evaluation of administrative data, the US Triple P trial demonstrated that supporting parents not only positively impacts individual families, but that population level access to parenting programs can also address broader public health concerns. Such trials provide policy makers with the evidence necessary to demonstrate the

value in directing funding towards and developing policies that focus on supporting parents in their role, given the broader community and societal benefits that can be realized. While the US Triple P trial provides an example of the effective use of administrative data to evaluate government initiatives, access to such data across many nations presents a significant challenge.

At a population level, the data required to do a comprehensive and nuanced evaluation of the impact of government policy and the effectiveness of whole of community approaches and services provided to children and families is not readily available. In most countries, the data is either collected in an ad hoc manner across multiple agencies, and/or does not include variables that reflect the role of parents or the social, emotional, behavioral, and developmental outcomes of children. Nor is data effectively captured that enables assessment of the impact of adversity at an individual or population-basis. Longitudinal surveys such as the Australian Longitudinal Survey of Australian Children (LSAC, Australian Institute of Family Studies, 2010) have been helpful but as time passes these too have limitations with the representativeness of the sample reducing, and/or the survey questions not keeping up with shifts in issues or priorities.

Purpose built evaluations can be very useful and in several instances have been used to execute population level evaluations of parenting programs such as those employed in the UK's PEIP and the US and Irish Triple P population trials (Fives et al., 2014; Lindsay & Cullen, 2011; Prinz et al., 2009). However, these are often underfunded aspects of projects and are generally time-limited to the duration of the project, thus reducing the potential for ongoing tracking and evaluation of policy and service outcomes. Collecting data from community agencies and practitioners can also be challenging and misses an opportunity to more broadly assess the impact of policy on community and neighborhood well-being.

Complex government structures such as those in countries like Australia, and the US represent significant challenges to both the development of family-based policy and services, and the capture of data that can be used to effectively assess the return on government investment. Thus, it is critical that governments move to the creation of intersectoral collaborations with subject matter experts in the child and family sector and research institutions and universities that can generate strategic approaches and solutions to the capture of indicators of child, parent, and community well-being that can be used to track the effectiveness of interventions, funded services, and policy, as well as the health and issues facing communities over time.

Future Directions for Research

Given the intergenerational transmission of factors such as socioeconomic status, child social, behavioral, and emotional problems and parenting practices themselves there is clearly a continued need for governments to develop and evaluate the impact of policy at the individual family and broader community (e.g., worker productivity, social disadvantage, and rates of child maltreatment) levels over time. Where evaluations of government policy related to parenting and families have been undertaken they have either tended to be focused on functional aspects of family life, such as time together, stress, and conflict rather than on the impact the policies have on the parent–child relationship and use of positive parenting practices, or have involved a project specific evaluation that is funded over several years and hence limits capacity for the sustainable evaluation of longer-term effects of the government policy, such as the US Triple P population trial (Lindsay & Cullen, 2011; Prinz et al., 2009). Further, evaluations of family-focused policy and services would benefit from adoption of an ecological approach to evaluation that accommodates for the complex community service and social contexts in which the policy or service is implemented with families.

To achieve a comprehensive and strategically focused ecological approach to assessing the impact of parenting and family focused policy on families, work is needed in development and implementation across government and community services of indicators of parenting and child social, emotional, and behavioral well-being, as well as indicators of adversity and social disadvantage. Morrato, Elias, and Gericke (2007) in their

analysis of population-based data use in national health policy across the US, Australia, and the UK highlighted the need for sustained political will in ensuring data collection and analysis is initiated and that data is integrated into decision-making processes. They concluded that population based data can be used to assess the magnitude of a problem, including which populations are most vulnerable; to develop policy goals; and to track and evaluate the effectiveness of policy interventions. In the family-policy arena, government-driven collection of data at critical transition points in a child's life (e.g., birth, preschool, school, transition to high school, transition to leaving school/higher education/workforce) could be used to track shifts in child, family, and community well-being and priorities and to identify those most vulnerable to poor outcomes and intergenerational transmission of problems. This type of administrative data could be used to plan and evaluate government funded services and programs targeting parenting, family support, early childhood development and their impact on social disadvantage and community health across the lifespan of an individual and for the population as a whole. Data collected in this way would enable governments to proactively respond to the evolving needs and priorities of parents and families in an ever-changing societal context.

Conclusions: Implications for Policy and Practice

Families are changing. Life expectancy is higher, while birth rates are lower. Families now have fewer children, people are marrying at a later age and many families now live in nontraditional arrangements (e.g., cohabitation, sole parent, or blended families). Parents' aspirations have also changed with many fathers and mothers both seeking to combine a career and family life.

Governments make policy in a broad array of areas, from employment conditions, to health, to childcare and safety. The effect of these policies is broad and far reaching and has implications for not only the amount of time parents are able to devote to the task of parenting but also has implications for the financial and emotional stressors that are placed on family units, with potential negative impacts for parents and their children. Impacts of policy can be both positive, such as increased support for parental leave and inclusion of paternal leave in many countries having increased opportunities for mothers to participate in the workforce, and negative in relation to subsequent challenges with resource gaps such as availability or high cost of childcare.

We are seeing a shift to a more policy driven focus on the importance of parents and parenting in creating healthy thriving communities. Countries such as the UK, the US, and Australia are investing in population-level implementations of evidence-based parenting support. By supporting vulnerable families and children more effectively now with initiatives such as these, policy is likely to avoid costly negative outcomes in the future. The OECD report, Doing Better for Families, asserted that more effective public policies which do better for families can have large private and public payoffs (OECD, 2011). However, these efforts need to be sustained over time and built into ecological models that cover support for all families, ranging from the work–family strategies already described, to availability of community delivered parenting support programs and integrated services for families most at risk (Sanders & Burke, 2018). Better coordination and co-location of services for families generates economies of scale and also ensures that more families get the variety of services they need (OECD, 2011).

In order to improve public policy for societal gain it is necessary to take a more strategic and planned approach to the capturing of data by governments of the people it serves, including a focus on how data can be linked across department/custodian collections. This requires a coordinated focus for the creation of collaborative data definitions and efficient linkage strategies, including the development of safeguards to maintain the privacy of individual information. Practical and cost-effective procedures that enable researchers and policy makers to use the data in ways that increase understanding of the factors that create and maintain intergenerational problems in individual

families and societies are necessary. Effective evaluation of data will enable the generation of solutions via policy and service initiatives that address influencing factors, promoting the development of healthy and sustainable futures for our children and communities in generations to come.

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Part IV

Tasks and Challenges of Parenting and Child Development Across the Lifespan

Preparation for Parenthood

Mandy Mihelic and Alina Morawska

Introduction

The transition to parenthood is a time that comes with significant social, emotional, and psychological implications for the life of every mother and father. Welcoming a baby into the family brings much joy, happiness, excitement, and love to new parents (e.g., Feeney, Hohaus, Noller, & Alexander, 2001 and see Box 1). It also comes with numerous changes, including challenges and demands. These can include changes in the couple relationship, physical exhaustion (including sleep deprivation), psychological distress, and difficulties developing effective parenting skills (Cowan & Cowan, 2000). Parents are also faced with the challenge of mastering infant caregiving tasks and dealing with substantial lifestyle changes (Feeney et al., 2001; Glade, Bean, & Vira, 2005).

The nature of becoming parents for the first time has changed significantly over the past few decades with couples being older when they first have children, and women being more educated and more likely to be employed in full- or part-time work than in previous years (Hayes, Weston, Qu, & Gray, 2010). Family sizes have become smaller and new parents often live further away from extended family members, which can have implications for the availability of both practical and emotional social support (Feeney et al., 2001; Hayes et al., 2010). For example, it can be more difficult for grandparents to babysit or pass on their knowledge and skills to parents if they do not live nearby. Friendships may also change, with most new parents reducing and rearranging their friendship networks (Cowan & Cowan, 2000).

The mental health and well-being of new parents is also affected during the transition to parenthood, with changes beginning during pregnancy. Firstly, it is important to note that childbearing generally increases subjective well-being, particularly for mothers (e.g., Baranowska & Matysiak, 2011; McKenzie & Carter, 2013). However, perinatal depression and anxiety are relatively common for both mothers and fathers, which unfortunately can lead to short- and long-term adverse effects for children's cognitive, social and emotional development (Cornish et al., 2005; Murray & Cooper, 1997). The early months of family formation are very important for the mental well-being of new parents as well as for the infant (Sanders, 2012). Therefore, pregnancy is the ideal time point at which new parents prepare for parenthood and learn to deal with the numerous cognitive, emotional and social challenges ahead of them.

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Box 1 The transition to parenthood in diverse contexts

Parents do not just transition to parenthood in the context of a heterosexual two-parent family, living in a developed high-income nation. Children arrive into a world which is diverse and rapidly changing. Parents may be single, same-sex, or transgender. They may be migrants or refugees or part of a cultural minority, and could have been exposed to significant trauma and conflict. Parents may be experiencing significant physical, behavioural, or emotional problems. They may be faced with a precarious financial situation, risk losing their job, or face discrimination due to their pregnancy. They may lack adequate access to basic prenatal services. These and countless other issues impact uniquely on expectant parents, and it is important to not lose sight of the fact that parents in diverse contexts and situations are likely to have different needs and priorities in preparing for the arrival of their child.

Multiple theoretical models have been applied in explaining and understanding the transition to parenthood, and some discussion of these will be infused within the chapter. Theories in this area have ranged from those targeting a specific aspect of the transition to parenthood (e.g., the enduring dynamics model to explain changes in marital adjustment; see Kluwer, 2010), or to the effects of transition on women specifically (see Parratt & Fahy, 2011 for a review of 'transition to motherhood theory'), to ecological models which attempt to explain the broader context of this stage of development (see Levy-Shiff, 1994 for an example). This chapter explores the transition to parenthood and presents evidence of the specific changes and challenges during pregnancy, including positive aspects, cognitive changes (such as attitudes and expectations), and the importance of parenting self-efficacy, emotional experiences (such as depression and anxiety), and changes to the couple relationship and wider social network. Given the increasing, albeit still limited, attention paid in the research on fathers, we will specifically focus on the role and experiences of fathers during pregnancy. We will then delve into some of the interventions that prepare parents for the transition to parenthood, future research directions, and lastly, what implications our knowledge of the preparation to parenthood literature has on real-life practice and policy.

Specific Tasks and Challenges when Preparing for Parenthood

Biological Changes

It goes without saying that pregnancy comes with an immense array of biological changes for the mother, and these can have a profound effect on her health, self-esteem, and well-being. It is beyond the scope of this chapter to review this area in depth, however, there is evidence that some of these changes are implicated in the development of postnatal depression (Yim et al., 2015), are associated with reductions in the frequency and intensity of physical activity (Abbasi & van den Akker, 2015), contribute to maternal body dissatisfaction postpartum (Hodgkinson, Smith, & Wittkowski, 2014), and impact on maternal brain structures (Hoekzema et al., 2017). Biological changes are important to consider and be aware of in terms of how they affect the mother both physically and psychologically.

Cognitive Changes

Attitudes. The obvious changes to a woman's physical body can result in multiple changes in her cognitions beginning early in pregnancy. Changes in self-identity, self-esteem and self-concept begin to occur during the first months of pregnancy and impact on a mother's emotional health (Darvill, Skirton, & Farrand, 2010; Staneva, Morawska, Bogossian, & Wittkowski, 2016). Fathers also experience changes to their sense of self and their identity as they negotiate

their idealized representation of fatherhood and the reality they experience once they become fathers (Höfner, Schadler, & Richter, 2011). The transition to parenthood is one of the most important stages of life and expectant parents have positive and negative expectations, beliefs and attitudes about how their lives will change with the arrival of their baby, as a parent, as an individual, and as a couple. Attitudes have been defined as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 2007, p. 598). In the context of expecting parents, this refers to certain beliefs about parenthood and how positively or negatively they are evaluated. According to the cognitive model, these attitudes could function as a specific cognitive risk factor for perinatal depression and anxiety. Attitudes may mediate the relationship between certain stressors that pregnant women experience during pregnancy and how they respond to events in the early postnatal period. For example, an expectant mother believing that making mistakes is normal and that these offer an opportunity for learning, may feel more confident and positive about dealing with mistakes after her baby is born (Sockol, Epperson, & Barber, 2014). Conversely, dysfunctional maternal attitudes can predict concurrent levels of depressive symptoms during pregnancy and the early postpartum period. So, if the mother believes that mistakes are a problem and should not happen, she is likely to respond to early mistakes or perceived mistakes with a loss of confidence and increased anxiety. Sockol et al. (2014) found that changes in maternal attitudes from pregnancy to 6 weeks postpartum predicted depressive symptoms at 6 weeks postpartum, even when depressive symptoms during pregnancy were controlled for. Thus, maternal attitudes during pregnancy are an important factor at the transition to parenthood, though research in this area remains limited.

Expectations. More comprehensive research has been conducted in the area of parenting expectations. These are defined as beliefs that reflect predictions about the future (e.g., "I expect my baby will cry a lot"; Sockol et al., 2014). Most expecting parents anticipate the arrival of their baby with enjoyment, excitement and enthusiasm (Delmore-Ko, Pancer, Hunsberger, & Pratt, 2000). Although it may be beneficial for new parents to be optimistic about their future family life, early parenthood also involves negative experiences (e.g., tiredness, managing infant distress). Expectations about changes to a variety of life domains (i.e., relationship with partner and extended family and friends, physical well-being, financial well-being, ability and desire to work, parental satisfaction, parental competence, and caregiving assistance from spouse) vary from positive to negative and realistic to unrealistic (Harwood, McLean, & Durkin, 2007; Kalmuss, Davidson, & Cushman, 1992). One study (Kalmuss et al., 1992) found that women's parenting expectations during pregnancy did not match their subsequent post-birth experiences, with discrepancies suggesting a pattern of inflated expectations. Women's expectations in regards to their relationship with their partner, friendships, physical well-being, maternal competence and assistance on caregiving tasks from their partner were more positive during pregnancy compared to actual experiences 1 year post-birth. However, mothers expected more of an economic decline than what actually occurred and overestimated their desire to return to work.

One particular area in which prenatal expectations affect postnatal adjustment and the couple relationship is in regards to the division of childcare tasks and play between mothers and fathers (Biehle & Mickelson, 2012). The arrival of a baby brings obvious increases in household labor, chores and tasks, which can lead to role overload and dissatisfaction with how each task is allocated. In previous generations, the role division was fairly clear: fathers would take on the role of primary financial provider, while mothers would take on the role of the caregiver for the home and children (Belsky & Kelly, 1994). Nowadays, these roles are less clear, as women have increased their participation in the workforce and therefore, expectations about the division of childcare tasks are not as clearly prescribed. Moreover, the actual division of tasks appears to be less important than whether the division of childcare in the postnatal period

meets the parent's expectations during pregnancy (Biehle & Mickelson, 2012).

The expectations about parenthood during pregnancy and the extent to which they are violated in the postnatal period are strongly linked to parental adjustment in the postpartum period (Bouchard, 2009; Coleman, Nelson, & Sundre, 1999; Harwood et al., 2007; Kalmuss et al., 1992). In general, positive parenting expectations have been associated with a positive adjustment to parenthood, whereas negative expectations have been associated with poorer adjustment, possibly due to a *self-fulfilling prophecy* (Coleman et al., 1999; Wylie, 1979). However, research suggests that the extent to which prenatal parenting expectations are realistic, versus simply positive or negative, appears to be most important in affecting postnatal adjustment (Biehle & Mickelson, 2012; Delmore-Ko et al., 2000; Flykt et al., 2014; Harwood et al., 2007; Kalmuss et al., 1992; Ruble, Hackel, Fleming, & Stangor, 1988). According to social cognition theory, the degree to which prenatal expectations are confirmed or disconfirmed by experiences postnatally can affect parents' adjustment to parenthood (Harwood et al., 2007; Lawrence, Nylen, & Cobb, 2007). Discrepancies between prenatal expectations and actual experiences postnatally can result in women perceiving their adjustment to parenthood as more difficult. Harwood et al. (2007) found that mothers' experiences that were negative relative to their prenatal expectations were associated with a decline in their couple relationship adjustment, an increase in depressed mood, and greater difficulty adjusting to their new parenting role. Further research has also found detrimental effects on levels of stress and self-esteem (Delmore-Ko et al., 2000; Flykt et al., 2011, 2014). Bouchard (2009) explained that women with unrealistically positive expectations were less prone to recognize the more exhausting and overwhelming aspects of parenthood, which led to disappointment later on. These findings reveal that overly optimistic expectations can prove detrimental if the experiences in the postpartum period are not as positive as expected.

Prenatal parenting expectations can be influenced by a variety of other factors during pregnancy. Research has found relationships between prenatal parenting expectations with couple relationship satisfaction (Harwood et al., 2007), with higher satisfaction being related to more optimistic expectations. Parenting self-efficacy has been linked to more optimistic (Harwood et al., 2007) and more realistic expectations (Mihelic, Filus, & Morawska, 2016). Women with higher parenting efficacy seem to be better at coping with the challenges of early parenthood (Cutrona & Troutman, 1986; Teti & Gelfand, 1991), so that higher parenting efficacy during pregnancy helps instill positive and realistic expectations about their ability to deal with the changes and challenges in early parenthood.

Self-efficacy and confidence. Parenting self-efficacy plays an important role as a protective factor at the transition to parenthood (Jones & Prinz, 2005). Parental confidence or self-efficacy, terms that are often used interchangeably, refer to one's belief of being able to perform parenting tasks competently and effectively (Teti & Gelfand, 1991). Cross-sectional research has found associations between high maternal parenting efficacy and higher couple relationship quality, greater satisfaction with their infants and less dysphoria compared to women with lower parenting efficacy (Olioff & Aboud, 1991). Research has found a link between parenting self-efficacy and reduced depression, anxiety and worry (Porter & Hsu, 2003). Parenting self-efficacy also often operates as a mediator between the effects of maternal depression, social support, and emotional distress on parenting competence (Gondoli & Silverberg, 1997; Jones & Prinz, 2005), as well as between social support and postpartum depression (Cutrona & Troutman, 1986).

In the postnatal period, parental self-efficacy has been associated with responsive and stimulating caretaking, and the ability to understand and respond to infant signals (Coleman & Karraker, 1997). Increased sense of efficacy may also be linked to better infant sleep (Wolfson, Futterman, & Lacks, 1992) and maternal responsiveness (Bohlin & Hagekull, 1987). Therefore, it is an

important factor in new parents' adjustment to parenthood (Jones & Prinz, 2005).

Self-efficacy is also an important variable related to parenting expectations, an aspect of early parenthood discussed previously. For example, correlational research by Harwood et al. (2007) found that women who were more confident in their parenting ability during pregnancy also had more optimistic prenatal expectations about parenthood. Similarly, Delmore-Ko et al. (2000) found that women who felt incompetent during pregnancy had more negative or fearful expectations. More recent research has identified parenting self-efficacy to be a key mediator between social and family support, prenatal mental health problems and parenting expectations, finding that lower social and family support leads to higher psychological distress, which in turn leads to lower parenting self-efficacy. Lower self-efficacy was associated with more unrealistic parenting expectations (Mihelic et al., 2016).

Affective Changes

Becoming a new parent involves many significant lifestyle changes and this process of psychological adaptation can lead to strains on mental health. Unfortunately, most mothers (more than 85%) do not feel adequately prepared for the transition to parenthood (Renkert & Nutbeam, 2001), and often feel overwhelmed in their parenting role (Nelson, 2003). While most women and men adjust relatively well to the transition to parenthood, a significant percentage of new parents experience symptoms of depression, anxiety and stress, and these often begin during pregnancy. Maternal psychopathology is a significant public health concern due to its negative impacts on both mothers and their infants.

Depression. Approximately 10–12% of women experience depression during pregnancy (Gavin et al., 2005; Lee et al., 2007). Symptoms of depression during pregnancy are similar compared to any other time period, and include low mood, feeling teary and sad, appetite changes, decreased energy, feeling angry or resentful, and lack of concentration (Centre of Perinatal Excellence, 2014b; O'Hara & Swain, 2009). However, sometimes it is difficult to distinguish between normal symptoms of pregnancy (such as sleep problems, low energy and weight gain), and thus careful clinical assessment is required. Depression during pregnancy has also been shown to lead to postnatal anxiety (Skouteris, Wertheim, Rallis, Milgrom, & Paxton, 2009), highlighting the significance of perinatal mental health issues.

It is important to consider what might lead women to develop antenatal depression in order to identify ways to reduce its occurrence. Risk factors for antenatal depression include low self-esteem, poor social support and marital dissatisfaction (Leathers & Kelley, 2000; Lee et al., 2007). Pregnancy presents a major change in a woman's life and women with low self-efficacy may be ill-equipped in managing developmental and physical changes and stresses, particularly if they perceive their external resources, such as friends, family and partner, to be unsupportive (Lee et al., 2007). Self-esteem has been shown to decline following the transition to parenthood (particularly for mothers), and appears to be a normative change during the transition to some extent (Bleidorn et al., 2016). Unwanted pregnancy is also a major risk factor for depression in the first trimester of pregnancy, causing an initial shock to women, though its significant effects decrease in subsequent stages of pregnancy as acceptance of the child emerges (Leathers & Kelley, 2000). However, when pregnancy was viewed as intended by women and unintended by their partners, it appeared to increase the risk for depressive symptoms in women (Leathers & Kelley, 2000). Self-efficacy has been found to be a particular protective factor, as Kunseler, Willemen, Oosterman, and Schuengel (2014) found that higher prenatal parenting self-efficacy was associated with lower levels of depression.

Antenatal depression is not only a significant mental health problem for the mother-to-be, it also leads to further adjustment problems once she has her baby, and this in turn can affect her baby's development and behavior. Maternal depression in the perinatal period has been associated with adverse outcomes for the child,

including negative behavioral activity at four months of age (Davis et al., 2004), lower infant cognitive and psychomotor development (Cornish et al., 2005) and child maladjustment and internalizing difficulties (Barker, Jaffee, Uher, & Maughan, 2011). On a more physical and direct level, antenatal depression is related to an increased risk for preterm birth, low birth weight, and preeclampsia (Grote et al., 2010; Kim et al., 2013). Therefore, addressing depression in women during pregnancy is of high importance, and this is discussed in more detail later.

Anxiety. Anxiety symptoms are often co-experienced with depression, with comorbidity rates ranging from 12% to 16%, and symptoms of anxiety during pregnancy experienced by approximately 21% of women (Lee et al., 2007; Vythilingum, 2009). Antenatal anxiety often continues after the baby has been born and leads to postnatal depression (Heron, O'Connor, Evans, Golding, & Glover, 2004). Symptoms of anxiety include persistent worries, feeling irritable or on edge, fears that interrupt daily life, panic attacks, and having heart palpitations or a *tight chest* (Centre of Perinatal Excellence, 2014a). Similar to antenatal depression, risk and protective factors for developing antenatal anxiety have been found to be comparable and include self-efficacy, social support and relationship satisfaction (Gourounti, Anagnostopoulos, & Sandall, 2014; Lee et al., 2007). Furthermore, women who have more negative attitudes towards their pregnancy and who experience more negative life events during pregnancy are at higher risk for antenatal anxiety (Gurung, Dunkel-Schetter, Collins, Rini, & Hobel, 2005).

In addition to prenatal anxiety leading to postnatal depression, anxiety is a particular risk factor for poor birth outcomes (Littleton, Breitkopf, & Berenson, 2007), and behavioral and emotional adjustment problems in childhood, even after controlling for the effects of depressive symptoms (Davis et al., 2004; O'Conner, Heron, Glover, and Team, The ALSPAC Study, 2002). Specifically, research has shown that high levels of prenatal anxiety are an indirect indicator of stress, which links to cognitive, behavioral and neurological disturbances in the child (Barker et al., 2011). As mentioned earlier, antenatal anxiety is a predictor of postnatal depression, and effects on the infant have in fact been linked to changes in mothers' behavior due to depressive symptoms. Depressed mothers have an impaired ability to parent in a warm, sensitive and constructive manner, and tend to be more rejecting, insensitive and harsh towards their babies (Cummings & Davies, 1994). Consequently, children of mothers with depression often develop externalizing and internalizing difficulties as well as impaired social competency and cognitive abilities (Barker et al., 2011; Murray & Cooper, 1997). Therefore, similar to antenatal depression, anxiety is a significant risk factor during pregnancy leading to detrimental outcomes for mothers and infants in the postnatal period.

Given the myriad of negative emotions that many women experience during pregnancy, addressing antenatal depression and anxiety and improving parenting confidence are crucial in improving the health and well-being of children and their parents (Sanders, 2012). Pregnancy is an ideal time point to do so in order to prevent adjustment problems occurring or continuing in the postnatal period.

Challenges and Changes in the Couple and Other Social Relationships

Couple relationship. Early research examining the transition to parenthood, largely based on comparisons between couples with and without children, focused on the arrival of the new baby as a crisis to the couple relationship (e.g., LeMasters, 1957), and the popular perception of early parenthood often reflects this view (e.g., Senior, 2014). Later research, based on longitudinal studies, reconceptualized this period as a potentially stressful transition, rather than a crisis, with the assumption that it represents a *normative* shift in development (e.g., Cowan & Cowan, 1988b). Below we briefly discuss some of the changes in the couple relationship, how-

ever, recent reviews have addressed this topic in more detail (e.g., Kluwer, 2010).

A strong, healthy couple relationship is an important foundation that affects the baby's ongoing development both directly and indirectly (Hawkins, Carroll, Doherty, & Willoughby, 2002), but at the same time this relationship can be particularly challenged during this period. There are some discussions around whether the transition to parenthood leads to declines in couple satisfaction, with some authors finding that expecting a new baby can bring couples closer together, particularly during pregnancy (Brinley, 1991) and is seen as a symbol of love and stability in a couple relationship (Feeney et al., 2001). However, multiple studies have demonstrated declines in marital satisfaction during the transition to parenthood, with effects typically small to moderate in size (e.g., Belsky, Spanier, & Rovine, 1983; Lawrence, Cobb, Rothman, Rothman, & Bradbury, 2008; van Scheppingen, Denissen, Chung, Tambs, & Bleidorn, 2017).

A significant proportion of couples feel less satisfied with their relationship after becoming parents and couple conflict often increases (Doss, Rhoades, Stanley, & Markman, 2009). Other studies have also shown a decrease in relationship satisfaction alongside a decrease in quality time spent together, positive communication, and sexual activity (Belsky & Rovine, 1990; Cowan & Cowan, 2000; Hackel & Ruble, 1992). Some of the underlying mechanisms of these changes involve disagreements about the division of household labor, violated expectations about gender roles, and for new mothers a disappointment with father's involvement in childcare (Cowan & Cowan, 2000).

Division of household labor, and particularly childcare, is one of the more well-researched areas, and has been conducted largely within the context of role theory (Belsky, Lang, & Huston, 1986; Cowan & Cowan, 1988a). While most people have had to negotiate a variety of stressful tasks during their lives, there are certain features of childcare that are unique. These tasks are often novel for parents, and thus many parents lack confidence and skill in implementing such tasks; negotiating the division of tasks is also novel for most couples; childcare tasks are demanding, often requiring immediate action (e.g., soothing a crying baby, changing a nappy), are unpredictable (e.g., baby refusing to take a nap), and unrelenting (Fillo, Simpson, Rholes, & Kohn, 2015). While many of these changes occur only once the baby arrives, in preparing for parenthood many parents are simply not aware of the difficulties they are likely to encounter.

However, the couple relationship, and particularly the way parents coordinate their parenting, how they support and understand each other and how they manage conflict, is central to the family environment (Feinberg & Kan, 2008). Low relationship satisfaction is associated with increased conflict, individual psychological distress, negative parent–child relationships, and negative child outcomes (Davies & Cummings, 1994; Grych & Fincham, 1990). Thus, marital conflict impacts on children either directly or indirectly via disruptions to the parent-child relationship, and by affecting the child's sense of emotional security (Hanington, Heron, Stein, & Ramchandani, 2012). Consequences of couple conflict for the child include child conduct and emotional problems (Hanington et al., 2012). Contrarily, satisfying and low conflict couple relationships are associated with positive parent–child relationships, positive child outcomes, and better parenting (Petch & Halford, 2008; Petch, Halford, Creedy, & Gamble, 2012b).

While most of these changes in the couple relationship only occur in the postnatal period, couples expecting a baby should be informed about these challenges in order to adapt realistic expectations as well as prepare for them, for instance by completing an antenatal couple program (Petch & Halford, 2008).

Social support. The general support from family and friends also involves several changes to a couple at the transition to parenthood. During pregnancy, most family and friends share in the joy and excitement of welcoming a new baby. However, after the baby is born changes to friendships may occur. Often new parents spend less time with friends who do not have children of their own and instead seek the company of friends with children who can provide more practical

support and offer advice based on experiences. They may also prefer to connect more to their own parents rather than spend time with friends (Cowan & Cowan, 2000). However, the availability of family support may be limited due to geographical restrictions if grandparents do not live nearby (Hanna, Edgecombe, Jackson, & Newman, 2002). This can often lead to feelings of loneliness, depression, and additional stress. Additionally, the reduction in connections with friends without children, can lead to reduced social support, and thus lead to more adjustment difficulties (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 1993; O'Connor et al., 2011), particularly when new friendships (e.g., friends who have children) are not formed as easily as hoped. One support option available to new mothers is those of early parenting and mother and baby groups which offer practical and emotional information, social belonging, increased self-esteem, and improved psychosocial health (Hanna et al., 2002).

Involvement and Preparation of Fathers During Pregnancy

There has been an increased interest in researching the experience of fatherhood during the transition to parenthood. Involved fatherhood has become a greater social expectation in many countries in the past years, but often fathers view themselves as only bystanders to parenthood and feel undervalued and unsupported by the lack of inclusion, involvement and information available to them, particularly during pregnancy (Deave & Johnson, 2008). Fathers who perceive that they have greater parenting skills prenatally are more likely to be involved in parenting their newborn (Barry, Smith, Deutsch, & Perry-Jenkins, 2011). Fathers also experience a conflict with the expectation of fulfilling the male provider role to ensure financial stability as well as wanting to provide a high level of physical and emotional support to their family (Halle et al., 2008). Most fathers nowadays attend antenatal classes alongside mothers, and are present for the birth and assist in early baby care tasks; thus considering their experiences at the transition to parenthood is as important as those of mothers (May & Fletcher, 2013). Furthermore, mothers and fathers express a preference for the involvement of both parents in early parenthood preparation (Entsieh & Hallström, 2016).

The emerging literature suggests that paternal mental health problems at the transition to parenthood are not uncommon in expecting and new fathers (Wong et al., 2016), with perinatal depression rates among fathers at approximately 10% (Paulson & Bazemore, 2010), and estimates for anxiety disorders ranging between 4% and 16% (Leach, Poyser, Cooklin, & Giallo, 2016). Perinatal mental health problems in fathers have a range of follow-on effects both for fathers themselves as well as the family as a whole. Paternal postpartum depression has been associated with poorer couple relationships and maternal depression (Giallo et al., 2013). For instance, Paulson, Bazemore, Goodman, and Leiferman (2016) found that prenatal paternal depression was a significant predictor of maternal depression in the postnatal period, but maternal depression was not a significant predictor of paternal depression. Other research has also found that father's mental health can impact on the mother in the perinatal period (Kowlessar, Fox, & Wittkowski, 2015).

At the same time knowledge about the father's experience at the transition to parenthood has been limited. One particular study aimed to fill this gap by exploring 22 new fathers' feelings and beliefs about fatherhood as well as their expectations and beliefs about parenting (Halle et al., 2008). They found that fathers seemed to have relatively realistic expectations about the type and frequency of infant feeding and sleeping, though about half of the fathers had not had a lot of experience with babies. Some fathers felt insufficiently supported by family and friends, but those who attended clinic or doctors' appointments felt supported by health professionals, yet those who did not or could not attend missed out on this support. Fathers also experienced problems at work in the antenatal period, indicating that financial concerns and arguments with their

partner affected them. Both mothers and fathers sought pregnancy and parenting advice through books and magazines, though fathers were less likely to ask for advice from health professionals. This study provided a small snapshot of some Australian fathers' experiences, though data from larger samples would be needed to obtain a more accurate picture in regards to father perspectives and needs during pregnancy.

Interventions to Support Parents in Preparing for Parenthood

In general, parents often receive very little preparation beyond the experience of having been parented themselves. One of the most common forms of support or programs that expectant parents are offered is antenatal education courses or antenatal classes (Hirst, 2005). These antenatal classes predominantly focus on topics such as labor, the birth experience, and breastfeeding. However, while some of these programs may briefly mention issues relating to postnatal depression, couple conflict, or any potentially beneficial parenting information, it is unclear how much of this information stems from evidence-based research (Gagnon & Sandall, 2011). Furthermore, antenatal classes usually do not provide sufficient support for parents who may have unrealistic expectations or suffer from antenatal depression or anxiety.

However, there are a number of evidence-based programs available for parents to help with the challenges experienced at the transition to parenthood. One form of these interventions focuses on enhancing the couple relationship (Feinberg et al., 2016; Petch, Halford, Creedy, & Gamble, 2012a). The majority of the content involves an aim to increase the social support network and topics on communication, conflict management, and supporting each other to maintain relationship happiness (Petch & Halford, 2008). These programs have found some effects on relationship satisfaction and coparenting for high-risk parents, but effects on mental health and parenting are inconsistent (Feinberg et al., 2016; Petch et al., 2012b).

Other forms of support include psychological or psycho-educational treatments available for women with prenatal and postnatal depression and/or anxiety (Clatworthy, 2012; Milgrom, Schembri, Ericksen, Ross, & Gemmill, 2011). Unfortunately, the effectiveness of these interventions appears inconsistent (Milgrom et al., 2011), and there is a focus on supporting new mothers and to a lesser extent fathers. Finally, there are parenting interventions that cover topics on infant care, such as breastfeeding, sleep, crying and safety, promoting realistic expectations about parenthood, increasing parenting skills and confidence, and the use of sensitive and responsive parenting (Pinquart & Teubert, 2010). Overall, these parenting-focused interventions appear to be effective, yet generally only demonstrate small effects (Pinquart & Teubert, 2010).

Parenting interventions are particularly important at the transition to parenthood because they address the impact that parenting and the family environment can have on infant development and infant behavioral problems. However, the research evidence for parenting interventions at the transition to parenthood shows that existing approaches have had some positive, albeit limited effects. Systematic reviews of specifically targeted interventions have found limited evidence of positive effects for outcomes, such as infant sleep, for babies under 6 months of age (Douglas & Hill, 2013); while others have shown effects for enhanced sensitivity and infant attachment security (Bakermans-Kranenburg, van Ijzendoorn, & Juffer, 2003), and increased infant sleep and maternal knowledge (Bryanton & Beck, 2010). In contrast, a recent meta-analysis of interventions targeting early infant and parenting behaviours (Mihelic, Morawska, & Filus, 2017) found only five studies that examined parenting competence and confidence. In terms of broader intervention efforts, a meta-analysis of more than 140 early parenting interventions, starting during pregnancy or the first six-months postpartum, found very small to small intervention effects and only for some outcomes (Pinquart & Teubert, 2010). Shorter, more targeted interventions and older studies tended to show stronger effects, suggesting that parents today may

have access to much more information at their fingertips, making it more difficult for more recent studies to show effects.

Most of these programs have not focused comprehensively on offering a complete preparation program at the transition to parenthood, which given the complex nature of the changes described earlier, may potentially impact on the effectiveness of more targeted programs. Current efforts in this area are focusing on the development of new parenting programs (e.g., *Incredible Years Parents and Babies, Preparing for Life* and *Baby Triple P*) however, as described in Box 2 evidence for the efficacy of these programs is limited to date (e.g., Doyle, Delaney, O'Farrelly, Fitzpatrick, & Daly, 2017; Doyle, McGlanaghy, Palamaro-Munsell, & McAuliffec, 2014; Jones, Erjavec, Viktor, & Hutchings, 2016).

Box 2 Baby Triple P—Positive Parenting Program

What is it?

Baby Triple P (Spry, Morawska, & Sanders, 2013) is a program at the transition to parenthood that involves four, 2-h group sessions which are recommended to be conducted during pregnancy, followed by four weekly individual 30-min telephone sessions conducted postnatally (starting 6 weeks post birth). The sessions are designed to be interactive and offer opportunities for discussion.

Baby Triple P teaches parents core skills in the domains of parenting their baby, taking care of their own well-being and maintaining a positive relationship with their partner. Specifically, it includes active training methods, for example modelling, rehearsal, practice, feedback and goal setting. The telephone sessions review homework from a previous session, focusing on strengths and areas to improve, and setting and monitoring goals for areas of future change.

Who is it for?

Baby Triple P was designed for mothers and fathers who are expecting their first baby, though it can easily be delivered to parents who already have children but who wish to learn about positive parenting. The program can also be delivered in the postnatal period, though it might present practical challenges such as time limitations for new parents.

How can it help?

Baby Triple P can help expectant and new parents gain confidence in their parenting, develop realistic expectations about parenting a baby, increase their knowledge about baby behaviors and development and identify ways to support their couple relationship as well as help reduce mental health problems such as depression, anxiety, and stress. Preliminary research suggests some benefits for mother–baby bonding, confidence, and reduced depression (Mihelic, Morawska, & Filus, 2018).

Parents generally report that they like Baby Triple P and find it acceptable, including families with premature babies (Ferrari, Whittingham, Boyd, Sanders, & Colditz, 2011), mothers in a psychiatric unit (Butler, Hare, Walker, Wieck, & Wittkowski, 2014), and mothers suffering from postnatal depression (Tsivos, Calam, Sanders, & Wittkowski, 2015). Parents and practitioners note that there are often no available parenting programs which cover the content they are after. One randomized trial even had to be discontinued because parents so desperately wanted the information in the program, and were unwilling to continue in the control group (Popp & Schneider, 2015).

Four randomized controlled trials of Baby Triple P (Mihelic et al., 2018; Seah & Morawska, 2018; Spry, 2013; Tsivos et al., 2015) have shown two things: parents report that they like the program and yet report no or very limited change in any of

(continued)

Box 2 (continued)

the outcomes assessed. Each of these trials had significant limitations. For example, the sample in Spry (2013) was older, more educated, better off financially and better adjusted than the general population, thus causing ceiling effects on all outcome measures at baseline. Studies are continuing to determine how best to ensure that the intervention is effective for parents.

A variety of factors are likely to cause the lack of evidence supporting the efficacy of these programs. One issue may lie with the recruitment and retention of sufficiently large and diverse samples. New mothers and fathers naturally are very busy as welcoming a baby into the family adds a lot of work and time pressures, as well as sleep deprivation. Furthermore, effects are likely to be small in the case of prevention research, as interventions at the transition to parenthood often focus on reducing risk factors for the development of problems, difficulties may not yet be present, and many parents will adjust well to parenthood regardless of the presence or absence of an intervention. Research in this area may need to recruit high-risk families who experience existing problems (such as relationship difficulties, mental health issues, a lack of social support or financial concerns), which inadvertently pose additional recruitment challenges. These populations often have more practical and psychological barriers to overcome, for example time restraints, work commitments, mental health problems, low support, or possibly the belief that they do not need parenting help or that a program would not be beneficial (Hogue, Johnson-Leckrone, & Liddle, 1999). Future research may need to engage the support of community services to overcome some or all of these barriers to reach and engage high-risk families, such as, offering financial compensation for travel costs and time in attending the intervention and completing assessments.

Furthermore, nowadays new parents can obtain a large amount of quality information online or in books, and particularly in Australia, there is a range of support available for new parents in the antenatal period, such as mental health nurses, child health nurses or lactation consultants. While not all of this information, particularly from books or websites, is evidence-based, it does suggest that parents who may be allocated to a control group in an intervention research study are still able to find information to help them adjust to parenthood, which incidentally may weaken the effects of tested interventions. Research outcomes of intervention studies on parenting programs for new parents may be very different in countries in which such support is not readily available.

Future Directions for Research

Most research on the transition to parenthood, as well as interventions to prepare parents, have been conducted in Western countries, and we know little about the extent to which theories, experiences and interventions extend to parents from diverse cultural backgrounds. Given the difference in cultural practices, beliefs and attitudes, as well as vast differences in policy and social and health services between countries, we need a better understanding of how these factors might interact to influence parents at the transition to parenthood. In particular, given the many families moving across countries and continents, it is also important to consider interactions between cultural beliefs and the contexts in which parents are raising their children.

Consistent with this, while ecological models encompassing the multitude of factors that affect the expectant parent and their developing child hold much promise in terms of both explaining the developmental progression through this transition, as well as the risk and protective factors which can impact parental and child adjustment and well-being, much work remains to be done. For example, social support during pregnancy and the postpartum period are recognized as important protective factors against the development of depression, however, with the changing structures in society this social support is often

more difficult for expectant parents to access. Few evidence-based interventions to assist parents at the transition to parenthood are available, and many parents feel unprepared for their new role. Social media plays an important role as both a source of information for parents, and a way to access social support, yet is also often a source of misinformation and confusion. How we harness these new technologies, and integrate them with existing evidence-based approaches to supporting all expectant parents is one of the key targets for future research.

Much of the research on the transition to parenthood has focused largely on mothers. For example, while we discussed earlier the work on expectations, this has largely been done from the perspective of one parent, mostly mothers. However, do parents share the same types of expectations, and how do differences in expectations within the couple affect not only the couple relationship, but also parenting? How is the changing nature of fatherhood affecting fathers, mothers and their children? What types of interventions are most effective for engaging fathers and influencing their parenting practices? These and many other questions are central to answer in helping parents in transitioning to parenthood.

Implications for Policy and Practice

Given the outlined experiences that many new mothers and fathers go through at the transition to parenthood, the perinatal period is certainly a time of enormous change for new parents on cognitive, emotional and social levels. Pregnancy is therefore an important time to offer new parents adequate support to help them adjust to their new roles more easily (Coleman et al., 1999). As the early years of family formation can lead to negative developmental and behavioral outcomes for children lasting into the preschool and primary school years (Cowan & Cowan, 2000; Schulz, Cowan, & Cowan, 2006), preparing expectant parents for the transition to parenthood is a worthwhile investment.

Given our current state of knowledge in regards to the experiences of parents expecting a child and the availability of programs available to support them, we have identified some implications for educational and counselling services offered to expectant women and men. First, community services need to identify women and men who may have unrealistic expectations, suffer from mental health problems (such as depression or anxiety), or those who do not have adequate social support available to them. For instance, health professionals such as general practitioners, nurses or midwives could utilize a range of screening tools, such as questionnaires, to assess expectant mothers and fathers during in-take appointments or other antenatal visits. If problems were identified, referrals to specialists (such as psychologists) who are able to offer appropriate support could be undertaken. Educational materials, such as informational literature or group support programs, could also be suggested, as well as offering attendance at evidence-based parenting or couple-focused programs. In addition, innovative online and electronic applications to support parents should be explored to provide a range of options to meet diverse parent needs. By discussing a parent's support system and mental health concerns, boosting their confidence and educating them about what to expect about parenthood, long term adverse outcomes in the postnatal period can be prevented.

More broadly, it is important to consider the wider policy and sociocultural environment in which parents transition to parenthood. The extent to which government policy supports parents during this time is likely to have implications not only for the availability and use of services by expectant parents, but also the impact on the subsequent development of the child. For example, recently implemented policies in Australia encourage the screening of all expectant mothers for mental health problems. This is an important step forward in identifying those who need support, however, relies on the subsequent availability of interventions which can assist identified mothers. A sociocultural environment which acknowledges that the transition to parenthood is usually a welcome, but sometimes difficult time, is also more likely to reduce the stigma many parents feel towards help seeking (Staneva,

Morawska, Bogossian, & Wittkowski, 2017). Thus, policies which normalize help-seeking, and which promote a more diverse view of pregnancy and its impact on men and women are likely to be important factors in supporting families at the transition to parenthood.

Conclusions

Parents preparing for parenthood have to adapt to a range of challenges and manage both positive and negative experiences during pregnancy. While mostly a time of great joy and happiness, pregnancy can bring with it feelings of depression, anxiety and stress for both expecting mothers and fathers. Those feelings are often associated with a variety of cognitions including attitudes, beliefs and expectations that can influence how parenthood is perceived. Positive and realistic attitudes and expectations aid in adjusting to parenthood more easily, while negative and unrealistic expectations during pregnancy can lead to feelings of disappointment. Challenges in a couple's relationship and social support can add further problems at this time of parenthood. All of these changes can lead to negative outcomes for the family, including detrimental effects on the baby in the postnatal period. However, parenting self-efficacy can act as a protective buffer against some of the more challenging experiences during and after pregnancy.

Further support is sometimes needed by mothers and fathers, and there has been some research into evidence-based parenting and couple programs to help prepare new parents for parenthood. However, more research is required to understand cultural differences at the transition to parenthood, as well as increase our understanding of how fathers view preparation for parenthood, given they are more involved in taking care of a new baby than previous generations of fathers have been. This chapter aimed to provide a greater understanding of this aspect of parenthood, and highlight some of the main challenges that new parents go through. The importance of offering evidence-based support was discussed, as well as the value of utilizing community services during pregnancy, such as nurses and midwives, to identify and support struggling parents early on to prevent later adjustment problems. Helping new parents feel more confident in taking on this new chapter in their lives is an important undertaking, which can lead to numerous benefits for parents themselves, as well as for the development of their babies.

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Parenting of Infants and Toddlers

Angela D. Staples and John E. Bates

Introduction

Parenting is often spoken of as an important influence upon child development, but less often as a set of developmental phenomena in its own right, dynamically accompanying child development. From the point of view of the developing parent, the birth of a child begins a period of remarkable change. Children enter the world helpless, needing parents to attend to every need from food and shelter to warmth and human interaction. Parents enter their parenthood less helpless, but sometimes with quite limited experience with infants, and if they do have previous experience, it is with infants who may be quite different than the ones they now encounter. They must learn many things about caring for their children, such as how to discriminate the infant's hungry cries from tired, bored, and angry cries. Within a year, children begin walking and parents, for multiple reasons, begin expecting more compliance to immediate requests (Biringen, Emde, Campos, & Appelbaum, 1995; Bugental & Goodnow, 1998). In just a few more years, children are ready for preschool, where they begin developing friendships and to begin to learn how to count, write, and read. As children make the transition from wobbly toddler to steady preschooler, parents begin more directly teaching socialization skills such as sharing, turn taking, and manners (Gralinski & Kopp, 1993). Throughout this time, parents are adjusting their behavior and expectations in response to the developing child, while children are adjusting to their parents' behavior.

The period from birth to age three represents a period of rapid child development that presents changing tasks and challenges for parents. This chapter briefly reviews some of the dominant theories of parenting and then reviews the evidence for changes in parenting behaviors in a child's first 3 years of life. The consequences of specific parenting practices for the developing child are covered in more detail elsewhere (see Part 2 of this book). This chapter also focuses on parenting tasks of a single child. Parenting of multiple children at the same time involves issues beyond the scope of the current chapter. Likewise, parenting in context of adverse experiences (Burke, Haslam, & Butler, 2018), raising children with developmental disorders (Sofronoff, Whittingham, & Brown, 2018), and other important contextual factors in parenting are covered elsewhere (see Part 3 of this book).

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Theoretical Background

This chapter's overarching interest is in the tasks and challenges parents face in socialization of their children from infancy through toddlerhood. By socialization, we mean those activities that support the development of internalized standards, values, and norms for interacting within the larger society. Socialization processes are inherently dependent upon and reflective of the culture, community, and time in which parenting occurs. The chapter primarily considers parenting in the first 3 years of life from the perspective of Western cultures. We do recognize that there are some sociocultural differences in parenting, along with similarities (Bornstein, Putnick, Lansford, Deater-Deckard, & Bradley, 2015). Nevertheless, this chapter only considers sociocultural differences in passing, so we emphasize processes that we think are likely to be reasonably general across cultures.

We think of parenting as a relational phenomenon that is co-constructed between parent and child. Thinking of parenting as co-constructed points to the complexity of defining parenting tasks and challenges, because the context of parenting depends on characteristics of both parent and child, including factors such as personality or temperament, genetic similarity, and shared physical environment (Bates & Pettit, 2007). Parenting can also be described in terms of patterned individual differences in behaviors, i.e., parenting traits. Parenting traits also include cognitions, such as beliefs about the role of parenting, beliefs about and attitudes about specific children, and behavior patterns in interactions with their children. Parenting is thus a multidimensional and time-varying phenomenon. Appropriate to its complexity, it has been understood from multiple theoretical perspectives. These theoretical perspectives have been diverse in core research questions, preferred methodologies, and level of emphasis (e.g., internalized working models of relationship, learning of behaviors, biological and genetic correlates of parenting, and person/process/time). Theories about parenting do, however, share a common goal in trying to understand *why* parents behave the way they do and *how* this behavior has consequences for children's development. Research on parenting offers complementary, and occasionally contradictory, evidence on the categories, behaviors, and circumstances of parenting. The varied theoretical perspectives have led to multiple methods for categorizing parenting behaviors. We focus here primarily on questions about the nature of parenting with young children and its changes and theoretical importance during that era. We do not focus as much on the *origins* of parenting attitudes, behaviors, and traits or the implications for long-term child developmental outcomes. The important issues of origins and outcomes are considered more directly in Parts 3 and 1, respectively, of this volume.

Research on parenting has been examined from a variety of theoretical perspectives including attachment theory, learning theory, evolutionary theory, and developmental systems theories. Early accounts of socialization focused on parenting behaviors that were thought to promote compliance and the internalization of moral values in children (Bugental & Grusec, 2007; Maccoby, 1992). These accounts held that children were "intrinsically at odds with the requirements of society" (Bugental & Goodnow, 1998, p. 392) or that children entered in the world tabula rasa (Maccoby, 1992) and thus, early research from behavioral, social learning, and psychoanalytic theories focused on parenting practices that reduced negative child behavior. Early accounts of socialization that proposed a direct relation between rewards and increases in desirable behavior and between punishments and decreases in undesirable behavior failed to account for a variety of findings (Bugental & Goodnow, 1998). For example, mothers who provided very high levels of contingent positive responses tended to have children who, contrary to principles of reinforcement, tended to display more negative affect.

It has been recognized for more than 50 years that parenting behaviors tend to represent just a few, broad dimensions, typically characterized as warmth and control (Baumrind, 1966). These dimensions are supported by a considerable body of research (Bates, McQuillan, & Hoyniak, in

press). To use Baumrind's influential dimensional typology, authoritative parenting—defined as high in both warmth and control—is associated with more optimal child outcomes compared to authoritarian (low in warmth, high in control) or permissive (high in warmth, low in control) parenting styles (Baumrind & Black, 1967). Beyond identifying the core dimensions of parenting, a further interesting question is how parenting attitudes and behaviors remain stable or change across development. Darling and Steinberg (1993) argue for the existence of a stable, core set of beliefs and style of parenting, which create the context for socialization by creating a stable parent figure in the child's life. For Darling and Steinberg, parenting practices express that core, but change within the boundaries of the belief system. For example, encouraging independence may take different forms when interacting with toddlers (e.g., promoting responsibility for personal care) than when interacting with teenagers (e.g., promoting decision making skills), but the parent's essential belief in the importance of promoting independence remains constant.

A complementary view of enduring parental traits is attachment theory's emphasis on the development of an internalized representation of a secure relationship that is passed from parent to child (Ainsworth, Blehar, Waters, & Wall, 1978). The establishment of a secure attachment is, in part, the result of experience with a responsive caregiver that then becomes internalized as a working model for future relationships. Specific behaviors comprising responsive caregiving include sensitivity to the infant's signals and communication, positive emotions directed toward the infant, respect for the infant's emerging autonomy, and physical and interactive accessibility (Ainsworth et al., 1978). A secure attachment relationship between parent and infant tends to be longitudinally stable in childhood (Pinquart, Feußner, & Ahnert, 2013), and any changes in attachment classification are typically associated with changes in the family such as divorce or marriage (Solomon & George, 2008). The majority of research on attachment relationships is from the perspective of the child's affective and behavioral response towards the parent (or caregiver more generally) when distressed, but George and Solomon (2008) offer a complementary view from the parent's perspective, which they refer to as the caregiving system. A parent's need to keep their child safe and secure is clearly complementary to an infant's need for security. Individual differences in parental response to child distress, according to George and Solomon, are partly explained by how parents understand their child's distress signals and whether the parent interprets the situation as one in which the child is in danger. George and Solomon also emphasize how aspects of the parent's childhood as well as their experience, including thoughts, beliefs, and emotions, during the transition to becoming a parent, particularly in the context of pregnancy and childbirth for women, explain how parents conceive of their role in caring for their infant. This role conception, in turn, shapes parents' perceptions and responses to the tasks and challenges of parenting. From this perspective, one of the challenges for first time parents is the shift from being the recipient of care to being the provider of care. Parents' thoughts, beliefs, biology, and social environment (relationship with parenting partner, economic well-being, etc.) shape the caregiving system which, in turn, may help explain differences in parenting traits—warmth, intrusiveness, ambivalence—that lead to different attachment outcomes for the child. According to theory and research, sensitive parenting predicts securely attached children (De Wolff & van IJzendoorn, 1997), and securely attached children function better emotionally, cognitively, and socially than insecurely attached children, especially children with a disorganized pattern of insecure attachment, and especially when in a high-risk environment (e.g., Belsky & Pasco Fearon, 2002; Kochanska, Coy, & Murray, 2001; Matas, Arend, & Sroufe, 1978; Olson, Bates, & Bayles, 1984). From an attachment perspective, then, it is helpful for parents to have their own, complementary needs to care for their young child and to be able to sensitively respond to the needs and changes of the developing child.

This chapter considers parenting primarily in three domains: physical care and safety, control/

structure, and socialization. This partitioning of the domains of the parenting role corresponds to major developmental shifts in the child from birth to age three. We will illustrate the central themes of continuity and change in parenting during the first 3 years of a child's life by considering a particular context for parenting—sleep. Sleep is an important part of every child's and parent's day, and parenting during this part of the day has just begun to be studied in the ways parenting has been studied in other parts of the day. Sleep has been central in our research in recent years, and there has been growing evidence in the literature of the value of children's sleep as a possible factor in adaptation and development. We have also seen, more recently, a growing literature on how children's sleep and parenting are related.

Changes in Parenting Tasks as the Young Child Develops

The birth of a child is a life altering event that brings with it enormous joy and, often, considerable challenge. At birth, infants are entirely dependent upon caregivers to meet basic needs of food, shelter, clothing, and social interaction. By age three, typically developing children can meet many of their own basic needs, such as feeding themselves, walking, and picking up a desired object. For those things that may require caregiver assistance, 3-year-old children typically have sufficient language to communicate their needs and desires.

Parenting tasks in the first 3 years can be viewed on a continuum in which the early months are focused on physical care and safety of the infant, with socialization following behind as an important secondary focus. Later, by the beginning of toddlerhood (around 12 months), the increasing ability of toddlers to engage in self-directed activities begins to shift the emphasis of parenting tasks from physical care and safety to issues surrounding socialization, and towards the end of toddlerhood (around 36 months), socialization efforts are the major focus. Parenting behaviors involving limit setting or control are a potential mechanism by which children are both kept safe and socialized to familial, cultural, and societal norms. Thus, changes in parental control strategies illustrate the transactional relation between parenting goals and toddler development. The following sections review the evidence for continuity and change in parenting tasks and challenges separately for three major areas of parent–child interactions: physical care and safety, control, and socialization. Of course, in actuality there is considerable overlap across these three domains of parenting. For example, as the child's advances in mobility increase, parents' safety concerns increase, as do their behavioral controls and teaching of rules in contexts in which children may injure themselves.

Physical Care and Safety

Physical care and safety are parental concerns throughout a child's life, but are especially important in infancy. Relative amounts of caregiving and more purely social, non-care activities change over early development. In a sample of first time parents in which both mother and father were employed, routine child care from 3 to 9 months declined somewhat for mothers across the week and increased for fathers on weekends (Kotila, Schoppe-Sullivan, & Kamp Dush, 2016). The opposite trend was observed for activities of engagement (e.g., playing, talking, soothing, reading), with increased time spent in non-care activities over the same 6-month period for both mothers and fathers. It might be tempting to think that as children attain more independence and autonomy from toddlerhood through adolescence, that physical care would gradually be supplanted with greater time spent around educational, athletic, or extracurricular activities. Surprisingly, in a large, nationally representative sample of parents with at least one child under age 16 (England & Srivastava, 2013), the majority of time spent on activities of child care (range of 0.83–1.33 h per day for mothers) were related to providing for the child's basic needs (e.g., feeding, clothing) and less so for other activities such as social interaction or teaching. Thus, the tasks of addressing children's physical care and safety extends well beyond the period covered in

this chapter and extends across the lifespan Dittman, 2018; McMahon & Pasalich, 2018; Sampaio, Mihalopoulos, Richards-Jones, & Feldman, 2018; Sanders & Morawska, 2018).

Nutrition

In the first months of life, infants' nutritional needs are met with breast milk or formula. Multiple factors play a role in decisions about how an infant is fed, including maternal health, infant health, maternal employment, household income, religious beliefs, cultural values and norms, other children, and the presence/absence of a parenting partner. In a few more months, the transition from milk to soft food and soft food to more adult-like foods is also a function of these factors, along with the physical development of the child, including the growth of teeth as well as, increasingly, coordination in large and fine motor skills. And still later, with older infants and young toddlers, parents' task becomes one of balancing the child's nutritional needs with the toddler's increasingly strong expressions of food preferences and preferences for exercising emergent motor skills, such as self-feeding and moving away from the table.

Children show a strong preference for sweet and salty food in early childhood and this preference continues through adolescence (Mennella, 2014). Early food preferences may contribute to the high prevalence of specific food preferences, or picky eating, that were found in a review of the literature in children under age four from a wide variety of countries (Taylor, Wernimont, Northstone, & Emmett, 2015). Children with strong food preferences tended to consume fewer fruits and vegetables, which may have both a genetic and environmental foundation. Providing children the opportunity to consume foods high in plant-based sources of nutrition may be especially challenging for parents who themselves do not like to eat vegetables. As children become better able to express their dislike of new foods, parents may be even less inclined to repeatedly offer children food that was initially rejected. Evidence suggests, however, that repeated exposure to new foods is one key ingredient in getting children to eat a more varied diet with fewer calories from foods high in sugar and fat (Birch & Doub, 2014; Mallan, Fildes, Magarey, & Daniels, 2016; Taylor et al., 2015). Further complicating the task of providing children a diet of healthy food options is that parents may use foods as way of providing comfort or as an incentive for good behavior (Orrell-Valente et al., 2007). Providing food for reasons other than nutrition, as well as parenting practices more generally, in early childhood may be a key factor in later childhood obesity (Sleddens et al., 2014). Thus, parents of young children face a variety of challenges related to meeting their child's nutritional needs, particularly in the transition to a diet of solid foods. How parents navigate the transition to solid foods and the introduction of new foods more generally has consequences for food preferences and eating behaviors that may persist well into adulthood.

Motor Development

Another force for parental adaptation during this period is the child's rapid development of gross and fine motor skills. Their development is highly salient to parents and it is rapid in relation to the development of other behaviors such as regulation of emotion and vocabulary development. Each new self-locomotion ability—reaching, crawling, walking, climbing—increases opportunities for the infant to be harmed. The risks of harm are generally manageable, and children gain much from exercising and elaborating their motor skills, both in terms of motoric and cognitive abilities (for a review see Leonard & Hill, 2014). Thus, parents must balance their need to keep their child physically safe with their acceptance of the child's need to exercise their emerging motor skills, allowing them the opportunity to develop increasingly better control of their own movement. As Kopp (2011) points out, the shift from keeping young children confined for their own safety to a general cultural norm that encourages physical exploration is relatively recent in modern history. In practical terms, increased mobility during toddlerhood brings with it greater demands on ensuring the physical environment is safe (e.g., covering outlets, installing a gate at the top of stairs, keeping the child nearby in public spaces), while simultaneously reducing the demands for high physical

contact (e.g., no longer needing to carry the child from room to room).

Early in the child's development of mobility, parents generally use physical barrier methods to limit the child's movement to spaces free from potential hazards such as stairs (Gärling & Gärling, 1995). In the second year of life, parents also begin using verbal prohibitions and visual supervision to ensure children are safe from injury (Gärling & Gärling, 1995; Morrongiello, Ondejko, & Littlejohn, 2004). By age three, there is some evidence that parents rely more on teaching children general rules to keep themselves safe (Gralinski & Kopp, 1993) and less on direct supervision or physical barriers. These general developmental changes in safety-related parenting behaviors are not the only adaptations parents make in this domain. In addition to age-related changes in parental strategies to prevent child injury, parents also use different strategies depending on how situations vary in the perceived risk of injury (Morrongiello et al., 2004). When a child is in a location with a high risk of injury, such as the kitchen, parents of 2-year-old children used physical barriers (environmental constraints), direct supervision, and teaching strategies to reduce the risk of injury. In contrast, when a child is in a location with less risk of injury, such as a playroom, parents relied more on environmental constraints and teaching strategies. Thus, it appears that parents shape the children's physical environment, in part, to allow for increasing child autonomy in low risk environments, which presumably better prepares the children to avoid injury as they are given increasing autonomy in places where they are at higher risk of injury. The extent to which parents support, encourage, and arrange a child's environment to maximize exploration while simultaneously limiting physical harm is one aspect commonly considered in research on parental control.

Control

As children develop agency (e.g., crawling to running, cooing to talking), parenting tasks shift from strategies that are primarily concerned with physical safety (e.g., avoiding a fall as a somewhat wobbly toddler walks along a sofa) to strategies that actively and intentionally shape the child's behavior to conform to sociocultural norms and expectations. Shifts in parenting goals away from physical safety as the primary concern to socialization correspond to changes in parenting behaviors that either proactively or reactively address violations of sociocultural norms for behavior. Broadly defined, control is "the use of consequences to assist children in learning rules and values" (Grusec, Danyliuk, Kil, & ONeill, 2017, p. 465) as well as gaining compliance.

Parental control has been defined in a multitude of ways (Kiff, Lengua, & Zalewski, 2011), depending on factors such as the age of the child, the type of child behavior being studied, and the format of the research (e.g., questionnaire, laboratory observation). For the purposes of this review, parental control strategies will be considered in relation to behaviors classified as "teaching-based, power-based, indirect, and inconsistent" (LeCuyer & Houck, 2006, p. 348). Differences between the strategies can be thought of in terms of parental goals (e.g., teaching versus gaining immediate compliance), behaviors (e.g., verbal or physical), and affect (e.g., calm, warm, harsh). As such, parents may shift strategies to match the situation using, for example, teaching-based strategies when risk for injury is low and power-based strategies when risk for injury is high (e.g., prevent a toddler running into the street to retrieve a ball). Teaching-based strategies involve clear statements about the expected action (e.g., *do* cleanup, *don't* play with the prohibited toy) with an emphasis on reasoning and distraction to aid children's acquisition of self-control. Power-based strategies, in contrast, rely on directives or commands with the principal goal of gaining immediate compliance (less use of reasoning/distraction). Indirect strategies generally rely on the use of distraction in the context of *don't* tasks with relatively infrequent commands or directives. Inconsistent strategies generally reflect less contingent responsiveness to the child's actions, few if any limits or comments on the task objectives, and a lack of responsiveness to noncompliance. One challenge for

parents throughout a child's development is matching parental expectations of a child's ability to the type of control strategy within a particular context.

Developmental shifts in expectation during the first 3 years of childhood are accompanied by changes in strategies to encourage or enforce these expectations for behavior. Observations of mothers and their children ages 16–44 months revealed that the form of parental strategies aimed at changing ongoing behavior was associated with the child's age (Kuczynski, Kochanska, Radke-Yarrow, & Girnius-Brown, 1987). Mothers of younger children tended to use more power-based or indirect control strategies. Specifically, mothers of younger, compared to older, children used more nonverbal interventions (e.g., removing an object from the child's hand), more distraction, less use of language (i.e., making a disapproving sound instead of saying "no"), and provided fewer explanations. Similar findings were evident over a shorter time span—11 to 23 months—with mothers of younger children using more indirect control strategies than mothers of older children (Dahl & Campos, 2013). The types of control strategies that parents use, however, have not been shown to be systematically related across different contexts (Crockenberg & Litman, 1990; Pettygrove, Hammond, Karahuta, Waugh, & Brownell, 2013) suggesting that within a particular period of a child's development, parents flexibly use control strategies—directives, reasoning, praise, negotiation—to deal with changing situational contexts. The general findings of context-related changes in parental control strategies from these cross-sectional studies have also been found in longitudinal studies of similarly aged children (Kochanska, Aksan, & Nichols, 2003; LeCuyer & Houck, 2006).

Developmentally linked changes in the use of teaching-based strategies have been found in the types of requests that parents make of their child. Gralinski and Kopp (1993) asked two groups of parents, beginning when their child was either 13 or 30 months of age, to report on behaviors that they insisted that their child must not do as well as those behaviors that they encouraged their children to do. Both groups of parents then reported on these behaviors every 6 months for a total of four times for the younger (i.e., ages 13, 18, 24, and 30 months) and older (i.e., ages 30, 36, 42, and 48 months) children. For younger children, there was an increase in interpersonal rules (e.g., share, be nice), more independence requests (e.g., encouraging walking rather than being carried and encouraging the learning of names for things), and requests to the child to begin to participate in household tasks (e.g., putting away toys, clearing the table). Requests regarding the treatment of other's property, delaying (e.g., until mom is off the phone), and use of social manners increased gradually from 13 to 18 months and then increased substantially at 24 months. Mothers of older children from 30 through 48 months indicated that requests related to respecting others, manners, delaying, family routines, safety, and self-care were applicable at all ages. Overall, the Gralinski and Kopp (1993) findings suggest that mothers increasingly expect more socially appropriate behavior between 18 and 30 months, and then remain high in their expectation for good behavior from toddlerhood through preschool.

In addition to adapting to child developmental level, parents also adapt to child temperament or biological predispositions, including reactivity to positive and negative stimuli as well as self-control (Bates, Schermerhorn, & Peterson, 2012). Mothers and fathers of more temperamentally difficult infants reported lower ratings of parenting effectiveness as well as higher ratings of parental depression and stress (Solmeyer & Feinberg, 2011). Maternal empathy has been shown to moderate the relation between infant temperamental difficultness and the use of power-based control strategies in disciplinary contexts, such as during laboratory cleanup and toy prohibition tasks (Clark, Kochanska, & Ready, 2000). Specifically, less empathetic mothers used more power-based control strategies more often with temperamentally difficult compared to temperamentally easy infants. More empathetic mothers used less power-based control irrespective of their infant's temperamental difficultness. Parents also tend to use more teaching-based control

strategies, broadly defined, and less power-based control with children who are better able to control their own behavior, that is, children higher in temperamental self-regulation (Bates, McQuillan, & Hoyniak, in press).

A core skill of effective parental control is consistency, which supports the development of autonomy, empathy or understanding, and warm responsiveness (Grusec et al., 2017). Thus, parents are challenged to both flexibly respond to changing circumstances and child abilities while simultaneously providing consistent guidance. One implication for two-parent households is that parenting partners need to be consistent, or at least somewhat similar in their responses to child misbehaviors as well as in enforcing rules or expectations for behaviors. A recent study of mothers and fathers found that self-reported responses to child misbehavior as well as parenting goals were more similar within the parenting dyad compared to the sample of parents as a whole (Horvath, Lee, & Bax, 2015). One possibility, to our knowledge untested, is that greater similarity in parenting partners' responses to misbehavior may promote children's internalization of social and moral norms for behavior.

Other factors that may play a role in consistent parenting behaviors may be coparenting quality and infant temperament. In a longitudinal study of mothers and fathers, observed during triadic interactions, there was modest rank-order stability from 13 to 36 months in both supportive and undermining coparenting quality (Laxman et al., 2013). Supportive coparenting was a composite of expressed pleasure, warmth, cooperation, and interaction between the parents as well as dyadic interactions between parent and child. Unsupportive coparenting quality was a composite of displeasure, coldness, anger, and competition displayed between parents and between parent and child. Increased supportive coparenting at 36 months, after accounting for 13-month coparenting, was predicted by lower infant difficult temperament. In contrast, increased unsupportive coparenting at 36 months was predicted only for parents of infants' *low* in temperamental difficulty, whereas unsupportive parenting was unchanged from 13 to 36 months for parents of infants *high* in temperamental difficulty. Although not specifically assessed by Laxman et al. (2013), these findings suggest that the types of parenting behaviors that are consistent over time may partially reflect the quality of the coparenting relationship such that sensitive parenting may be more likely to be consistent when parents are supportive of each other than when they are unsupportive. As with much of the research on parenting, child effects play a role in both the form and consistency of parenting behaviors.

Longitudinal studies have suggested that the types of parenting behaviors that are consistent from infancy into toddlerhood also vary based on infant attachment. For example, in a problem solving task, mothers of securely attached children consistently used more teaching-based control strategies over time while mothers of resistant children consistently used fewer teaching-based control strategies (Fagot, Gauvain, & Kavanagh, 1996; Frankel & Bates, 1990; Matas et al., 1978). Thus, while consistency in general is thought to be a core parenting task that promotes optimal child development, it must be noted that some kinds of consistent parenting behaviors, such as the use of power-based strategies in contexts where the child is not in immediate physical danger, may promote less optimal child outcomes. For example, greater use of directives—a form of power-based control—at 30 months in a problem solving task was predictive of lower scores on a standardized cognitive assessment at age 5 (Fagot & Gauvain, 1997). In contrast, the same study found that greater use of teaching-based strategies at 30 months was predictive of better cognitive skills and better problem solving at age 5.

In addition to infant attachment, infant defiance and negative affect have also been longitudinally linked to consistency of parenting behaviors. In a study of children observed in tasks likely to evoke parental control in the context of discipline—*do* cleanup, *don't* play with specific toys—greater use of power-based control (averaged across 14, 22, 33, and 45 months) was associated with more child defiance and negative affect during the same period (Kochanska et al., 2003). One possibility is that parents use power-

based strategies as a response to children's lack of compliance. An alternative interpretation is that increased noncompliance is more likely when parents rely on power-based control strategies. Either way, the consequences for poorer cognitive skills observed by Fagot and Gauvain (1997) have been mirrored in the findings from Kochanska et al. (2003) regarding compliance. Specifically, greater use of power-based control in toddlerhood was predictive of less compliance in early childhood.

Thus, *how* parents control their child's behavior has consequences for development beyond the immediate context. Broadly speaking, internalization of familial and societal standards for behavior has been a common outcome for research on parental control during toddlerhood. One of the chief aims in parental control strategies is for children to internalize social norms for behavior across different settings (e.g., home, grocery store, peer interaction). For example, maternal directives and scaffolding during a cleanup task were related to prosocial behavior of children 18 and 30 months of age, respectively (Pettygrove et al., 2013). The following section considers the changing tasks of providing physical care and safety as well as the use of various control strategies within the larger framework of child socialization.

Socialization

Socialization—the process by which children come to understand sociocultural norms and expectations for their behavior—happens throughout a child's development and continues well beyond childhood. Although peers become agents of socialization in later childhood, in the early childhood era parents are most often the primary agents of socialization. Therefore, this chapter emphasizes parenting behaviors that have been shown to affect the primary outcomes of socialization during this developmental period, namely children's autonomy along with internalization of familial rules and morals. The consequences of parenting for children's language (Carta, 2018), emotion and self-regulation (Baker, 2018), and other outcomes are covered in more detail in Part 2 of this volume.

A general challenge of parenting—irrespective of the child's age—is to accurately identify and respond to a child's needs. Parental responsiveness and sensitivity are two of the most well-studied behaviors during infancy. Although sometimes assessed separately, responsiveness and sensitivity are closely linked, as the former can be roughly conceptualized as the form of parental behavior while the later can conceptualized as the emotional tone and correspondence with the child's affective and attentional state. For the purposes of briefly summarizing the rich body of research investigating parental responsiveness and sensitivity, we take the position that parental sensitivity at its essence is responsiveness to the child's needs and thus consider parental sensitivity to necessarily include responsiveness. Sensitivity, broadly defined, also includes the context of the daily routine. For example, parents who are sensitive to a child's need for food may anticipate that if the child is not fed by a particular time, then the child may become fussy and irritable. In practice, however, sensitivity measured through observation is most often defined as parental sensitivity to the child's attention (e.g., the child stops playing with a truck and switches to building a tower), emotions (e.g., frustration at not having access to a desirable toy), and behavior needs (e.g., gestures to be picked up or to have a parent open a lid on a playdough container).

Individual differences in observed maternal sensitivity, which includes positive affect and autonomy supportive behaviors, have been shown to be relatively stable during interactions with their child from 1 to 2 years and from 2 to 3 years (Ispa, Su-Russell, Palermo, & Carlo, 2017). Mothers of 21-month-olds who reported feeling more competent at and gaining more enjoyment of being a parent were observed in a laboratory task to use more positive parenting behaviors (sensitivity, warmth, and autonomy support) and fewer negative parenting behaviors (rejection, chaos, coercion) during a laboratory free-play session (Zimmer-Gembeck, Webb, Thomas, & Klag, 2015). Similar findings were evident during

a free-play session observed in the families' homes in a different sample of 20-month-olds (Bornstein, Putnick, & Suwalsky, 2017). Mothers who reported greater satisfaction, greater success, and more knowledge of infant development were observed using more positive parenting practices (sensitivity, structuring, non-intrusiveness). One interpretation of these findings is that parents who are more knowledgeable and experience greater enjoyment in the tasks of parenting are better able to sensitively respond to their child. However, from a developmental systems perspective, it is also possible that observations of positive parenting may stem from children who are temperamentally more manageable, less negatively reactive, and better able to control their behavior (Bates et al., in press).

A large, longitudinal, multisite study of a diverse group of parents and their children from 6 months to 6 years of age demonstrated significant stability in observed sensitivity across all assessments (Dallaire & Weinraub, 2005). Furthermore, the magnitude of the cross-time correlations increased as children got older, suggesting the extent to which parents are more (or less) sensitive relative to other parents may begin to stabilize as early as age three. Although stability increased over time, the magnitude of the association was relatively modest (e.g., $r \sim 0.30$s), suggesting parental sensitivity is not necessarily a fixed trait throughout a child's life. In addition to cross-time stability in sensitivity, there is also evidence for differences in sensitivity between mothers and fathers of young children. A longitudinal study of mothers and fathers of boys (ages 17, 23, 29, and 35 months) found that mothers tended to report using positive parenting practices more than fathers (Verhoeven, Junger, van Aken, Deković, & van Aken, 2010). Consistent with other findings (Dallaire & Weinraub, 2005), the use of such positive parenting practices increased for both mothers and fathers over the 18 months of the study. Matte-Gagné, Bernier, and Gagné (2013) also found longitudinal stability in sensitive parenting behaviors. Interestingly, however, they also found that the absolute level of sensitive parenting behaviors declined from toddlerhood to preschool-age. This could have been, in part, due to the different contexts for observation—solving a puzzle task when the child was 15 months old versus a cleanup task when the child was 36 months old. We interpret this as evidence that parents are selective in how they support their child's developing autonomy, such that they are more likely to let the child lead when tasks are more social and they are more likely to be instrumental in their guidance when tasks require child compliance, particularly for a task that the majority of 3-year-olds would presumably not find enjoyable. Thus, a child's response to parental requests for compliance may also be a factor in parent's behaviors.

One aspect of developing autonomy is the child's internalization of parental sociocultural norms for behavior. Parents want children to behave in socially desirable ways even in the absence of the parent. In early toddlerhood, compliance is situational and usually requires parental supervision and intervention. In late toddlerhood (e.g., 36 months) and into the preschool period, children transition from situational to committed compliance. Committed compliance is typically defined as the child's willingness to comply with parental requests when the parent is not visibly present. Committed compliance is considered to be a behavioral manifestation of the child's internalization of moral values (Kochanska, Aksan, & Koenig, 1995).

In a study of mothers and their 2-year-old children, more sensitive parenting behaviors during a cleanup task were associated with more child compliance as well as more defiance (Crockenberg & Litman, 1990). Child compliance following an initial refusal to cleanup, however, was most likely to occur following a maternal directive with guidance (a form of sensitive responsiveness). In contrast, continued child defiance following an initial refusal was most likely to occur following a maternal response that was negative and intrusive (the opposite of sensitive responsiveness). Self-assertion, or saying "no" without anger or aggression to a second maternal attempt at compliance was most likely to follow maternal sensitive guidance, which highlights how sensitive responsiveness does not automatically lead to immediate compliance and may sometimes

result in the child asserting their independence at times when the parent's goal is compliance. In the longer run, however, sensitive responsiveness does lead to greater child compliance. Specifically, greater use of autonomy supportive behaviors (reasoning, choice, suggestions) and less frequent use of controlling strategies (threaten/punish, criticize, bribe) predicted increased committed compliance at age 3.5 years controlling for age 2 committed compliance (Laurin & Joussemet, 2017). Longitudinal evidence also suggests that one consequence of greater use of power-based control strategies with toddlers, which could be viewed as opposite of autonomy-supportive strategies, is lower levels of internalized conscience in preschoolers (Kochanska, Aksan, & Joy, 2007).

Compliance and its cognitive bases appear to differ in *do* (e.g., toy cleanup) compared to *don't* (e.g., toy prohibition) tasks/contexts. Children's internalized self-control or self-enforcement of rules at a young age (2–3 years) may be closely tied to specific actions and contexts. For example, 2-year-old children objected to the violation of a specific action that they had been previously shown was not allowed in a game (Hardecker & Tomasello, 2017). However, they did not object to a new, similar type of transgression, which suggests 2-year-olds are not able to generalize rules to new situations. By age 3, children begin to extend the category of "wrong" from specific modeled actions to create a more general rule. The ability to generalize rules appears to involve multiple parenting behaviors, including "explicit teaching, enforcement demonstration, intentional action" (Hardecker & Tomasello, 2017, p. 245). This developmentally normal limit in children's ability to generalize rules, increases the complexity of teaching young children rules and provides a context in which parents might have difficulty understanding their children's needs. For example, parents may require children to sit at the table at home and then, perhaps, feel frustrated if the child does not automatically remain at the table when eating at a restaurant. A parent who is feeling frustrated, then, might be more likely to use nonoptimal, especially power-based control strategies.

The behavioral adaptations parents make in the domains of basic safety, control, and socialization can also be viewed from attachment perspectives. From the child's perspective, infants "learn to trust adults as responsible and well-intentioned caregivers and to regulate negative affect associated with distress that could potentially interfere with positive social behavior" (Grusec & Davidov, 2007, p. 287). From the parent's perspective, the behavioral adaptations may be supported by the parent's feelings of caring and empathy for the child, as well as enjoyment of the child's growth (George & Solomon, 2008). Theoretically, as a product of the parent–child relationship, the child forms some level of attachment security, which then affects the child's interpretation of later experiences with parents. Those with more secure attachments might be more responsive to parents' communications. However, attachment security may be just one of several child characteristics that matter for the parent–child relationship. Another major source of individual differences in responses to parents might be child temperament (Bates et al., in press; Bates & Pettit, 2015). As an example, 20-month-olds with a secure maternal attachment and relatively low temperamental negative emotionality engaged in more committed compliance during a cleanup task compared to toddlers who were more temperamentally negative (Lickenbrock et al., 2013). Neither toddler attachment status (secure versus insecure) nor temperamental negative reactivity differentiated committed compliance in the gift delay task (a *don't* task).

Thus, these findings highlight some of the challenges parents face when sensitively responding during a task that children do not enjoy. Of course, socialization involves learning to sometimes do things that are not preferred, so this is an important challenge for parents. In one sense, parents of toddlers are tasked with supporting their child's developing independence with parenting strategies that are sensitively responsive to the child's needs while simultaneously recognizing simple refusals as part of the process of developing autonomy.

Parenting in the Context of Sleep

This chapter has so far discussed parenting in terms of broad, higher-order concepts of parenting a young, developing child, and kept the specific contexts of parenting more as necessary background than as foreground. As discussed, parenting supports and adapts to child development. These parenting supports and adaptations may indeed reflect a general style for the individual parent across many contexts, but parenting in specific situations can still be important in theoretical work for showing the limits of a general style construct, and also important in practical work for suggesting processes to target in solving or preventing problems. The last major part of the chapter applies the more general points we have been making about parental supports of and adaptation to early childhood development to context of children's sleep.

Parenting from birth through age three presents many challenges due in part to the rapid developmental changes during this 3-year period. Although we separated the tasks of parenting into three domains of physical care and safety, control, and socialization it should be evident that there is considerable overlap across these domains. Additionally, we have considered the tasks and challenges of parenting primarily from the perspective of the parent, with scant attention to the considerable role children have in shaping the parent–child relationship. The emphasis on the parent continues as we consider parenting tasks and challenges surrounding children's sleep. However, here we argue that important parts of the challenges result from normative development in children's sleep consolidation, as well as their sleep–wake regulation. Therefore, we spend more time considering the child in this section compared to the prior sections, although, consistent with the previous section, we say little about the consequences of sleep development for children's daytime behavior (for an overview see Staples & Bates, 2011). This section also considers parenting tasks from a more integrated perspective. During the transition from wakefulness to sleep as well as in response to nighttime awakenings, parents are challenged to simultaneously meet their child's needs for physical care and safety, control, and socialization.

The patterns of linkage between parenting tasks and the challenges (or opportunities) posed by the child's development discussed so far in this chapter are built mostly upon samples of parenting during the child's hours of wakefulness. In early childhood, this would be half or fewer of the hours of the day (Galland, Taylor, Elder, & Herbison, 2012). The remainder of this chapter focuses on how the themes of parenting infants and toddlers—physical care, control, socialization—apply to the context of sleep. In this interest, we join a relatively small, but increasingly productive area of research examining parenting practices and sleep in typically developing infants and toddlers (LeBourgeois, Wright, Lebourgeois, & Jenni, 2013; Meltzer & Montgomery-Downs, 2011; Mindell, Sadeh, Kohyama, & How, 2010; Sadeh, Tikotzky, & Scher, 2010; Scher & Cohen, 2015; Teti, Kim, Mayer, & Countermine, 2010). Before focusing on parenting practices surrounding child sleep, we provide a brief overview of normative changes in children's sleep from birth to 36 months in Western countries.

During the first weeks of life, infant sleep is highly varied, with multiple sleep periods throughout the day and night (Mindell et al., 2016). By 6 months of age, infants typically nap twice during the day and sleep approximately 10 h at night (Mindell et al., 2016). Children's nighttime sleep durations and morning rise times are fairly stable from 6 to 36 months (Galland et al., 2012; Mindell et al., 2016), but their daytime sleep declines in both frequency and duration during this time (Mindell et al., 2016; Staples, Bates, & Petersen, 2015) with roughly half of all children having consolidated their sleep into a single nighttime period by age three (Iglowstein, Jenni, Molinari, & Largo, 2003). Where in the home children sleep also changes during this period, with the majority of newborns sleeping in their parents' room; by 6 months of age, the majority of infants sleep in their own room (Sadeh, Mindell, Luedtke, & Wiegand, 2009). Thus, sleep from birth to 36 months represents a gradual consolidation of sleep from several shorter periods during the day and night into

a single long period at night and, for roughly half of children, a single short period of sleep during the day of between 1 and 2 h.

In addition to sleep consolidation, sleep–wake regulation also develops during this period. Sleep–wake regulation refers to infants' ability to fall asleep on their own at the start of a sleep period as well as after awakening in the night. The number of nighttime awakening declines substantially in the first 3 years of life, especially during the infant's first 6 months (Tikotzky & Sadeh, 2009). Part of the decline in nighttime awakenings is likely attributable to declines in infant nourishment needs. In the first 2 months of an infant's life, a majority of parents report nursing/bottle feeding prior to sleep onset as well as in response to nighttime awakenings (Sadeh et al., 2009). Although infants need nourishment during the night in the first weeks and months of life, this need rapidly declines. Parents appear to be sensitive to this change, because provision of nourishment at sleep onset and in response to nighttime awakening declines from age 2 months through age 3 years (Sadeh et al., 2009). As is often the case with child development, attainment of milestones in one domain frequently accompanies apparent regression to early abilities in other domains (e.g., Adolph & Robinson, 2008). With respect to infant sleep, motor development appears to play a role in nighttime awakenings. For example, mothers of 7-month-old infants who were crawling reported more nighttime awakenings than mothers of 7-month-old infants who were not crawling (Scher & Cohen, 2005). A prospective longitudinal study of infant sleep and motor development from 5 to 11 months of age demonstrated the link between crawling and nighttime sleep disruption (Scher & Cohen, 2015). Specifically, nighttime awakenings increased after the infant began crawling and then returned to pre-crawling levels after approximately 2 weeks. This suggests that some sleep disruptions may be linked to motor development and that these disruptions are temporary. Although the sleep disruptions may be temporary—and for a variety of reasons—how parents respond to these challenges can influence whether these awakenings persist.

Evidence supporting a role for parental responses to infant and child sleep difficulties as factors in the persistence of the sleep difficulties comes first, from work by Sadeh et al., (2010). Individual differences in parental responses to nighttime awakenings in infancy were found to predict continued signaled awakenings. Continuing to respond to awakenings with food after the physiological need for nighttime nourishment is gone contributes to prolonged and persistent awakenings as the infant continues to rely on the presence of their parent to fall asleep (Sadeh et al. 2010). A similar pattern develops when parents continue to provide physical comfort or remain in close proximity while the infant falls asleep, which inadvertently creates the situation where infants come to rely on those parenting practices to return to sleep after awakening in the middle of the night. Thus, the adaptation parents make regarding sleep involves a balance of meeting infant needs at night while also responding in ways that promotes development of the infant's ability to return to sleep without reliance on parental intervention.

From the parents' perspective, nighttime awakenings are only likely to be problematic when infants signal that they are awake. Infants who are unable to return to sleep without parental intervention and who are not content to merely lie awake signal their need for assistance by crying. The signal is sounded, and parents may respond automatically, which could be an adaptive strategy in some situations, such as with a seriously ill infant, or a negative-cycle-maintaining behavior, such as with reinforcing unnecessary child demands in the night. But parents also often try to determine why the infant is vocalizing distress. Does the signal mean need for nourishment? Physical discomfort? Emotional discomfort? Is the infant going to go back to sleep without parental intervention? Further complicating the discernment of infant needs upon awakening is that attainment of developmental milestones, such as crawling and walking, are associated with increased difficulties surrounding sleep. Therefore, parents are challenged to both correctly identify and respond appropriately to nighttime awakenings in ways

that solve the immediate need while not inadvertently setting the stage for persistent sleep problems. Sensitively responding may become more difficult at night as both parents and children are fatigued. In fact, parents frequently request help from pediatricians to deal with their child's difficulty falling asleep and staying asleep (Sadeh et al., 2010). One reason parents may seek help is that both resistance to going to bed (Jenni, Zinggeler, Iglowstein, Molinari, & Largo, 2005) and latency to fall asleep have been shown to increase from 12 to 36 months (Iglowstein et al., 2003). Just as children are becoming more autonomous during the day, children also begin to assert their independence at night. Cross-sectional (Sadeh et al., 2009) and longitudinal studies (Scher, Epstein, & Tirosh, 2004) have shown that the majority of children continue to let their parents know about night awakenings at least once per week through age 3. Furthermore, a sizeable percentage of children who experience sleep difficulties in infancy, continue to have sleep difficulties through early childhood (Touchette et al., 2005).

From an attachment perspective, it would be important to emphasize young infants' emotional distress in crying may be due to insecure feelings or fear when separated from the parent. Consistent with George and Solomon's (2008) theory about the caregiving system, a complement to attachment theory, the greater a mother's belief that infant crying at night signals fear, anxiety, or distress, the more likely they are to respond with physical comfort in response to their infant's awakening (Tikotzky & Sadeh, 2009). This might, in some contexts, be the sensitive thing for parents to do, but in other contexts it may be more an expression of the parent's over-anxiety and lack of discernment of the child's real emotional and physical needs. Picking up a distressed infant to provide emotional comfort, while it may address the immediate need of the child, has been shown, as mentioned, to be associated with more frequent and prolonged awakenings that may persist for several years (Sadeh et al., 2010). Evidence suggests that securely attached infants have fewer sleep problems. For example, infants who were securely attached at 15 months of age slept more minutes at night and spent more time in bed asleep (that is, showed higher sleep efficiency) at 24 months of age (Bélanger, Bernier, Simard, Bordeleau, & Carrier, 2015). Evidence also suggests that better sleep quality in infancy may promote the development of secure attachment in toddlerhood, particularly for infants of highly sensitive mothers (Bernier, Bélanger, Tarabulsy, Simard, & Carrier, 2014). Attachment style, however, has not yielded consistent links with prevalence, type, or persistence of sleep problems in the first years of life (Sadeh et al., 2010), which likely reflects—at a minimum—the complex interrelations between parenting practices and infant temperament.

Parenting practices and consequences for children's sleep are particularly evident in the establishment and maintenance of routines at bedtime. Sleep routines, and sleep hygiene more generally, can be considered part of the system for encouraging and promoting a child's sleep–wake regulation. Sleep–wake regulation goes from being externally regulated in infancy to internally regulated in toddlerhood and into the preschool period (Kopp, 1982). This transition, in many ways, mirrors the developmental transition from situational to internalized compliance. At nighttime, parents' task is to create an environment in which the child feels safe and secure, which is a contributing factor in a child's ability to fall asleep (Dahl, 1996). For example, Teti et al. (2010) found that greater observed maternal sensitivity and warmth during infants' bedtime routine was associated with fewer nighttime awakenings. One implication is that increasing parental sensitivity and warmth may reduce sleep problems, including nighttime awakenings and bedtime resistance. Tentative support for increasing parental sensitivity as an effective sleep intervention comes from a small intervention study of four children with sleep problems (Burke, Kuhn, & Peterson, 2004). At the end of the bedtime routine, parents read a story about two children who overcome their sleep problems with the help of a sleep fairy. The inclusion of the story and small rewards for staying in bed and going to bed without resistance was effective in reducing both of these behaviors. Though not part of the Burke et al. (2004) study, one possibility is that the inclusion of a bedtime story also increased paren-

tal sensitivity and warmth through the shared reading exercise, which likely included increased physical contact as well. Another possibility is that the mere presence of a reliable bedtime routine also provided the child with a sense of safety and security, which is consistent with interventions demonstrating the addition of a regular bedtime routine showed a reduction in sleep problems in as few as three nights (Mindell, Leichman, Lee, Williamson, & Walters, 2017). When a young child fails to comply with parental expectations at bedtime, this may be more challenging than noncompliance during the daytime, because strong parental control tactics could produce emotional arousal that works against the main agenda of getting the child ready to sleep, whereas gentle, inductive tactics might fail because the child's fatigue could work against the child's own cooperative, behavioral self-regulation. Thus, the bedtime routine may have more complexity surrounding compliance than during the daytime as both parents and children likely benefit from a well-ordered and low-conflict transition. We speculate that bedtime routines contribute to the parent's ability to sensitively respond to their child in order to support the child's developing ability to regulate back to sleep upon awakening during the night.

Consistent bedtime routines have been associated with better child sleep in American community samples (Staples et al., 2015), cross-cultural studies (Mindell, Li, Sadeh, Kwon, & Goh, 2015), and intervention studies (Mindell et al., 2011b; Mindell et al., 2017). Specifically, a consistent bedtime routine is predictive of shorter time to fall asleep and fewer signaled awakenings. Establishment of a bedtime routine earlier in life as well as greater consistency in the use of bedtime routine have both been linked to better sleep in later childhood (Mindell et al., 2015). During toddlerhood, longitudinal evidence suggests that consistency of a bedtime routine may promote sleep consolidation into a single nighttime period (Staples et al., 2015). In a study by Mindell et al. (2015), greater adherence to a bedtime routine, irrespective of the number of steps in the routine, predicted increased duration of nighttime sleep from 30 to 36 months as well as from 36 to 42 months. Furthermore, it appears that the benefits for child sleep increase as the consistency of use of the bedtime routine increases (Mindell et al., 2015). For example, parents who more regularly use a bedtime routine report fewer awakenings, awakenings of shorter duration, and shorter latency to fall asleep for their child. Intervention studies have demonstrated that infant sleep improves after just three nights of consistent adherence to a bedtime routine (Mindell et al., 2017) and is linked to a reduction in maternal negative affect (Meltzer & Mindell, 2007) likely through a reduction in child bedtime resistance as well as reduced nighttime awakenings. Because we try to bear in mind that the parent–child relationship is a transactional system, and child sleep problems could create difficulties for the parent, we found it important that an intervention study has shown that following an effective sleep intervention for infants and toddlers with a sleep problem, mothers reported less tension, anger, and fatigue (Mindell, Telofski, Wiegand, & Kurtz, 2009).

Normative changes in sleep from birth to age three present challenges for parental functioning. As mentioned, parents' functioning can be affected by the stresses of child sleep problems. It is well known that poor sleep has negative consequences for cognitive, affective, and physical health for adults in general (Deliens, Gilson, & Peigneux, 2014; Walker, 2009). Compared to adults without children, parents get less sleep at night and sleep loss increases with each additional child (Hagen, Mirer, Palta, & Peppard, 2013). In particular, parents of at least one child between the ages of two and five reported the shortest amounts of nightly sleep and were more likely to experience daytime fatigue as well as dozing during the day when compared to parents of older children. Not surprisingly, parents of children with sleep problems report higher levels of "parental stress, maternal depression, reduced sense of competence, poor physical health and reduced quality of life" (Sadeh, Mindell, & Owens, 2011, p. 335). Poor parental functioning can exacerbate conflicts and result in missing important opportunities to support child development. Families have culturally established practices to deal with needs for sleep and socializing the young child to these practices is an important

task. It seems reasonable to suspect that parents who are sleeping poorly may have different challenges in meeting the needs of their child compared to well-rested parents. For example, mothers of young children (4 years and under) reported that daytime fatigue reduced their parenting effectiveness (Giallo, Rose, & Vittorino, 2011). For mothers of children between 24 and 36 months, feeling more fatigued and getting less sleep was predictive of using fewer positive control strategies (e.g., polite requests) during a laboratory task where they were asked to keep their child from playing with a desirable toy (White, Bradley, Neverve, Stirewalt, & Summers, 2015).

At night, as well as during the day, parents are continually adapting their parenting practices to children's changing behaviors. During this process of continual adaptation, parents are themselves challenged—especially in the early months—by the sometimes two-steps-forward-one-step-back development of infant sleep. For the majority of parents, infant sleep–wake regulation and consolidation of sleep into a single nighttime sleep period will occur around age three. However, for parents of infants with sleep problems that persist from infancy through the preschool period, sensitive responsive adaptation may become an additional challenge of parenting throughout the first 3 years of life.

Strengths and Limitation of the Evidence Base

Our first point about our area's evidence base is that research on development of parenting in early childhood so far has relied to a substantial extent on measures of highly simplified parenting indexes, based on limited arrays of situations or from particular theoretical perspectives. There are, of course, benefits to a focused operational definition, but there are also risks from this simplification. We believe that parenting tasks in everyday life are often not well-defined and often include more than one aspect of parenting. This conception is both a strength, in that it makes it possible to begin to grasp the important patterns in parenting, and a limitation, in that it is more complex and requires advances in research. As reviewed in this chapter, simplification of the complexity of parenting in the first 3 years has provided numerous findings—cross-sectional and longitudinal—about many aspects of parenting and the parent–child relationship (e.g., attachment-related behaviors, rules and routines, and parenting styles). In the same way parents are challenged to meet multiple, and often competing, needs of their child, researchers are also challenged to study parenting in ways that reflect this complicated reality. A single parent–child interaction often serves many functional tasks (e.g., nurturance, guidance, opportunity for observational learning). This oversimplification, however, has provided considerable evidence from multiple theoretical perspectives about the broad range of tasks and challenges of parenting from birth to age 3.

Our second point about the evidence is that we note a relative paucity of studies that consider parenting in multiple contexts of development. Throughout the chapter, we have attempted to highlight the strongest evidence for parenting tasks surrounding physical care and safety, control, and socialization. We then integrated these three domains as we considered the evidence concerning parenting surrounding infant sleep. From this perspective, we note a general limitation of the evidence is that there are too few longitudinal studies that assess the same parent and child behaviors across multiple occasions. For example, we would like to see further studies like the Bélanger et al. (2015) study, but with the addition of measurement of child sleep differences earlier in development, too, so that we can sort out the sequence of impacts of attachment security and sleep on one another in a cross-lag model.

Future Directions for Research

We suggest two possible directions for further research that stem from our appreciation of relative gaps in data on the developmental system centered on parenting. Research on parenting behaviors is already extensive, befitting its impor-

tance and complexity, but one relative gap is in understanding parenting from the perspective of both parenting partners in a two-parent household. This would mean research that includes fathers as well as parenting partnerships that reflect the wide range of family systems in which children are being raised, which includes households headed by two mothers, two fathers, and step-parents as well as intergenerational households or pairs of households, where the parenting partnership is shared between a grandparent and parent. For example, Laxman et al. (2013) found that the stability of the coparenting relationship as well as child temperament played a role in the continuity and change in supportive and undermining parenting behaviors. The extent to which these findings apply to coparenting relationships that are more diverse in form, educational background, ethnicity/race as well as throughout the child's development remains unknown. In a similar vein, Horvath et al. (2015) found that self-reported parenting goals and responses to child misbehavior were more similar within the parenting dyad compared to the sample of parents as a whole. While it does appear that parenting partners, compared to other parents, are more similar in their response to misbehavior, much remains unknown about the development of this similarity. For example, to what extent do shared values prior to becoming a parent shape shared parenting goals. Relatedly, how does the experience of parenting, both effective and ineffective, shape similarities in parent response to child misbehavior. Other issues such as parent personality, knowledge about child development, and parenting relationship satisfaction are likely important factors in the ways in which parents support and adapt to their child's changing needs.

The second direction for research is parenting in relation to sleep needs. The majority of research on parenting in the sleep context has focused on the first 12 months of a child's life. Sleep development, and parental adaptation to changing sleep needs, extends well beyond a child's third birthday. There are many open questions about the relation between parenting during the day and parenting during the night. We have been considering how parents manage the pre-bedtime routine with toddlers, using diary reports about routines (Staples et al., 2015) and observations of parents' induction of a sense of calm and security in the hour prior to bedtime (Hoyniak et al., 2017). Consistency and greater security during the bedtime routine has been linked to better child-sleep. One possible outcome of improved child sleep is improved parent sleep that in turn may facilitate more optimal parenting practices during the day. We have also been considering how mothers' own sleep deficits are associated with their feelings of stress and their warmth and control qualities in interacting with their toddlers (McQuillan & Bates, 2017). Important further questions abound, such as how parents' differences in handling of night awakenings of toddlers might affect the chronicity of night-waking problems and how coparents' division of the tasks of managing young children's sleep relates to parental coordination in daytime tasks.

Implications for Policy and Practice

Research on parenting of young children has many policy and practice implications, including societal practices, such as parental leave from employment, as well as professional practices, such as parent behavioral training for families experiencing or at risk for experiencing child behavior problems. For this chapter, we will simply focus on interventions for child sleep problems. To date, there is high-quality evidence for the effectiveness of behavioral interventions to address children's sleep difficulties (Mindell, Kuhn, Lewin, Meltzer, & Sadeh, 2006; Morgenthaler et al., 2006; Ramchandani, Wiggs, Webb, & Stores, 2000). Furthermore, interventions such as the establishment of a bedtime routine, result in improvements for children's sleep in a relatively short amount of time. We suspect that the effectiveness of this intervention in improving both nighttime and daytime behavior likely plays a role in the observed persistence of improved sleep as long as 1 year post intervention (Mindell et al., 2011b). In other words, parents may be motivated to continue with a bedtime routine

because the perceived cost was likely relatively low compared to the quick improvement in child behavior. Furthermore, the intervention used by Mindell et al. (2011a) was delivered via the internet, which suggests this effective intervention may be relatively more easy for parents to access since it does not require meeting with a professional (e.g., behavior health educator, pediatrician, psychologist) as well as being lower in cost. Parents who lack the access and skills for using internet materials on improving sleep routines might benefit from similar materials via brochures or videos given at pediatricians' offices or in brief workshops conducted for, say, parents of preschoolers by Head Start or other prevention program staff. We are also currently evaluating the efficacy of a two-session component on improving sleep routines and solving common sleep problems added to a standard, parent behavioral training intervention for children with oppositional behavior problems (see Box 1). Thus, effective programs for improving children's sleep are being developed, and some of these can be readily accessed by both parents and professionals.

Box 1 One Parent's Personal and Clinical Experiences in the Origins of a Research Program

A formative experience, coming in the early months of one of the authors' initiation into parenthood, was the realization that a sleep-deprived baby would not necessarily just fall asleep when tired, and in fact, had a harder time falling asleep when overtired than when only moderately tired. At about age 4 months, the author's daughter was extremely difficult in the early evening, despite having had a good nap in the afternoon. She fussed and cried if left to play with toys in her play pen, briefly quieted when picked up, then within a few minutes, fussed again unless she were being held and walked, and then within a few minutes, fussed again until she was being held, walked, and jiggled. Putting her in her crib to sleep did not work—it was far too little stimulation for her to feel comfortable, and it was too early in the evening to feel right to the parents. The author was thinking of this as a newly appearing difficult temperament. A brief consultation with Marc Weissbluth, a practicing pediatrician as well as researcher, taught us to recognize the wired-tired phenomenon seen in some infants. We had recently given up asking our daughter to take her morning nap, because she had rejected it, and Dr. Weissbluth advised us to insist again on the morning nap. We did so, and our daughter soon became more positive and tractable in the early evening. A second family experience, with the same daughter at the age of 28 months was just after the birth of her brother, when she became resistant to management and prone to tantrum outbursts. We quickly recognized the wired-tired pattern, made sure she was getting her full afternoon nap, and within days she was back to being her normal, positive self.

These experiences, along with a little reading of the research literature, led us to start thinking about the consequences of sleep deficit in our clinical work. A particularly impactful clinical experience involved a preschool girl who had been showing major behavior problems at school for about a month. She had previously been quite resilient in the face of a series of major stressors—her father being in jail, her mother leaving the state, and her foster mother separating from her husband—but eventually she had become quite difficult at school. The school attributed the change to a final stressor—her paternal grandfather would no longer take her to visit her father. The preschool requested a consult on this case. In a brief consultation with the girl's foster mother, we did not focus on the major stressors and parenting or teaching practices as we would have ordinarily done, but instead focused on the girl's sleep

(continued)

Box 1 (continued)

and pre-bedtime routine. The foster mother agreed to put her to bed a little earlier than she put her own, older children, and to give her a brief, but security-inducing routine, such as helping her wash her face, reading her a story, and snuggling with her for a few minutes. Within a week, the teachers reported that the girl was easily manageable. This experience inspired similar, more extended interventions with families of young children in our parent behavioral training clinic for families of children with oppositional behavior problems, and we occasionally got similarly striking results. This led to a more systematic development of sleep materials for parents and an ongoing test of their efficacy as an adjunct to a standard parent behavioral training intervention for families with oppositional children (for more information, see https://sleeptrain.psych.indiana.edu).

Conclusion

The tasks of parenting—physical care and safety, control, and socialization—from birth to age three are well defined and have been studied from a variety of theoretical perspectives. The challenges of parenting, however, are multifaceted and reflective of individual differences for both parent and child. In much the same way that a first-time parent can never be truly prepared for all that parenting entails, this one chapter has only begun to discuss some of that factors that create challenges for parenting during the first years of life. As stated earlier, there is a considerable body of research on individual aspects of parenting, but less research that is truly reflective of the complexity of day-to-day juggling of parent's own needs, the needs of their child, and constraints of time, place, and situation.

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Parenting of Preschool and School-Aged Children

Grace Kirby and Julie Hodges

Introduction

> Today is your day. You're off to Great Places! You're off and away! You have brains in your head. You have feet in your shoes. You can steer yourself any direction you choose. You're on your own. And you know what you know…. Dr. Seuss.

This Dr. Seuss (1990) poem captures the anticipation and excitement parents experience as their child sets off for their first day of formal schooling. This excitement is likely related to the importance of this milestone and opportunities and experiences that await their child. However, this excitement may also be tinged with worry about their child's capacity to cope with the structured school environment, with new tasks and new people.

The time when children enter the schooling years can be a period of great change for both parents and their children. This developmental period is particularly characterized by this transition to school and the shift of focus from predominantly home-based experiences for the child, to school playing a large role in the child's development. This shift can present a lot of new challenges for parents of preschool and school aged children as it can sometimes be difficult to negotiate the individual and shared roles that both the home and school play. In addition to this, the ways in which children learn and develop change significantly during this time as they move into a more formal and structured learning setting. Adopting an ecological lens to this time of transition is helpful in understanding the increasing influence of additional environments on a child's development and also in appreciating the changing nature of parents' tasks during the preschool and school years (Bronfenbrenner, 1979b; Bronfenbrenner & Morris, 2006).

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Theoretical Background

Bronfenbrenner's Ecological Model of Child Development

Although a child's family is their key developmental influence (Bronfenbrenner, 1986), it is important to realize that there are many other diverse influences on children and their families. Bronfenbrenner's Ecological Model of Child Development (Bronfenbrenner, 1979b) postulates that a child's development results from a complex interplay between the contexts or systems in which the child interacts. The model describes five systems that influence child development in proximal and distal ways. The first and most influential system, the microsystem, repre-

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sents those contexts in which the child directly engages (e.g., home, school, and religious or community groups). The next level, the mesosystem, is the relationship between the microsystems and how the microsystems influence one another. For example, a child's life at home will have an impact on how well they function at school. The third level, the exosystem, represents systems which are external to the child but will however, still have an indirect influence on their development. Child development is influenced not only by the environments in which they spend their time, but also the environments in which their parents interact. An example of two often influential exosystems are parent workplaces and their social networks as both of these systems will influence how the parent relates to the child which consequently will influence the child's development.

The fourth system is the macrosystem which considers the cultural context in which the child is raised. The macrosystem includes factors such as societal norms around relationships between children and adults, and can dictate the role that microsystems are expected to play in a child's upbringing. The final system, the chronosystem, is how time and changes in time influence not only individuals but also communities and culture. A life transition, such as beginning schooling, can be seen as an individual-level chronosystem while changes in a country's economic position would be a society-level example of a chronosystem.

As can be seen from the model, child development does not happen in isolation, but rather individual, family and community factors all interact to impact each other and a child's development (Jack, 2000). The implications of Bronfenbrenner's Ecological Model are that the developmental potential of a child is facilitated by having supportive connections between the multiple environments in which child development happens (Bronfenbrenner, 1979a).

Bronfenbrenner suggests that most parents are working at their optimum capacity to promote their child's development; however, some may do so in difficult circumstances (Bronfenbrenner, 1979a). In this way, we need to look at making the contexts in which parenting occurs easier, to give parents and young people the best chance to succeed. Ultimately, all parents want the best for their children (Bronfenbrenner, 1979a), however despite this, having the microsystems (e.g., the home and school) working together at the mesosystem level and negotiating the distal environmental systems to promote positive outcomes for children, can be difficult.

When considering the ecological model (Bronfenbrenner, 1979b), prior to children starting schooling, the most influential system for children will be the home, although the extended family and community will also play a role. During the transition to schooling period, children begin to split their time between more than one microsystem and consequently, the school context will begin to have a very large influence on children's development. At this time, it becomes hugely important for both the home and the school environments to work together, an issue which will be explored in much detail later in this chapter.

Albert Bandura's Social Cognitive Theory and the Importance of Self-Efficacy

Social Cognitive Theory (Bandura, 1997) dictates that a child's behavior is learnt based on cognitively processing behavior that is socially modelled to them. Having observed a modelled behavior may demonstrate a new behavior to a person or prompt them to preform or modify a behavior that has already been learnt. What is important to note is that children do not just copy the behaviors that they observe, but rather they cognitively process these behaviors, and this in turn influences the way they behave and develop. Bandura's Triadic Reciprocal Causation model seeks to explain how behaviors are determined through three components. First, the personal component of the model suggests that a person's self-efficacy will dictate whether they perceive the behavior is something they are able to do and achieve. Second, the behavioral component relates to the response provided by the environment following the performance of the behavior.

For example, if the child experiences success as a result of performing the behavior, or if an adult was to praise the behavior, it is more likely that the behavior will be repeated in the future. Third, the environment will also play a role in determining behavior based upon whether the conditions necessary for success are in place and reinforced self-efficacy can be promoted.

As can be seen above, self-efficacy is a large contributor to Social Cognitive Theory and consequently, child behavior. Bandura defines perceived self-efficacy to be "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). Self-efficacy is crucial to action and performance of many tasks; people are unlikely to attempt a task if they do not believe they will have some success in that task (Bandura, 1997). A person's level of self-efficacy will have a broad range of impacts on what that person does. Of particular note, self-efficacy can impact what activities people choose to do and how much effort they put into those activities, whether they persist in light of challenges or failures, and the sense of accomplishment they experience (Bandura, 1997).

Bandura (1997) postulates four avenues by which a person's self-efficacy is constructed. The first and most influential source is *enactive mastery experiences* whereby actual experiences of success and failure of performing a task influence levels of self-efficacy towards that task. What is deemed as a success or failure is of course subjective, as are how people judge internal and external factors to have contributed to that success or failure. The second avenue for building self-efficacy is through *vicarious experience*, whereby people can assess their own capabilities by seeing how a task is modelled by another person and then comparing themselves to that person. For example, if they see a task accomplished by someone who they view to be similar to themselves and who has similar skills, then they will perceive that they too can accomplish this task. Furthermore, a child may appraise how well they think they performed on a test by comparing their performance relative to the other children in their class (Bandura, 1997).

The third method by which self-efficacy is constructed, *verbal persuasion*, is focused on receiving external validation for one's capabilities. People develop a sense of self-efficacy when they are verbally reinforced and encouraged for having attempted or succeeded at performing a behavior. This validation must seem genuine and come from someone whose praise they value; for students, this may be their parents, teachers and even peers. The fourth source of self-efficacy sees people make judgements about their competencies based on *physiological and affective states*. Reactions (such as anxiety, stress, fatigue, and negative mood) before, during, or after task performance may provide actual or subjective feedback as to how well the person believes they performed that task (Bandura, 1997).

Self-efficacy, or a lack thereof, during the school years has implications for how a child approaches the challenges they face during schooling and their education. Bandura (1993) suggests that children who possess high levels of self-efficacy are more likely to persist with hard tasks and view them as challenges to be achieved rather than viewing them as unachievable. Both a child and their parents' beliefs about that child's ability are linked to the level of academic achievement that child attains (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). So much so that self-efficacy in students can mediate the relationship between cognitive skills and intellectual performance (Bandura, 1997). If children have the skills but not the self-efficacy to accomplish a task, the result may be poor performance. This is especially apparent when comparing high and low self-efficacy students who have similar cognitive capacity (Bouffard-Bouchard, Parent, & Larivee, 1991).

Additionally, parents who have high academic aspirations for their children can develop a child's self-efficacy and increase the aspirations a child holds for themselves (Bandura et al., 1996), underlining the importance of parental aspirations during the transition to school stage.

Erik Erikson's Theory of Psychosocial Development

Erik Erikson's Stages of Psychosocial Development (Erikson & Erikson, 1997) also proposes that the key developmental task of a 5- to

12-year-old is developing a sense of competence, the result of which will see the child experience either industry or inferiority. Similarly to Bandura's emphasis on self-efficacy, this stage of a child's development is critical for gaining self-confidence. Erikson's work emphasizes that to achieve a sense of competence, children must be given the opportunity to learn new skills and achieve some success in doing so. Ideally this success should be recognized by people in the child's life who are influential to their development (e.g., parents, teachers, and peers). Children whose success and efforts are acknowledged and reinforced will continue to want to try hard, thus in turn, developing their self-confidence. Those who do not experience a sense of accomplishment and reinforcement for their efforts will instead develop a sense of inferiority towards themselves and their abilities. This feeling of inferiority can then continue to influence children well into their school years and beyond, and may be interpreted as a lack of motivation and diligence towards their schooling.

Tasks and Challenges of Parenting and Child Development Across the Lifespan

The Transition to Formal Schooling

Children's early development is influenced by the quality of the proximal environments of which they are a part (Bronfenbrenner, 1979a; Bronfenbrenner & Morris, 2006). A caring home environment rich in learning resources and clear boundaries creates a sense of security and predictability for children. Such an environment fosters the skills vital for a successful transition to formal schooling and ultimately for children's better learning outcomes and overall development (Australian Early Development Census [AEDC], 2016a). Preparation for the transition from home and/or daycare to preschool and onto school begins well before the first day and continues well beyond the day a child first walks through the school gates. Indeed, children will experience many *firsts* as they progress through their school years; for example, their first excursion, school camp, oral presentation, solo ride to school, girl/boyfriend, exams, and national benchmark testing. The quality of the preparation for a child's transition to formal schooling and the scaffolded support for all their subsequent *firsts* can significantly influence children's long-term outcomes, such as their academic success and general well-being (Centre for Community Child Health [CCCH], 2008; Dockett, Perry, & Kearney, 2012).

The significance of the change experienced by each child and their family as they begin their formal schooling is comprehensive, and the preparation required for a smooth transition is years in the making (Dockett et al., 2012; Dockett & Perry, 2001, 2007). While there is an inevitability about a child's entry into formal schooling, the best way for parents to manage this transition is to ensure that their child is ready to cope with the challenges that face them. Competent parenting has demonstrated many benefits for children's success at school, including better school readiness, language development, physical health, academic achievement, peer acceptance, and emotional regulation, and a reduction in risk of antisocial behavior (Graziano, Reavis, Keane, & Calkins, 2007; Gutman & Feinstein, 2010; Moffitt et al., 2011). The Australian Early Development Census (AEDC, 2016a) also supports superior outcomes for children who are developmentally ready for the many exciting challenges that being a student brings.

Australian Early Development Census (AEDC)

The AEDC is national data collected every three years from around 300,000 children in their first year of school. These data are based on the Australian Early Development Index (AEDI; Brinkman et al., 2007; Goldfeld, Sayers, Brinkman, Silburn, & Oberklaid, 2009; Janus, Brinkman, & Duku, 2011), a teacher-completed checklist of young children's early development in five domains: physical health and well-being; social competence; emotional maturity; school-based language and cognitive skills; and communication skills and general knowledge. The

purpose of the AEDC is to produce reports at community, state and national levels in order to provide data to inform the allocation of resources and to inform the preparation of schools, communities and families (Sayers et al., 2007). All five AEDC domains have been found to predict children's academic outcomes in grades 3, 5 and 7 (The National Assessment Program—Literacy and Numeracy; NAPLAN) and their social and emotional preparedness for settings outside the home (AEDC, 2015a, 2015b). These domains provide a useful framework for identifying important developmental tasks for children during the early years (Table 1) and middle years (Table 2) of formal schooling (AEDC, 2015a, 2015b; Destefanis & Firchow, 2009; Frydenberg, 2015; Frydenberg, Deans, & O'Brien, 2012; Goldfeld et al., 2016). These developmental tasks can subsequently be used to inform parenting responsibilities throughout the school years. The focus of parenting tasks should be informed both by a parent's own values and also by the requirements of

Table 1 Developmental tasks for children aged 4–6 years

Area of development	Developmental tasks 4–6 years	How parents can help
Physical health and well-being	Gross and fine motor skills: – e.g., run; jump; hop; climb; catch; throw; bounce a ball; grasp a pencil; assemble puzzles Sleep, hygiene and routines: – e.g., adequate rest; showered; hair clean and brushed; appropriately dressed; arrive on time Independence skills: – e.g., use table utensils; brush teeth; wash hands; pack bag; dress	• Provide child with plenty of activities that encourage creativity and build gross and fine motor coordination: e.g., hopscotch; bike riding; cutting out; pasting; threading beads • Spend quality time with child while building their capacity for independent play • Make sure that they gradually develop the capacity to spend time away from parent • Establish routines and schedules: e.g., morning; bedtime; bath; teeth cleaning; dressing; hair brushing; meal-times • Break tasks down into steps and help child to learn how to do these tasks: e.g., dressing; using a fork • Encourage turn-taking, eye contact and use of common social greetings • Help child to recognize emotions by describing what they might be feeling (e.g., "it looks like you're *angry/sad/frustrated…"*) • Introduce coping strategies: e.g., breathing; self-directed removal to quiet/calm time • Help child develop self-control • Talk to child about anything that interests them; use new words and encourage them to use the new words (e.g., having words of the week) • Use what, when, where, and why questions to build vocabulary and ideas • Praise cooperation and effort (process rather than outcome) and catch children being good • Read, read, read • Encourage counting … of anything—steps, peas, stars, and introduce the idea of addition • Use 'social stories' to help child prepare for new situations; if necessary, develop 'scripts' to help children feel prepared
Social development	Work and play with other children: – e.g., take turns; share; cooperate; distinguish right from wrong; help others Self-confidence Possess self-control Follow instructions and class routines Know the difference between truth and lies Friendships become important	
Emotional development	Identify and express emotions appropriately Express concern if others are sick, hurt, or upset	
Language and cognitive development	Attend to teacher and concentrate in class Able to count Recognize numbers and shapes Speak fluently, i.e., correctly use plurals, pronouns, and tenses Understand and name opposites Thinking is still naive	
Communication skills and general knowledge	Use relatively complex sentences Ask for help Able to tell a story Basic general knowledge: – e.g., dogs bark; weather is hot in summer; carrot is a vegetable	

Table 2 Developmental tasks for children aged 7–11 years

Area of development	Developmental tasks 7–11 years	How parents can help
Physical health and well-being	Physical changes associated with puberty precede psychosocial maturity Body image issues emerge Develop capacity to independently manage self-care: –e.g., wash own hair; take care of personal hygiene Greater self-control over exercise and dietary choices can lead to conflict	• Continue to spend quality time with young person and find out about things that interest them • Make sure that child feels loved and a valued member of the family, build self-efficacy and encourage self-compassion • Encourage child to be physically active every day; exercise with children • Continue to develop children's capacity for self-control and to recognize and develop strategies to manage risk • Continue to have clear, reasonable and consistent rules and boundaries; (e.g., around use of screens and social media) this helps young people feel that their world is predictable • Monitor what children are doing; know where they are and who they are with • Help young person to solve problems (rather than do it for them). Explore short and long term consequences. Provide opportunities for decision-making • Help young person understand what it is to be a friend; encourage healthy friendships, and help them to feel connected • Work with child to help them manage their emotions. Model appropriate emotion regulation • Encourage responsibility—give them chores that contribute to family functioning • Work to develop a range of coping strategies (resilience) • Keep the lines of communication open. Talk to child about things that interest them (e.g., school, music, current events). Persist if they seem difficult to engage • Continue to praise effort (process rather than outcome) and pay attention to behaviors you want to see more of • Encourage child to become involved in groups and clubs that enable the development of their strengths and interests and also have a social component (e.g., sporting groups, dance, music, robotics) • Introduce the idea of service and volunteering • Encourage child to read. Talk to them about what they are reading, and talk to them about things such as current events and sport
Social development	Growing influences outside the family: – e.g., friends; peers; teachers Developing awareness (and perhaps challenging) of social values and norms Importance of feeling connected Can become demanding, negative and resist limits Interest in and questioning of rules and boundaries Can misread and misinterpret social cues Beginnings of cooperative spirit	
Emotional development	Individuation process results in greater experimentation and exploration as young people develop a sense of identity Identify feelings of others and developing empathy Increasing mental health vulnerability as their world grows and the expectations around their capacity to manage multiple contexts increase Developing need for independence, exploration and experimentation	
Language and cognitive development	Developing reasoning, logical and moral thinking Greater capacity for abstract thinking and making rational judgements Beginnings of brain 'pruning'	
Communication skills and general knowledge	Capacity for conversation with a range of peers and adults Awareness of social conventions surrounding communication Increasing involvement in contexts other than the home Exposed to vast amounts of new ideas, information and concepts Distinguish between passive, assertive and aggressive communication Learn to manage conflict appropriately	

the contexts in which a child and the family operate (i.e., school and community settings). The key tasks for parents of preschool and school age children will be explored through the five AEDC domains. Suggestions for tasks and useful strategies can be found in Tables 1 and 2.

Physical Health and Well-Being

The physical health and well-being domain involves children having the energy, independence, and motor skills necessary to cope with the demands of the school day (AEDC, 2015a). Ensuring children receive adequate sleep is a prerequisite for all young people's general growth and development and is also important for learning (Becker, 2014). Sleep hygiene, including developing a good bedtime routine that involves a tapering of energetic activity and the inclusion of quieter tasks as bedtime approaches, is an important consideration throughout the school years (Becker, 2014). Shared reading is ideal as part of a bedtime routine for young children as it represents a quiet but engaging activity, and is also an opportunity for spending quality time with children (McTaggart & Sanders, 2003). Independent reading rather than screen time is also the preferred pre-sleep activity for older school-age children.

Schools value self-managing students who are able to: put on their shoes and socks after sand play; dress themselves after swimming lessons; pack their bag at the end of the school day; put rubbish in bins after eating; follow the teacher's instructions; wait patiently in line; and work independently—the list is endless! As children begin their formal schooling, prioritizing which skills to teach and in what order, is best decided using the combination of a parents' intimate knowledge about their own child with the teacher's knowledge of the requirements of the classroom (Perkins, 2014). While there are skills that will be required across all contexts, for example waiting one's turn, there will also be context-dependent skills. Encouraging parents to develop a working relationship with their child's teacher and the school is vital, particularly in the early years of schooling (Perkins, 2014). There are key parenting strategies that will assist children to develop the skills that are necessary for them to do well at school. Breaking down a skill into its component parts will help children learn new skills (forward and backward chaining; Sanders et al., 2008). Praise for process—specifically the effort expended as children work towards developing new skills—and the use of token economies (e.g., behavior charts) that provide the additional motivation, encouragement, or *training wheels* for skills that are more difficult to learn, make it more likely that children will persist in learning new skills. Parent modeling of good sleep hygiene, regular exercise, and good eating habits is also essential if children are to develop and value the importance of these life skills (Becker, 2014).

Social Development

Based on the AEDC (2015a), the social competence children require for success at school involves having the self-confidence to work and play cooperatively with, and the capacity to help, others. Displaying appropriate respect for teachers and for the rights of others are important skills to develop during the school years and beyond, and also represent an internalized understanding of social norms and conventions (AEDC, 2015b; SuccessWorks, 2010; West & Nolan, 2012). Children whose social competence is compromised when they begin formal schooling will often: exhibit low self-confidence; struggle to get on with others; be disrespectful of others; have difficulty following rules and routines; and struggle to accept responsibility for their actions. While children often develop social skills as a natural part of their participation in family and school life, the development of social competence may also require explicit teaching (AEDC, 2015b; SuccessWorks, 2010; West & Nolan, 2012).

The expectations and social values communicated in the family unit become a child's default for appropriate behavior (Sanders et al., 2008). Such social norms, values and conventions are transmitted via modeling by adults, and via rules established in homes, schools and in classrooms (e.g., show respect and be polite). While no one would argue that respect and good manners are

not important, it is essential that rules and expectations are operationalized so that children know what behavior is expected of them; i.e., what will a 3-year-old and a 10-year-old be *doing* if they are being respectful or displaying good manners?

Parents and schools can work together to develop children's social competence by providing opportunities for cooperative effort, turn-taking, using kind words, team building, fairness, and listening to others' perspectives (Kidsmatter, n.d.-a, n.d.-b; AEDC, 2015b; SuccessWorks, 2010; West & Nolan, 2012). Consistency of rules and expectations between parents and schools make it more likely that children will develop social competence and do well at school and beyond. Being part of a family provides a child with their primary experience of being part of a social group and what this entails. Giving children responsibility for chores from an early age provides them with important lessons about cooperative effort and being part of a team. Parents can provide structured opportunities for children to develop social competence by organizing interactions with others via community groups and clubs, play dates, and sleepovers. These events provide openings for parents to pay attention to appropriate behavior, both *in the moment* (e.g., "I really like the way you're taking turns"), and via discussion following social interactions. These conversations might focus on social norms, empathy, or problem-solving around fights or disagreements that occurred. Goals for future behavior or coping can be discussed and agreed upon, and subsequently a new social opportunity organized.

Emotional Development

The emotional maturity domain involves children being able to demonstrate age-appropriate self-regulatory skills and a capacity to help and to empathize with others (AEDC, 2015a). Children's emotional development, including their capacity for emotion regulation, provides the basic building blocks for subsequent social interactions and contributes to their general well-being (Graziano et al., 2007). Parents can promote their child's emotional development via appropriate modeling, explicit teaching and reinforcement schedules that focus on rewarding valued behaviors, efforts to cope and displays of self-control (Sanders et al., 2008). Parents should also be on the lookout for anxious behaviors that ultimately result in children avoiding situations that have the capacity to provide important developmental opportunities. A child who is anxious about a school excursion and develops a *stomach ache* (real or imagined) to avoid going, is not only missing out on an important opportunity for their social, emotional and cognitive development but may be developing a pattern of avoidance and subsequent mental health and well-being vulnerabilities. There are some important parenting tasks that will support children's emotional development across the school years (Cobham, Filus, & Sanders, 2017; Gutman & Feinstein, 2010).

Adopting a strengths-based focus by involving children in activities that allow them to develop their innate assets is important for children's self-efficacy and their sense of self-worth (Cobham et al., 2017). It is also important that parents encourage and support children to *have a go* at, rather than avoid, tasks that might appear challenging and avoid making comparisons between a child and their siblings, friends, or classmates. Balancing the development of a child's strengths with their capacity to cope, will help children develop a realistic appraisal of their own abilities and help them to feel good about themselves (Frydenberg, 2015; Frydenberg et al., 2012). Creating everyday opportunities for the development of young people's emotional vocabulary and their capacity to regulate their emotions is essential. Children experience the same range of emotions as adults but need help to name their emotions and to manage their feelings in a healthy, socially acceptable way (Kidsmatter, n.d.-a, n.d.-b; Cobham et al., 2017; Frydenberg et al., 2012; Graziano et al., 2007). If a child appears to be feeling frustrated (angry, sad, annoyed, or betrayed), making a tentative statement naming the emotion is a good starting point: "It looks like you're feeling pretty disappointed about your score on the maths test. Is that something you would like to talk about?". Such open communication provides opportunities for sharing times when the parent might have felt that

way but also for making suggestions about coping strategies for managing in the moment; for example, breathing, listening to music, kicking the football, or playing with the dog. This interaction may also provide an opportunity for problem-solving; for example, "What do you think you need to do, to do better next time?" or "Asking your teacher is a good idea, when can you do that?".

As part of conversations about emotions and emotion regulation there will be opportunities to help children identify thinking patterns that are helpful (green thoughts) and unhelpful (red thoughts) and how such patterns influence our emotions and behaviors. Early understanding of the relationship between thoughts, feelings, and behaviors is important in assisting children to develop control, and ultimately, positively influence their emotional well-being (Frydenberg, 2015; Frydenberg et al., 2012). Perspective taking, gratitude, and the idea of being of service to another can also contribute positively to children's well-being.

Language and Cognitive Development

Appropriate language and cognitive development means that young people have the necessary skill base to be interested in and enthusiastic about learning (AEDC, 2015a). The language and cognitive skills required to assist in the smooth transition to preschool and school center not only on the basics of reading, writing, and numeracy but also on the ability of children to sit and focus their attention on an activity for a period of time and to follow instructions (La Paro & Pianta, 2001; Pianta & La Paro, 2003; McTaggart & Sanders, 2003; SuccessWorks, 2010). Looking for teachable moments in everyday experiences such as the phases of the moon, seasonal flowers and crops, and visits to the library, beach, or park, offer powerful contextualized opportunities for learning. Parents can also assist by reading stories, asking what, when, where, and why questions and encouraging children to generate their own answers. For older children, stories on the news, television or the Internet can provide a catalyst for discussions involving moral decision-making (La Paro & Pianta, 2001; McTaggart & Sanders, 2003; SuccessWorks, 2010).

In order to develop children's capacity to understand how to think through problems, parents can talk through simple problem-solving tasks such as choosing which task to prioritize when there are competing demands (e.g., having breakfast before showering and dressing for work; Kidsmatter, n.d.-b, n.d.-c; Sanders et al., 2008). Explicit problem-solving that requires children to first articulate the problem and then list all possible options before deciding on the best option to trial, enables young people to understand that complex problem-solving is a process which can be learned.

Communication

Effective communication involves children being able to clearly articulate their needs and to have the vocabulary to describe their ideas, so that they can converse easily and effectively with both their peers and with adults (AEDC, 2015b). This definition refers to the expressive part of communication, however, effective communication also involves the development of receptive skills, such as tone of voice, body language, and facial expressions, that assist children to decode the intent behind words and ultimately to respond appropriately. The use of effective listening skills, verbal communication, and nonverbal communication can be developed through focused attention. These skills also overlap with and complement children's social and emotional development (Kidsmatter, n.d.-a, n.d.-c; Gutman & Feinstein, 2010; SuccessWorks, 2010; West & Nolan, 2012).

Young people need to be able to ask for help. In the early years of schooling, this might be asking for assistance while developing independence skills, such as getting dressed, packing their bag, or doing their homework. Complex tasks can be broken down and children encouraged to complete those aspects of the tasks they can and then prompted to ask for help for those parts that are currently beyond their skill set (McTaggart & Sanders, 2003; Sanders et al., 2008). An inability to communicate their needs can result in frustration and acting out rather than expressing their needs appropriately. Older children need to develop the capacity to use assertive communication (rather than passive or aggressive) and to

develop their conflict resolution skills (Sawyer et al., 2012). As well as appropriate modeling, both younger and older children are likely to require explicit instruction and may even need help developing *scripts* for more challenging situations; for example, an *almost adolescent* might need to practice the words they use to communicate to a fellow student that they do not want them to copy their homework (Sanders et al., 2008; SuccessWorks, 2010; West & Nolan, 2012).

Special Populations

Parenting Gifted and Talented Children

Parenting a child who possesses untrained natural ability (giftedness) or abilities, skills, or knowledge that have been developed and subsequently place them in the top 15% of individuals (talented) can present unique challenges for parents and for teachers (Gagne, 2003). While the evidence is mixed, there is support to suggest that overall, gifted and talented children are more vulnerable to behavioral and mental health problems. Gifted and talented students can feel different from their peers, and have difficulties in social situations which subsequently can impact their self-esteem and also their well-being.

A child who is a gifted mathematician, may be an average student overall, or even have learning difficulties in other areas. While asynchronous development is common in gifted and talented children, this is often not well understood and can lead to unrealistic expectations of parents, teachers and even of the young person themselves (Morawska & Sanders, 2009). Due to the ease with which they are able to complete tasks and the accolades they receive in their area of giftedness or talent, the young person may set a high bar for themselves in other areas of endeavor and rather than fail to meet their own very high standards, may disengage. Parents and teachers can inadvertently pay too much attention to the area of strength, thus unintentionally making it more likely that the young person will lack motivation in other areas of learning (Morawska & Sanders, 2009). While it is important to foster the young person's talent, at the end of the day parents and teachers need to consider the needs of the whole child. Praise should focus on process rather than product; specifically parents should focus on praising and rewarding the effort expended in a task rather than a positive outcome, such as an A or an award (Kamins & Dweck, 1999). Gifted and talented children, like their typically developing peers, require clear boundaries and expectations regarding behavior and the same attention to their social and emotional development. Appropriate parental advocacy and communication with teachers and schools, are also important to develop a shared understanding of the specific strengths and challenges of each child.

Parenting Children with Disabilities

Children with disabilities are three to four times more likely than their typically developing peers to develop significant emotional and behavioral problems (Einfeld, Ellis, & Emerson, 2011). These problems are also one of the main predictors of stress and emotional adjustment difficulties in parents of children with disabilities (Mazzucchelli & Sanders, 2012; Plant & Sanders, 2007). It is widely recognized by both education providers and parents that, in order to reach their potential, children with special needs require additional support. However, in their efforts to both support and protect their children, parents of children with disabilities may in fact, inadvertently prevent their children from learning the very skills they require to live independently. If parents attribute a child's behavior to inherited factors it may prevent them from trying to change the behavior (Mazzucchelli & Sanders, 2012). In order to reach their potential it is important to develop a strengths-based focus. For children with disabilities, developing an effective communication system is essential not only to help children learn but also to prevent behavior problems that may occur as a result of the frustration that children with disabilities can experience trying to communicate their needs (Mazzucchelli & Sanders, 2012; Plant & Sanders, 2007; Sanders & Plant, 1989). Visual schedules, forward and backward chaining, and additional rewards, are all important strategies parents can utilize to assist children with disabilities to learn new skills and develop their capacity to work and ultimately live independently (Mazzucchelli & Sanders,

2012). An effective home–school partnership is also vital to promote consistency across contexts and promote development in children with disabilities (Perkins, 2014).

The Relationship Between Home and School

The transition to school requires parents and schools to begin engaging with one another and working together as partners in children's education and development. The importance of the microsystem environments of the home and school working together at the mesosystem level has gained traction in the past four decades (Emerson, Fear, & Sanders, 2012).

To date, the research literature on this topic has been inconsistent in terms of the terminology and definitions used to describe the relationship between a child's home and their school. While also referred to as parent engagement, the term home–school partnership will be used for the remainder of this chapter to emphasize that the focus is on a two-way working relationship.

What Does the Home–School Partnership Look Like?

The purpose of the partnership between home and school is to facilitate positive academic and developmental outcomes for children. To be successful, it must be a two-way relationship between parents and schools that is characterized by shared responsibility and goals for a child's education, mutual respect, constructive two-way communication and information and expertise sharing (Fantuzzo, Tighe, & Childs, 2000; Reschly & Christenson, 2012). Without a strong partnership between parents and schools, when issues, difficulties and conflict arise, these challenges are more difficult to overcome and will often result in poorer outcomes for students (Epstein, 1995).

Epstein's Six Types of Involvement is a widely used framework for educators and researchers to describe the multi-dimensional construct of the home–school partnership (Epstein, 1995). The first element required for a successful home–school partnership is *parenting* whereby parents create supportive home environments that assist children to be successful students. This includes parenting practices, the relationship and attachments between children and their parents and the values that parents instill in their children; one of the most important values in this case being a love of learning. The next level is two-way *communication* between home and school about a child's progress and behavior and information sharing about what is happening at both home and at school. Communication is a critical part of a home–school partnership as it ensures that social capital, goals, and understanding are shared between parents, teachers and schools (Hill & Taylor, 2004). The third level, *volunteering*, is about parents being present, participating or assisting at their child's school or in their child's classroom. Not only is this of benefit to teachers and schools but it also demonstrates to children that their parents are interested in and value what happens at school which provides a good model for children to do the same. *Learning at home* is the fourth level and arguably one of the most important elements necessary for successful developmental and academic outcomes. Learning at home includes what parents can do at home to reinforce and extend what their child is learning at school by relating children's learning and education to broader contexts that exist beyond the classroom. A key part of successfully enacting this is to have teachers and schools support and assist parents in promoting their children's learning at home. Epstein's fifth level, *decision making*, involves allowing parents to express their opinions and be involved in school decision making processes, where appropriate. The final level is *collaborating with the community* which involves both families and schools being actively involved in the local community and utilizing community resources to benefit student learning and development.

Creating partnerships is fundamentally increasing social capital for parents, teachers and schools, which is thought to be one of the key ways in which home–school partnerships are able to foster better outcomes for children (Hill & Taylor, 2004; McNeal, 1999). Having a positive partnership between home and school has

demonstrated benefits at all ages and levels of schooling (Henderson & Mapp, 2002). However, the partnership is of particular importance in the early years of schooling as this is when child development is at its peak (Emerson et al., 2012). Research indicates these years to be foundational for the rest of the child's education and key to later schooling success (Galindo & Sheldon, 2012). Moreover, student achievement in kindergarten/preschool has been found to be predictive of educational outcomes in the later years of schooling (AEDC, 2016b; Alexander, Entwisle, & Dauber, 1993; Galindo & Sheldon, 2012; Gutman, Sameroff, & Cole, 2003; Rouse, Brooks-Gunn, & McLanahan, 2005). The early years of schooling are where children establish their identities as students, and this identity and their associated feelings of competence as learners, will continue to influence them throughout their education (Bandura et al., 1996; Farkas & Beron, 2004; Rimm-Kaufman & Pianta, 2000). Based on the work of Bandura (1993), parents can assist in building children's self-efficacy for learning by encouraging and reinforcing children's learning efforts early in the child's education journey. While the partnership is important across all levels of schooling, research suggests that partnership levels do tend to drop as children get older (Epstein, 1995). However, this finding can be mediated if teachers and schools work carefully to plan and implement parent engagement strategies across year levels.

Parent's Role in the Home–School Partnership

Although parents are heterogeneous, what nearly all parents have in common is that they want the best outcomes for their children (Epstein, 1995). As part of this, they aspire for their children to succeed in school and want to help facilitate them doing so.

The role of parents in the home–school partnership is not about being subject experts or mimicking the role of a teacher (Emerson et al., 2012). Rather, it is about being engaged in the child's education and assisting them to build the skills and self-efficacy necessary to be successful learners (Henderson & Mapp, 2002). By being supportive, taking an interest in their child's education and having high, but attainable, expectations for their child's achievement, means that children will feel their education is valued and that they will want to learn, persist with challenges, and do well at school (Henderson & Berla, 1994).

Debbie Pushor (2012), a leader in the field of building partnerships between parents and schools, has coined the term parent knowledge, and describes this as being one of the most beneficial things parents can bring to home–school partnerships. Parent knowledge is an intimate understanding of their children that is unique to parents. This multifaceted understanding includes knowledge of the child's experiences, skills, personality, strengths, weaknesses, dreams, hopes, and fears. Pushor suggests the difference between parent involvement and parent engagement in their child's education is parent knowledge; anyone can be involved in education but without knowing the child, they cannot be engaged. Where appropriate, this knowledge can be shared with schools to further children's academic success and development, and ensure that parents and schools are promoting common goals and facilitating the best outcomes for each individual child.

The sharing of parent knowledge can also be useful in parental advocacy whereby parents speak and act in the best interests and the needs of their child and their education (Abreu & Fedewa, 2016b). For some parents, advocacy will come very naturally, while for other parents, acting as an advocate for their child will not feel comfortable at all (Abreu & Fedewa, 2016b). This may be especially true for parents of children who are members of special populations, however there are some strategies that can be employed by parents who find advocacy difficult (Abreu & Fedewa, 2016b). First, it is suggested that these parents could connect themselves to other stronger advocates to learn how they can advocate and be heard. Second, parental advocacy will be assisted by networking with school personnel and building strong home–school partnerships. Finally, parents can increase their own education and knowledge about schools and their

associated policies, so they are better able to understand and know how to work within the system in which they are operating.

Parental advocacy is of particular importance for parents of children with disabilities and other special needs. These parents often find themselves needing to advocate more than parents of typically developing children in order to gain more inclusive practices or the extra support their child requires (Bacon & Causton-Theoharis, 2012). While parent advocacy is important, schools also need to be inclusive places for special populations and schools themselves should be advocating for a diverse range of children and their parents.

Benefits of the Home–School Partnership

Over four decades of research has found that building positive home–school partnerships leads to a range of positive outcomes for students, teachers, and schools. These benefits are realized by individual schools, education organizations, and government departments. Consequently, the home–school partnership is often a key part of local, national, and international education policy.

The most commonly cited and well researched of these benefits for students is that a positive home–school partnership leads to improved academic success both now and in the future. Specifically, those students whose parents have a good relationship with their school not only show higher current school grades and achievement but are also more likely to finish high school and participate in further education beyond school (Emerson et al., 2012; Fan & Chen, 2001; Galindo & Sheldon, 2012; Hill & Tyson, 2009). This association is so well researched that in 2014, Wilder conducted a meta-synthesis to combine the results of nine meta-analyses. It was found that regardless of the differing definitions of both the home–school partnership and academic achievement, a positive relationship was consistently found between the two. The magnitude of this association was found to be highest when the definition of the home–school partnership included parents having high expectations of their children's academic achievement. The positive association was smallest when the home–school partnership was characterized by parents assisting their child with their homework (Wilder, 2014).

Although the magnitude of this association may vary, the relationship between a positive home–school partnership and increased academic achievement is found to hold true across different ethnicities and socioeconomic status (Hill & Craft, 2003; Lee & Bowen, 2006; Reynolds, 1994). Specifically, parental engagement in education can help reduce both the achievement gap between White and ethnic minority group students (Jeynes, 2003, 2005, 2007) and the impact of socioeconomic disadvantage on student's academic achievement in kindergarten to grade 12 (Hango, 2007; Lee & Bowen, 2006).

Beyond academic achievement, a positive home–school partnership is also found to be associated with a range of other beneficial school related outcomes for children, such as school attendance, enjoyment of going to school, self-efficacy for learning, and motivation to do their school work and homework (Emerson et al., 2012; Mansour & Martin, 2009; Sheldon, 2007). Children whose parents have a positive relationship with their school, also have greater well-being related outcomes such as reduced behavior problems, increased social skills, and increased school connectedness (Emerson et al., 2012; Frydenberg, Care, Freeman, & Chan, 2009; McNeal, 2001; Powell, Son, File, & San Juan, 2010; Sheldon & Epstein, 2002). School connectedness in particular, is an important psychological well-being outcome, as it measures how well children feel they fit in at school, which in itself is related to their academic achievement and enjoyment of attending school (Frydenberg et al., 2009).

The supportive education environment for children that results from positive home–school partnerships helps ensure that children feel supported, cared for, and invested in. Consequently, they are more likely to better understand the purpose and goals of their learning, have a more positive attitude towards school and work towards

their potential. These factors facilitate the likelihood of current and future student success (Epstein, 1995; Hill & Taylor, 2004).

In addition to positive outcomes for children, there are also a number of associated benefits for teachers who build good relationships with parents. The evidence demonstrates that teachers' positive relations with parents are associated with not only increased job satisfaction but also decreased likelihood of leaving the teaching profession (Skaalvik & Skaalvik, 2009, 2011). Reduced likelihood of leaving the profession is an important outcome given that Australian estimates show 30–50% of teachers leave teaching in their first 5 years post training (Ewing & Manuel, 2005; Gallant & Riley, 2014). Additionally, teachers who engage in positive relations with parents show decreased occupational stress and increased self-efficacy for teaching (Grayson & Alvarez, 2008; Skaalvik & Skaalvik, 2010).

A positive home–school partnership is also associated with both lower overall teacher burnout and lower individual measures of burnout such as emotional exhaustion, depersonalization, and reduced accomplishment (Grayson & Alvarez, 2008; Skaalvik & Skaalvik, 2009, 2011). Research indicates that teacher burnout is also related to students' lack of motivation for learning; this in turn will have flow-on effects for children's academic success (Shen et al., 2015). Given that factors such as occupational stress and burnout are related to poor health outcomes, ensuring that teachers build positive relationships with parents is an important goal for teachers, schools, and educational organizations (Shernoff, Mehta, Atkins, Torf, & Spencer, 2011).

Implications for Policy and Practice

Given the importance of the home–school partnership, parents, educators, and schools all need practical support in acquiring the skills necessary to build successful home–school partnerships. Teachers and schools know how important parent engagement is; however, many can be unsure as to how to actually make parent engagement happen (Epstein, 1995). While education departments and organizations governing schools will often have their own policy, which generally includes the home–school partnership, individual schools may find it difficult to translate these broad policies and ideas into specific strategies for working with parents and enhancing home–school partnerships. To counteract this, existing policy may need to be revised to include suggestions for the way in which schools can implement these policies into practice. Additionally, education departments and organizations need to work with individual schools to provide assistance and resourcing to ensure that these policies work for their unique needs and utilize their existing strengths.

Within schools, teachers themselves require additional skills, support, and resources to build relationships with parents. North American research suggests that teachers are not adequately prepared during their preservice teacher training to work with parents, as course content and actual parent contact during practicums is limited (Hedges & Gibbs, 2005; Hoover-Dempsey, Walker, Jones, & Reed, 2002). Furthermore, Australian research has also found parent contact during practicums to be limited and preservice training related to working with parents can differ greatly between teacher training institutions (Saltmarsh, Barr, & Chapman, 2014). These deficits are reflected in a large-scale survey of Australian teachers of differing experience levels which indicated that 82% of teachers said they wanted professional development for building parent and community involvement; this was found to be teachers' greatest professional development need (Doecke et al., 2008).

Students are an underutilized resource as agents for building home–school partnerships. Students are at the heart of home–school partnerships and are the reason parents, teachers, and schools are so invested in making these partnerships work. Although in the later years of schooling, children often do not want their parents physically present at school, research indicates that children still want their parents to be engaged in their education (Deslandes & Cloutier, 2002). By providing students with support and information to better enable parent engagement, students can be a catalyst for bridging the gap between home and school (Epstein, 1995). For example, teachers can create opportunities for students to

engage their parents in their homework tasks or encourage students to talk to their parents about what they are learning at school.

Many parents do want to be engaged with their child's education and schooling, however some lack the knowledge of how to best go about this. While parent engagement in their child's education may seem very common sense for educators and some parents, this will simply not be the case for others. With this in mind, schools, educators, and other professionals need to work to reassure parents of the valuable contribution they can make and provide practical suggestions as to how they can support their child's learning. This will be especially relevant for those parents who do not have strong educational backgrounds and who may believe that they do not have anything to contribute to their child's education. For example, the notion that parents need not be subject experts on things like mathematics and science to assist in their children's learning, would be quite a relief to many parents, even those from well-educated backgrounds. Schools need to actively work to create open, supportive, and nonjudgmental environments for parents where they feel welcomed and valued as partners in their child's education.

Implications and Considerations for Special Populations

In regards to special populations, there are extra challenges to overcome in order to build strong home–school partnerships (see example Box 1). Both policy and practice related to building

Box 1 Building Home–School Partnerships with LGBTQIA Parents

While some research attention has focused on developing home–school partnerships with diverse students and families (predominantly children with special needs, and culturally and linguistically diverse parents), research on home–school partnerships with LGBTQIA parents is lacking (Abreu & Fedewa, 2016a). The limited research which does exist on this topic suggests that a potential barrier to building strong home–school partnerships reported by both parents and children is the lack of acknowledgement by schools of the nontraditional family structure of LGBTQIA parents (Abreu & Fedewa, 2016a; Kosciw & Diaz, 2008). Consequently, teachers and educators need to be cautious of the language choices they make and ensure inclusive practice so children and families do not feel excluded. The way that parents and their children are treated will almost certainly impact the strength of the home–school partnership which in turn can impact children's academic achievement potential (Kosciw & Diaz, 2008).

Research suggests that parents who are LGBTQIA are highly engaged in their child's education and in fact partake in more parent engagement than non-LGBTQIA parents. This is exhibited by higher levels of volunteering at school and attendance at school events, greater involvement in school decision making, more information seeking from teachers to assist with learning at home and more engagement with their child's learning at home (Abreu & Fedewa, 2016a; Kosciw & Diaz, 2008). Schools not only reciprocate but also initiate communication more frequently with LGBTQIA parents than with heterosexual parents (Abreu & Fedewa, 2016a). This is potentially due to the openness in communication that is exhibited by LGBTQIA parents and suggests that if LGBTQIA parents are willing to work to build relationships with schools, productive partnerships will result (Abreu & Fedewa, 2016a).

home–school partnerships must consider the needs of special populations and ensure extra provisions are made to ensure that these groups are included. For parents who are culturally and linguistically diverse, this may include the need to mitigate language barriers where possible by considering the use of translators and ensuring communications coming from the school can be understood by someone with only basic English language proficiency. Where the parent's first language is not that of the school, utilizing students to bridge this gap between home and school will be especially useful as these students will often play the role of communicator and translator between home and school. Additionally, parents of diverse backgrounds may have quite different expectations about what their role in schooling and their child's education is and for some it may be considered disrespectful to interfere in the teacher's domain of expertise.

There is a strong need for professional development and training to build the knowledge and understanding school staff require for building positive relationships with a diverse parent population (Abreu & Fedewa, 2016a). Furthermore, school personnel need to develop an understanding of the diversity of the special populations of students they will encounter at their schools and the strengths and challenges that are unique to each (Abreu & Fedewa, 2016b). For LGBTQIA students, the benefit of such training is demonstrated by research that suggests that at schools where staff have training on LGBTQIA related issues, the LGBTQIA students were less likely to get bullied than their peers from schools where staff did not have such training (Kosciw & Diaz, 2008).

Given the oftentimes difficult school experience that these special populations can have, (see example Box 2), school staff need to advocate for these students and seek to gain specific parent knowledge that comes with parenting a child from one of these special populations. Parents of children with special needs for example, will have intimate parent knowledge that will be critical to share with schools in order to develop the strengths and manage the challenges these students are likely to experience. For parents of chil-

Box 2 Experiences of Lesbian, Gay, Bisexual, Transgender, Queer, Intersex and Asexual (LGBTQIA) Students in Schools

Schools can be difficult environments for LGBTQIA students (Byard, Kosciw, & Bartkiewicz, 2013). In a country-wide sample of nearly 8000 students in the US, 55% of LGBTQIA students reported that because of their sexuality, they felt unsafe at school (Kosciw, Greytak, Palmer, & Boesen, 2014). Due to these feelings of being unsafe, 30% of LGBTQIA students in this sample had missed at least one whole day of school over the last month.

The consequences of homophobic bullying are far reaching for LGBTQIA students. Even when compared with their peers who experience other types of bullying, those who experience homophobic bullying experience lower school grades, more school absences, reduced feelings of belongingness at school, reduced likelihood of further education after school, lower self-esteem, and worse mental health outcomes compared to their peers (Kosciw et al., 2014; Poteat, Mereish, Digiovanni, & Koenig, 2011; Russell, Sinclair, Poteat, & Koenig, 2012). However, even when accounting for demographic differences and experiences of bullying, LGBTQIA students still report higher rates of unexplained absences from school, lower grades, reduced likelihood of believing that they will finish high school or engage in college/university, and higher rates of suicidal ideation and suicide attempts than non-LGBTQIA students (Aragon, Poteat, Espelage, & Koenig, 2014; Robinson & Espelage, 2012).

To further compound this situation, in a sample of 154 LGBTQIA and non-LGBTQIA middle and high school students from around the US, 65% of students have heard "blatantly derogatory homophobic remarks" (Kosciw & Diaz, 2008). Sadly, only 28% of students said that teach-

(continued)

Box 2 (continued)

ers frequently intervened when they heard homophobic remarks. Of even greater concern is that 39% of students reported that they had heard teachers and other personnel at their school make homophobic comments (Kosciw & Diaz, 2008).

Parents need to be aware of the challenges faced by their LGBTQIA students and act as advocates for their children during the school-years. This is especially true given that the school years are such a critical time for building self-efficacy and one's identity. To do so however, can be particularly challenging when school can be such a difficult place for these students and consequently a negative sense of self and low self-esteem may result (Aragon et al., 2014; Jordan, Vaughan, & Woodworth, 1998).

dren with additional needs, augmented communication between parents and schools will be required to share information and assist in creating consistency between home and school whereby both parties are able to support the child's progress across each setting.

Conclusions

The transition to school is often a time of great change for both parents and their children. Building positive home–school partnerships is critical to student success and also a practical way to improve the outcomes of all children, and to ensure that the school years result in successful child learning and development outcomes. The role of practitioners working with parents of preschool and school-aged children includes assisting parents to feel more confident in engaging in home–school partnerships. All parents are able to be engaged in their child's education and Epstein's Six Types of Involvement provides a clear framework for practitioners to guide parents in doing so (Epstein, 1995). While parents are best placed to bring *parent knowledge* to the home–school partnership, teachers and other school personnel also hold privileged knowledge and power when it comes to education and should utilize this to assist parents with their child's learning and development. An awareness of the unique challenges experienced by special populations, including children with disabilities, gifted and talented students, culturally and linguistically diverse parents, LGBTQIA students, and LGBTQIA parents, is essential if these young people are to reach their potential. In light of these challenges, future research must facilitate a better understanding of how to build successful home–school partnerships with the families of all children including those from diverse populations.

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Parenting of Adolescents and Emerging Adults

Alan Ralph

Introduction

> Parenting or child-rearing is the process of promoting and supporting the physical, emotional, social, financial, and intellectual development of a child from infancy to adulthood. Parenting refers to the aspects of raising a child aside from the biological relationship (Davies, 2000, p. 245).

The developmental periods, labelled adolescence and emerging adulthood, are by no means firmly established or agreed upon. Adolescence is the more common term, generally regarded as approximately spanning ages 10–21, or from puberty to taking an independent role in society (Dumontheil, 2016), while emerging adulthood is a more recent theoretical construct (Arnett, 2000), posited to span ages 18–25. This chapter does not review the debate about the relative merits of the usefulness of these terms, rather focusing instead on the tasks and challenges facing parents during this combined age range. Indeed, some question the utility of these terms altogether, pointing to historical, cultural, and social circumstances that are associated with dramatically fluctuating conceptualizations of these developmental periods (e.g., Epstein, 2007; Graham, 2004).

Parenting inevitably includes assisting children through a series of transitions, including physical, social, and psychological ones. The transitions more commonly experienced during this period include the transition into secondary or high school, through puberty, into work or further study, into independent living, and perhaps the establishment of long-term relationships (such as marriage and/or parenthood). Different cultures have varying ages at which some of these transitions are permitted or alternate rites of passage to mark them. But as children grow and develop physically, emotionally, intellectually, and socially these transitions will usually occur under the guidance of parents or an adult/adults acting in the parent role. The level of control that parents exert during these transitions also varies considerably both within and among cultures (Lancy, 2017); however, this process is characterized by a gradual decrease in the amount of responsibility taken by the parent, with it being transferred on the basis of varying indicators of increasing maturity and readiness that are often moderated by the cultural context (Lancy, 2017).

Demographic trends worldwide, particularly in relation to the developed world (OECD, 2011), indicate that the population is ageing and total fertility rates are declining. Parents are generally having fewer children (most of whom survive to adulthood), and are investing more in these

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children. The future of work and employment is uncertain for many, and parents of today's young people are faced with challenges about how best to guide and prepare them in ways that previous generations did not experience.

Considerable advances are now being made in our understanding of the development of the human brain. Bronfenbrenner (1979) proposed that children's development is shaped by their interactions with their immediate and extended environment and developmental systems theory is now at the forefront of current conceptualizations of children's development (Nelson, Kendall, & Shields, 2013). It is further supported by neurobiological findings that these early experiences become biologically embedded, influencing biological development (e.g., Herzman, 2012). Attachment theorists have drawn parallels with this research to support their emphasis on what is often referred to as a *sensitive period* when young children are particularly susceptible to the interactions with their primary caregiver (e.g., Blakemore, 2012). However, research on adolescent brain development has suggested this is a developmental period of particular sensitivity to the social context (van Hoorn, Fuligni, Crone, & Galvan, 2016). This has prompted some researchers to suggest that adolescence might be better conceptualized as a window for change and opportunity, rather than solely a period of vulnerability (Crone & Dahl, 2012) (Box 1).

Box 1 Case Study of Exposure to Naturalistic Consequences for a 14-Year-Old Boy with Autism

Against advice based on conventional wisdom concerning the treatment of autism, a Sydney father recently described how he took his 14-year-old son Sam on a 6-month trip backpacking across Africa. Many children diagnosed with autism spectrum disorder appear to find comfort in highly predictable environments and react adversely to change. However, this imposes considerable restrictions on their lives and is seen as competing with developmental goals that increase their capacity to function in broader society.

Sam reportedly functioned well in regard to skills such as playing the piano, and programming computers but could not shop independently or sustain conversations. Most current therapeutic regimes focus on careful graduation of changes to stimulus contingencies under carefully controlled conditions. The decision to try something different was based on the growing view that adolescence represents an opportunity for learning similar to infancy as the brain is highly receptive to change during both periods. The hypothesis was that exposing Sam to multiple experiences that were uncertain and unpredictable with the guidance and support of his father would promote neural development that would increase his ability to better deal with the challenges he would meet in later life.

Sam's father used the naturalistic experiences that they encountered to encourage him to do the talking as they bought bus tickets and food, checked into hotels, and visited local attractions. By the end of the trip, Sam's self-care skills had reportedly improved considerably and regular videorecordings showed advances in his social skills, including substantial improvements in eye contact and topic elaboration during conversations with strangers.

The report has generated interest from the autism research and treatment community about the possible implications of this experience and maps on to developments in the fields of neurobiology (e.g., Crone & Dahl, 2012) and autism intervention (Schreibman et al., 2015). While such an "immersion" experience may not be practical or desirable for every teenager on the autism spectrum, the prospect of taking advantage of what appears to be increased neural plasticity during adolescence to provide more adaptive development may be a goal worth exploring.

Graham (2004) and Epstein (2007) draw on compelling historical, demographic and social statistics to argue that the period referred to as adolescence is an artificial extension of childhood that infantilizes children who have reached the age of puberty, many of whom are actually quite capable of autonomous "adult" behavior across many domains. They argue that adult status and opportunity should be determined on the basis of individually demonstrated competency and not on artificial, socially imposed age barriers.

This chapter examines how parents might be encouraged to adapt the ways they interact with their children after puberty to better promote their child's health and well-being along a continuum of a developmental trajectory.

The Role of Family Risk and Protective Factors in Preventing Adolescent Behavior Problems

In recent years there has been much debate about the relative importance of a prevention approach to children's problem behavior focusing on the early years, and providing support to parents at this time (e.g., Frick, 2016). Much of the interest in this has been due to research suggesting that the identification and amelioration of risk factors during these early years will have a significant positive impact on reducing adult problems (e.g., Campbell et al., 2014; Duncan & Magnusson, 2013; Felitti et al., 1998). However, questions have been raised about the size of the effect produced by this approach and the relevance of these risk factors to later adult functioning (e.g., Caspi et al., 2016). These authors argue that these effects may be large for a relatively small segment of the population (22%) whose risk profile when young accurately predicts a large cumulative burden in adulthood. However, this suggests that the parents of around four out of five children do not require intensive support and manage well.

Other studies have provided evidence in support of the view that there should be a similar emphasis on providing support for parents of children entering early adolescence. For example, analysis of data collected as part of the Australian Temperament Project (ATP), a large scale, longitudinal study that has followed approximately 1600 children from infancy to adulthood, confirmed the existence of different pathways associated with the development of antisocial behavior in adolescence (Smart et al., 2003; Vassallo et al., 2002). One group of children began to exhibit antisocial behavior from the age of 5–6 years, whereas another group did not begin to show antisocial behavior until age 12–13 years. The two groups displayed trajectories similar to those of the early and late starter groups identified by Patterson (Patterson, 1982; Patterson, Capaldi, & Banks, 1991) and others (McMahon & Estes, 1997). These studies describe children whose problem behavior becomes entrenched in the preschool years (early starters), and those who do not exhibit problem behavior in early childhood, but become part of a *late starter* group, with problems only emerging in early adolescence. However, additional findings recently reported from the ATP after 30 years of longitudinal research suggest the existence of a third group who only became antisocial after they reached early adulthood during the period immediately after secondary school. This group "tended to be faring worse than individuals who had never, or only transiently, been involved in antisocial behaviour as teenagers, especially in their interpersonal relationships, mental health and temperament style" (Vassallo & Sanson, 2013, p. 11).

In addition, research from the field of developmental psychopathology clearly links a number of family risk and protective factors to adverse outcomes in adolescence. Family practices that are associated with the onset and maintenance of adolescent substance abuse and conduct disorders include poor family management; disrupted, coercive, or nonexistent parenting; inappropriate discipline; inadequate parent monitoring; and parent irritability (Block, Block, & Keyes, 1988; Farrington et al., 1990; Hawkins, Catalano, & Miller, 1992; Loeber & Stouthamer-Loeber, 1987; Steinberg, Fletcher, & Darling, 1994). In contrast, family support is identified as a significant predictor of positive adjustment in

childhood and adolescence, and indirect evidence suggests that family support is a protective factor for adolescent substance abuse and conduct problems (Cauce, Reid, Landesmann, & Gonzales, 1990; Cohen & Wills, 1985; Wills, Vaccaro, & McNamara, 1992). Furthermore, parenting variables related to adolescent high-risk sexual behavior include limited parental availability, low levels of parent monitoring and support, and coercive family exchanges (Biglan et al., 1990). Also implicated were friends who engaged in problem behavior and alcohol use. Poor parental monitoring in middle childhood has also been shown to be a significant factor in children's movement into a deviant peer network in early adolescence (Dishion, Patterson, Stoolmiller, & Skinner, 1991), and higher levels of monitoring have been associated with lower levels of adolescent deviance (Lamborn, Dornbusch, & Steinberg, 1996). Poor parental monitoring has long been identified as a strong predictor of male adolescent delinquency (Loeber & Dishion, 1983; Loeber & Stouthamer-Loeber, 1987), and antisocial behavior in boys (Patterson & Dishion, 1985). This has been accompanied by evidence that inadequate parental monitoring is implicated in early substance use (Baumrind, Moselle, & Martin, 1985; Brown, Mounts, Lamborn, & Steinberg, 1993; Dishion & Loeber, 1985; Dishion, Reid, & Patterson, 1988; Fletcher, Darling, & Steinberg, 1995).

Parents of teenagers with behavior problems show less warmth, affection, and emotional support, communicate more negatively, and participate less often in joint family activities, than parents of non-problem children (e.g., Alexander, Waldron, Newberry, & Liddle, 1988). Poor parent–adolescent communication has frequently been linked to delinquency (Henggeler, 1989), and general deviance (Stewart & Zaengleln-Senger, 1984). Metzler, Biglan, Ary, and Li (1998) demonstrated that parent–child conflict, negative family relations, and poor parental monitoring were highly related to behaviors such as association with deviant peers, antisocial behavior, and substance use; and conflict with parents was strongly associated with contact with deviant peers, substance use, and engaging in antisocial behavior. In contrast, high levels of positive family relations, parental monitoring, rule setting, and positive reinforcement were associated with decreased contact with deviant peers, engagement in antisocial behavior, and substance use.

Conduct-problem behavior is more likely to begin before drug abuse than vice versa; and an escalation of delinquent or antisocial acts is often accompanied by substance abuse (Elliott, Huizinga, & Ageton, 1985; Prinz, 1998). Biglan et al. (1990) examined high-risk sexual behavior among high school students and observed high correlations with other problem behaviors such as antisocial behavior, academic difficulties, smoking, alcohol and other drug use. This suggests that the same young people may engage in a wide range of problem behaviors.

The significance of parental monitoring or supervision of teenagers when they are away from direct parent control has long been under scrutiny as it appears as a powerful protective strategy in several studies examining risk and protective factors relating to risk-taking behavior on the part of teenagers (e.g., Dishion & McMahon, 1998; Pettit, Laird, Dodge, Bates, & Criss, 2001). However, there has been debate about the mechanisms by which monitoring had been conceptualized which focused on what parents know, how they know it, and the extent to which the knowledge is accurate (Kerr & Stattin, 2000; Stattin & Kerr, 2000). Subsequent research has conducted more fine-grained analyses, including whether the information was obtained by parents actively seeking the information from their teenager, whether the information was freely disclosed by the teenager, and the type of information sought or disclosed (Brown & Bakken, 2011). This has led to a research agenda that is now exploring a more sophisticated conceptualization that requires "more dynamic reciprocal models that are attentive to developmental progressions in peer and family relations across the phases of adolescence" (Brown & Bakken, 2011, p. 163).

A parallel line of research is concerned with the contrast between behavioral control and psychological control of adolescents by their parents (Barber, 2002). Behavioral control by

parents is seen as the legitimate management of adolescent behavior that provides guidance and supervision to help prepare them to deal with the challenges and risks of contemporary society. By contrast, psychological control is viewed as impeding the development of adolescent autonomy and may facilitate dependency. Psychological control is seen as intrusive and violates the adolescent's psychological world, as well as being manipulative, anxiety provoking, constraining and creating excessive parental expectations among other things (Barber & Harmon, 2002). In its extreme form, it can completely sabotage the developmental trajectory of a young person, but even at relatively *benign* levels it can interfere with their capacity to develop appropriate autonomy and impede their ability to take on adult roles which they could otherwise accomplish. Graham (2004) points out that in addition to inappropriate controls imposed by parents, many societal rules and laws may also have similar effects. For example, the voting age is often set at 18 years of age in Western countries, limiting adolescents' opportunities to contribute to democratic decision-making regarding social events that impact them directly.

Barrera and Stice (1998) implicated other parenting variables, such as paternal alcoholism, as being related to parent–adolescent conflict. Additional risk and protective factors include couple relationship conflict and parental distress (e.g., stress, depression). As parental discord is a risk factor for many forms of child and adolescent psychopathology (Grych & Fincham, 1990; Rutter, 1985; Sanders, Nicholson, & Floyd, 1997), collaboration and teamwork between carers in raising teenagers are important (Shanker, 2016; Sosic-Vasik et al., 2017).

Some Challenges in Promoting a Positive Developmental Trajectory

Parenting is not solely about preventing or addressing problem behavior but is primarily about promoting adaptive, prosocial behavior that will enable a child to develop into a well-functioning member of adult society. There are many myths associated with the characteristics and behavior of young people labelled as adolescents which do not stand up to empirical scrutiny. Many make the transition into adulthood without any of the dramas or rebelliousness commonly portrayed in the media (Epstein, 2007; Graham, 2004), and this is often accomplished in part due to the social circumstances in which their families exist and the actions of their parents. Epstein (2007) and Graham (2004) both point to the contrasting arrangements across cultures whereby in Western society, teenagers' daily lives are largely spent in the company of their peers, whereas in many other cultures they are spent with adults. They speculate that this adolescent peer group provides the least skilled experiences about how to become a well-functioning adult, unlike those who have already attained adulthood. The importance of parents fulfilling that adult role in the lives of their maturing children cannot thus be understated, and parents need to understand that relinquishing their influence to the peer group during the teenage years is not an automatic outcome. However, they will have to make changes to family life and structure to accommodate the different needs and competencies of their developing adult children.

Parenting is also becoming increasingly challenging in current times due in part to the rapid pace of social and technological change including the proliferation of the Internet and social media, the growing automation and use of robotics to replace human activities, social and economic pressures on supporting an ever-increasing ageing population, debate over the impact of climate change, and economic volatility. Parents can therefore feel overwhelmed and ill-prepared to assist their teenagers to prepare for life in the twenty-first century.

There is also substantial data on adolescence that allows for a close analysis of demographic trends. For example, the UK Key Data on Adolescence 2015 report (Hagell, Coleman, & Brooks, 2015) provides extensive statistics on a range of adolescent markers including health behaviors and lifestyle; and sexual, mental, and physical health. Many lifelong health behaviors are established during adolescence and the family

provides one of the major contexts in influencing their development. Rules about alcohol consumption, screen time, peer activities, schoolwork, and appropriate sleep, dietary and physical activity are all under the purview of parents and the way in which these are negotiated can have a major impact on adolescent development (Blakemore, 2012; Buckner, Mezzacappa, & Beardslee, 2009; Sapolsky, 2017).

There are also indications that many of today's young people are experiencing significant levels of stress (OECD, 2017). For example, in their exploration of the profiles of children who were progressing well in primary school, but who unexpectedly became highly antisocial in adolescence (Patterson's "*late starters*"), Vassallo and Sanson (2013) identified contributing factors such as less parental supervision, increased attraction to risk taking, and less effective coping with stress mechanisms. In a recent publication, Shanker (2016) has put forward a compelling case suggesting that modern teenagers are experiencing excessively high levels of stress resulting in an upsurge in emotional, social, learning, behavioral, and physical health problems that would be addressed by promoting self-regulation. Buckner et al. (2009) have shown that self-regulation was strongly associated with indices of mental health, behavior, academic achievement, and social competence in youths aged 8–18 years from families with very low income. Lengua and Long (2002) reported that self-regulation predicted more adaptive ways of coping with stress and lower adjustment problems in a community sample of older children. Other recent theoretical and empirical developments in neurobiology appear to support this approach (e.g., Gunnar & Quevedo, 2007; Stroud et al., 2009).

What Skills do Today's Teenagers Need to Develop?

Research from the field of developmental psychology has explored what skills adolescents and young adults need that allow them to build relationships and prepare for success at school and in the wider community. There are numerous ways in which the components of positive adolescent development have been categorized. For example, the Raising Teens Project based at Massachusetts Institute of Technology (Simpson, 2011) suggests ten areas, including sexual maturation, abstract thinking, perspective taking, moral reasoning, emotional management, identity formation, increased responsibility, and adult relationship building. From a self-regulation perspective, Shanker (2016) describes five broad domains: biological, emotional, cognitive, social, and prosocial. The social domain relates to requiring adaptive skills in varying social situations, whereas the prosocial domain requires qualities such as empathy, selflessness, and social responsibility. The Teen Triple P—Positive Parenting Program for parents of teenagers (Ralph & Sanders, 2006; Sanders & Ralph, 2007) identifies a list of skills drawn from a similar perspective that overlaps with those described above and is provided in Table 1.

Table 1 Teenager competencies

Social and communication skills
• Expressing views, ideas, and needs appropriately
• Requesting assistance or help when needed
• Cooperating with adult requests
• Cooperating with others in family, school, recreational activities
• Being aware of the feelings of others
• Being aware of how one's own actions affect others
Emotional self-regulation skills
• Expressing feelings in ways that do not harm others
• Controlling aggression, impulsiveness and risk taking behaviour
• Developing positive feelings about oneself and others
• Accepting reasonable rules and limits
Independence skills
• Learning to do things for oneself
• Completing tasks and being involved in age appropriate activities without the need for constant adult supervision
• Being responsible for one's own actions
Problem-solving skills
• Showing an interest and curiosity in everyday things
• Asking questions and developing ideas
• Considering alternative solutions
• Negotiating and compromising
• Making decisions and accepting the consequences

What Skills do Parents Need to Raise Healthy Well-Adjusted Teenagers Who Will Become Well-Functioning Adults?

Theories relating to how parenting can encourage and promote the acquisition of these behaviors and qualities have typically been linked to child and adolescent developmental theories. Earlier ideas based on evolutionary and psychodynamic theories tended to focus on seeing adolescence as a separate period of development characterized by the struggle for identity and delayed maturation. However, these ideas have gradually been replaced by a broader and more diverse stance with greater acceptance of a notion of continuity between childhood and adolescence, and between adolescence and adulthood (Epstein, 2007; Graham, 2004). That continuity model is being informed by ongoing theoretical and empirical research in neurobiology and related fields (Crone & Dahl, 2012; Noom, Dekovic, & Meeus, 1999). For example, in a comprehensive review of the neurobiology of stress and development, Gunnar and Quevedo (2007) point to evidence showing that the onset of puberty may be characterized by enhanced stress reactivity marked by an increase in basal cortisol levels and heightened neurobiological response to stressors. They hypothesize that "this would place adolescents at a heightened risk for psychopathology and could partly explain why there is an increase in the incidence of emotional disorders during adolescence" (p. 165).

One of the most influential views about contemporary parenting was put forward by Baumrind (1968) with her distinction between authoritarian and authoritative parenting styles, particularly in relation to the use of discipline. A separate group of what she described as neglectful or indifferent parents (sometimes referred to as permissive) completed the categorization. Authoritarian parents demand obedience and conformity, with little room for negotiation or discussion. Good behavior is expected and not rewarded, while consequences for transgressions rely on harsh or coercive punishment. Social learning models of parent–teenager interaction highlight their reciprocal and bi-directional nature (e.g., Patterson, 1982; Patterson, Reid, & Dishion, 1992), and have identified some of the learning mechanisms that maintain coercive and dysfunctional patterns of family interaction and predict future antisocial behavior in children (Patterson et al., 1992).

By contrast, authoritative parents also set clear boundaries and expectations, but these and the consequences for not meeting them, are typically negotiated with participating family members and appropriate behavior is acknowledged and rewarded. Research has consistently shown that adolescents who grow up with authoritarian or indifferent parents are far more likely to get into trouble with the law, have difficulties at school, and are at risk for mental health difficulties and substance abuse (see Barber & Harmon, 2002, for a summary).

However, Shanker (2016) has recently challenged the idea of parents having a single style, and also suggests that consistently adopting one single style to deal with all situations would not guarantee stress-free parenting or ideal outcomes. He argues that the key is for parents to adopt a self-regulatory approach that allows them to tune into the stressors that are contributing to child or adolescent problem behavior and to develop a secure bond from which to jointly explore adaptive responses to reduce the stress. This is similar to recent developments in the field of attachment theory that suggest attachment is best thought of as a sequential process with the attachment between parents and their teenage children also being important on both sides (Dumontheil, 2016; Herzman, 2012; Nelson et al., 2013; Noom et al., 1999).

Specific Tasks and Challenges Associated with Parenting Adolescents and Emerging Adults

The transition from adolescent to adult is thus best viewed as being on a continuum with no clear point at which the former suddenly becomes the latter. Indeed, many of the ways in which a parent might need to adjust their behavior towards

their adolescent offspring can be guided by thinking of them as an emerging adult as they transition through puberty. One barrier to this adjustment can be many of the same concerns that parents had when their children were preadolescent, continuing or escalating during the teenage years (e.g., defiance, sibling conflict, arguments about homework, study and chores; Ralph et al., 2003). Also, these developmental transitions are not typically smooth linear progressions, but are often characterized by advances, pauses, and regressions at many steps along the way. This can cause confusion for parents and may result in them being inconsistent in the way they respond to their teenagers' behavior whereas what is needed is a consistent adult–oriented focus to guide and support the transition process.

While there may often be some continuity in the behavior of preadolescents and teenagers, several new tasks and challenges confront parents of teenagers that parents of younger children do not face. There are four particular domains that parents need to recognize and accommodate to as they transition from raising young children to raising teenagers: (1) puberty; (2) cognitive development; (3) peer relationships; and (4) autonomy. There is considerable overlap between these domains and those described earlier by Shanker (2016).

Puberty

Puberty produces powerful biochemical changes that prepare individuals for adulthood, including changes in sexual awareness and related behaviors. Boys become physically stronger and increasingly compete with each other for the attention of girls. Girls become capable of childbearing, and develop characteristics and behaviors that communicate this change to boys, becoming more attractive to them. In Western society and many developing countries there are often many explicit and covert sexual messages that teenagers are exposed to on a daily basis. However, various social and cultural rules and customs often attempt to delay teenagers' participation in sexual activity and child-rearing for several years while creating pressures to undertake further education or vocational training. These mixed messages can be confusing and have the potential to increase family conflict as parents try to manage increasing demands by their teenagers for access to the powerful rewards that those recognized as adults typically restrict for themselves. These include sexual activity, freedom of association, alcohol, and other recreational substances. Parents often struggle to justify the imposition of rules and restrictions that limit access to these and frequently fail to prevent such access (Epstein, 2007; Graham, 2004).

Cognitive Development

Cognitive development is clearly important in relation to many of the skills listed in Table 1. Brain development in adolescence is the focus of ongoing research which has demonstrated the continuous process of pruning and rewiring of neural connections that takes place into the early 20s (Sapolsky, 2017). Recent research in this area has highlighted the role of parenting in promoting aspects of cognitive development. Sosic-Vasik et al. (2017) identified strong correlations between parenting behavior and executive functioning in children and young adolescents. Inconsistent discipline was shown to be associated with higher error rates on cognitive tasks. They suggest that executive functioning tasks require cognitive flexibility to respond to errors and that this may be less well established in home environments where children do not consistently receive corrective feedback contingent upon unfavorable behavior. This was hypothesized to delay the development of "autonomous behaviour that is necessary for self-regulation in the social and academic world" (Sosic-Vasik et al., 2017, p. 6). A second parenting construct, responsible parenting, was associated with lower error rates on another cognitive task. Responsible parenting was defined as "providing constructive, non-impulsive, and emotionally controlled actions and comments in the areas of caretaking, grooming, safety and parenting" (p. 6) that are teaching social norms and allowing the development of effective decision-making under parental supervision. These findings support similar conclusions reported for younger children (e.g., Bindman, Pomerantz, & Roisman,

2015; Blair, et al., 2014) and highlight the importance of informing parents about ways in which they can optimally support adolescent cognitive development. Blakemore (2012) has also identified the teenage years as providing a major opportunity to target abilities that are controlled by parts of the brain that undergo most change during adolescence including "internal control, multitasking and planning – but also self-awareness and social cognitive skills such as perspective taking and the understanding of other people's minds" (p. 115–116).

Even though there is clearly major neural restructuring taking place, it is incorrect to assume that this is a passive, developmental process that must be left to take its course over time. Brain development is influenced by experience on the principle of "use it or lose it" (e.g., Jetha & Segalowitz, 2012; Sapolsky, 2017). Parents therefore are faced with crucial opportunities to provide experiences that promote executive functioning that is known to be associated with improved internal control, multi-tasking and planning, self-awareness, and social cognitive skills, such as perspective taking, all of which are crucial life skills (Blakemore, 2012; Dumontheil, 2016).

Peer Relationships

The move into high school brings increasing demands for both additional independence and responsibilities. Teenagers are expected to make more decisions for themselves. This includes being more self-directed with schoolwork, and working out their own beliefs and values about who they are and what they want to do with their lives. Their peers, the media, and adults other than their parents increasingly come to influence their behavior and development. However, an earlier view that parents and peers become competing sources of influence has now been modified to accommodate a more dynamic, reciprocal understanding of the processes at work (Brown & Bakken, 2011). This is however dependent on parents having created a secure, caring, and responsive environment when their children were younger. Most teenagers create a broad social network beyond the home that can be used for advice and support, but parents still form an important component of this network so long as they have previously fulfilled this role (Gaderman et al., 2016; Graham, 2004; Noom et al., 1999).

However, as opportunities for greater access to a wider range of activities increase, teenagers may be tempted to experiment in ways that put their health or future prospects at risk, in return for powerful immediate gratification and peer approval. Parents who are alert to these changes make adjustments to ensure they maintain opportunities for positive interactions with their teenagers. However, in families where parents provide low levels of attention and approval, this can create a situation where a teenager may be receiving more attention and approval from their peers. Studies suggest that time spent with peers is associated with delinquent behavior when it occurs while socializing, in public, and unsupervised (Weerman, Bernasco, Bruinsma, & Pauwels, 2013). Behavior that is dependent upon parent approval (e.g., speaking without swearing, wearing parent-preferred clothes) may be gradually weakened, and peer-approved behavior (e.g., swearing, wearing parent-aversive clothes or hairstyles, getting tattoos or piercings) may become more common. This is likely to prove increasingly frustrating for parents who may themselves respond with even fewer positive consequences for their teenager's behavior, and opportunities for positive attention and approval may cease altogether. This problem is compounded if parents knowingly or unknowingly permit their teenager to associate with peers who are engaging in antisocial or other deviant behavior. This is likely to lead to an escalation in undesirable behavior and a rapidly increasing deterioration in the relationship between parents and teenagers.

In a home lacking in positive consequences for appropriate teenager behavior, it is hardly surprising that teenagers withdraw into their own space, spend as little time at home as possible, and interact minimally with parents. Although this low-positive environment may not be a fun place to be, for some teenagers being left alone may often have some short-term benefits. In such an environment, we might expect that the teenager and parents are maintaining a relationship that has

occasional negative exchanges, but is predominantly neutral. However, in other families we see not only a rapid reduction in positive attention and approval, but an accompanying increase in the use of aversive consequences. In such family settings, we might expect that the interactions that do occur tend to be conflictual and unpleasant. Any behavior by the teenager that leads to escape from or avoidance of these arguments is likely to be strengthened, and will thus lead to further avoidance and escape by the teenager in the future (e.g., Brown & Bakken, 2011; Patterson, 1982; Shanker, 2016). The logical endpoint of this process is complete separation, sometimes leading to the teenager leaving home at an available opportunity or after a particularly violent confrontation. The prospects for further positive engagement between teenager and parent/s are poor. Some families never recover from splits of this sort, whereas in others, covert communication between the teenager and another family member (e.g., mother, younger sibling) is sometimes used to maintain contact of sorts.

Autonomy

Some of the issues discussed above in relation to peer relationships are also relevant to teenagers' developing autonomy. Parents typically attempt to regulate teenagers' opportunities and demands for increased autonomy based on their own values and beliefs, including notions of age-appropriateness, risk, relevance, and cost. They are also informed by various laws, customs and established cultural practices that may (or may not be) seen as relevant by teenagers. Where parents' attempts at regulation fail, teenagers may show deviant behavior.

There are often conflicting views about the ages at which various degrees of autonomy should be, or are, granted and these differ widely among various cultures around the world. In recent times, Western societies have gradually increased the age when many *adult* privileges may be accessed. These include sexual intercourse, working, smoking, consumption of alcohol, driving a car, voting, getting married, and fighting for one's country. Many publications have explored the basis on which these various restrictions were founded. Two authors (Epstein, 2007; Graham, 2004) point to the fact that many of these are based on political or economic considerations that have very little alignment with physical, psychological, or cognitive developmental trajectories. While acknowledging the validity of these views, Sapolsky (2017) and Shanker (2016) nonetheless point to the gradual maturation of the prefrontal cortex which has important ramifications for adolescent risk-taking and emotional management. They agree that there is considerable variation among individuals concerning the rate of maturation, and highlight the difficulties inherent in attempting to evaluate these on the basis of each adolescent's capacity to function optimally across a wide range of competencies.

This creates problems for parents when they try to enforce these restrictions as they often struggle to provide a defensible rationale as to why their teenager is not permitted to engage in a desired activity, particularly if their teenager is at the upper end of the maturational distribution. This is of course compounded when many of their teenagers' peers have already successfully worn down or circumvented their parents' attempts to enforce them.

Increased opportunities for teenagers to earn money from part-time or casual employment, and global access to the Internet and social media create additional challenges for parents who want to manage the granting of autonomy in a measured and controlled way. These factors combine to create a potentially stressful home environment that many parents struggle to manage (Brown & Bakken, 2011; Noom et al., 1999; Shanker, 2016).

What Should Parents do to Promote the Health and Well-Being of Their Teenagers?

Parenting goals can be considered under three main interrelated areas: (1) building and strengthening the parent–teenager relationship; (2) encouraging appropriate behavior and discouraging inappropriate behavior; and (3) promoting autonomy.

Building and Strengthening the Parent–Teenager Relationship

One crucial component of providing a secure environment that promotes teenagers' developmental and psychological growth is what might be described as psychological safety. A psychologically safe environment is low in criticism, conflict, and emotional tension, and high in nurturance, predictability, and reliability. Teenagers need to feel secure in the knowledge that their parents are available when needed, and that home is a place where new ideas and complex issues can be raised and discussed amicably and thoughtfully. A review of findings from a recent longitudinal study conducted in Melbourne, Australia revealed that parents with higher frequencies of aggression or lower frequencies of positivity tended to have adolescents at greater risk for depression and suboptimal brain development (Schwartz et al., 2017). In contrast, decreases in parental limit-setting and in the quality of the parent–adolescent relationship have been shown to be related to increases in the amount of time adolescents spent in criminogenic settings, further highlighting the important role parents continue to play during adolescence (Janssen, Dekovic, & Bruinsma, 2014).

It takes time to form a quality relationship and investing in a relationship means spending time and talking together, and showing affection. Spending time together can be a challenge as both parents and teenagers often have busy schedules that can limit opportunity. Teenagers typically spend more time away from home than younger children—at school, with friends, and at social events. A teenager may also like to spend time at home on their own, sometimes in their room—doing homework, on the computer, listening to music, or watching TV. Many parents think they have to set aside large periods of time for this, and often find that difficult to do. However, it is more important to look for frequent opportunities to spend short periods of time together, making sure they are positive experiences for both.

Likewise, talking together is an important way to build positive relationships between parents and their adolescents. A recent OECD report that surveyed 540,000 15-year-old students in 72 countries (OECD, 2017) reported that parents talking with their teenagers about their school work was positively associated with their performance in academic subjects. As children grow towards adulthood, parents need to consider changing personal or family routines to create new opportunities to spend time together. Listening to what their teenager is interested in and asking for their opinion on current issues helps teach them how to discuss differing views calmly, listen to other views with respect, and agree to differ when necessary.

One of the best ways for a parent to develop and maintain a good relationship with their teenager is to show them they care about them. However, as children grow older public displays of affection may cause embarrassment—especially in front of their peers. As teenagers struggle to come to terms with who they are as individuals they sometimes may not want to be seen to be with their parents. They may associate being with a parent as a signal to others that they are not mature enough to be out alone. This means parents have to find ways to show affection more in terms of an adult relationship, such as they would with friends or colleagues. This can lead to a new relationship which is based more on a growing sense of equality, and not the previous parent–child relationship that worked when they were younger. Some teenagers will take longer to work through this change and it is up to parents to recognize this and not try to take control of it or hurry it along.

Teenagers need to learn how to give and receive affection as they grow towards becoming an adult. If they are unable to do this, they will find it difficult to make and keep friends, or develop intimate relationships that last. A parent can help their teenager by showing them how to do this. If teenagers see and experience a parent giving them affection, they should find it easier to do themselves. If a parent or teenager is uncomfortable with shows of affection the parent may need to look for less intensive options to try in a graduated process.

Encouraging Appropriate Behavior and Discouraging Inappropriate Behavior

Many parents find themselves focusing on the things their teenagers are doing that they do not like. It can sometimes seem that parents only notice when a teenager is behaving badly and it begins to feel as though it is happening all the time. However, focusing on encouraging appropriate behavior can decrease the frequency of incompatible inappropriate behavior. Perhaps a parent wants their teenager to speak politely and use acceptable language. If positive attention and approval are provided contingent on these behaviors when they occur (no matter how rare this might be) the amount of swearing will gradually drop, even if swearing has not been targeted directly.

A parent can also encourage positive behavior in a teenager by arranging stimulating activities for them to get involved in. This can help them learn a range of skills, and develop relationships with other teenagers with similar interests.

Parents also need strategies they can use to help teenagers learn new skills that are not yet established in their behavioral repertoires. For example, the goal may be for a teenager to learn to wash their own clothes. This will require the parent to accompany the teenager to the washing machine, go through each of the operating steps themselves with the teenager watching, and then getting the teenager to copy the steps and do it themselves. Complex routines may need to be broken down into a series of simpler steps and worked through together, one step at a time. Other examples include using the oven or microwave to cook a simple meal, operating a lawn mower, or putting together a shopping list. The goal here is to help teenagers to gradually learn skills that will be useful to them in the future when they move out of home to live on their own.

These ideas emphasize the importance of parents frequently stimulating teenagers' cognitive activity in the process of helping them learn new skills and behaviors that will help them to become more independent and responsible.

Where inappropriate behavior is occurring despite casual attempts by a parent to correct it, establishing a rule to guide the behavior can be useful. Rather than constantly having to remind a teenager about how they are expected to behave, a rule can specify what behavior is expected in certain circumstances (e.g., when entering the home, when speaking to family members, or when wanting to use someone else's property). Rule setting is aimed at controlling behavior in the future, when a verbal request or instruction should not be necessary or may not be feasible. Parents cannot follow their children around forever, constantly providing verbal instructions about how to behave. Rule-following is thus an important life skill that children and teenagers need to acquire. Much human behavior is guided by rules learned about how to behave at school, at work, in social interactions, and in risky situations. Teenagers need to learn to recognize the environmental stimuli that signal what behavior/s to draw from their repertoire, such as stopping at a red light, raising their hand to answer a question in class, leaving home at a certain time to get to school or work on time. Children and teenagers will learn to recognize and follow important rules in later life if they practice this with rules at home.

Parents will need to monitor their teenager's compliance with a new rule and where possible interrupt any instances of rule violation. Parents should then calmly prompt the teenager to state the rule and then have them practice following it. This achieves two important goals. The requirement for the teenager to verbalize the rule themselves activates neural circuits that are not yet firmly established. These circuits will be in competition with previously established circuits that are associated with the inappropriate behavior or habit that parents are seeking to discourage. Interrupting the inappropriate behavior will weaken the previously established neural circuit and verbalizing the rule will strengthen the new neural circuit. The time taken for the neural replacement process to occur will depend on the strength of the previous *habit* and the ability of the parent to reliably interrupt it. This process will also be strengthened by requiring the teenager to pair the motor (muscle) activity required to follow the verbalized rule. This approach is in

contrast to a more typical scenario where the parent lectures the teenager about their need to follow the rule *next time* which does nothing to establish new neural pathways or associated motor activity on the teenager's part.

While the establishment of rules can be a valuable method of guiding behavior in the future, there will be times when a parent will want to bring their teenager under verbal control in the moment. Although, as stated previously, rules guide much of our behavior, there are times when we need to respond to a request or instruction. This might occur in a classroom, in a work environment, with a friend, person in authority, or intimate partner. Again, following reasonable requests is an important life skill that parents can help their children learn. When children are younger, parents will usually need to give them clear instructions about how they would like them to behave. However, as they become older, parents will need to modify this approach to more closely resemble how they would speak to another adult (such as a colleague or friend). This can perhaps be best viewed as changing the verbalization from an instruction to a request. This is not to suggest a change in expectation. If the parent is happy to provide their teenager with a choice as to whether they comply or not, they may by all means signal that in the way the verbalization is phrased. However, in a situation where the parent does not wish to give the teenager a choice, but requires cooperation, the verbalization is not a question, but a politely framed request for the teenager to follow a specified course of action.

If the teenager cooperates with the request, it is appropriate to signal some acknowledgement or appreciation. However, if the teenager does not comply it will be advisable for the parent to provide a logical consequence as soon as possible. Research indicates that adolescence is a period of increased responsiveness and learning from negative feedback (van Duijvenvoorde, Zanolie, Rombouts, Raijmakers, & Crone, 2008). When faced with frequent non-cooperation on the part of a teenager, a parent may become frustrated, fail to follow through with a consequence, or become angry and threaten something which they may or may not impose. When used regularly, the introduction of a threat acts as a signal to the teenager that the parent has reached a point where cooperation may now be advisable. However, this tends to create a learning experience where the teenager resists complying until the parent is angry and makes a threat. This is not a behavioral pattern that is conducive to future success for the teenager. Parents typically do not want to teach their children to wait to comply with reasonable adult requests until a threat is introduced. This is maladaptive behavior if it occurs in the classroom, work setting, or in a relationship, and will often result in negative life experiences for the teenager.

A parent who gets angry in the face of repeated refusals to cooperate will (in all probability) reach for the first consequence that comes into their minds. With teenagers, this typically will mean removal of some important possession, such as a phone or similar device or grounding the teenager for an extended period (e.g., a week or even longer). The imposition of a lengthy consequence is often seen as unfair or unreasonable on the part of the teenager which is likely to create further hostility and resentment, and unlikely to result in the initial request being followed. The effort required on the part of the parent to sustain their resolve to see the consequence through to the end of the set period often results in them giving in after a day or two, which teaches the teenager that the parent "doesn't mean what they say" and increases the probability that they will continue to be uncooperative when it suits them.

Where a teenager's lack of cooperation is an established feature of their relationship, a parent needs to consider in advance what consequences may be appropriate in specific circumstances. Planning ahead also removes the likelihood of a parent threatening an inappropriate consequence. The imposition of a logical consequence involves removing the teenager's access to the relevant activity or item for a brief period (e.g., 30 min or an hour), and then returning it at the same time as restating the request. This provides the teenager with an opportunity to demonstrate that the consequence has been effective in teaching them to comply with the parent's request. This is best

viewed as the return of a briefly removed privilege contingent on appropriate behavior, rather than the imposition of a punitive act to punish inappropriate behavior. As reported earlier (Sosic-Vasik et al., 2017), research suggests that children of parents who do not experience consistent consequences for inappropriate behavior are less likely to learn from their mistakes. This can lead to a delay in the development of autonomous behavior which is necessary for self-regulation and functioning in the social and academic world.

Promoting Autonomy

Parents can help teenagers learn to become independent by encouraging them to do more things themselves. They can accomplish this by looking for opportunities to encourage their teenager to solve their own problems and not be too quick to simply answer a question or show how something is done when asked. This means prompting their teenager to come up with some suggestions, and to consider the possible consequences of each suggestion before deciding what to do. Parents can also demonstrate problem-solving by explicitly explaining what they are thinking or doing when working on a problem of their own. This can facilitate occasions whereby a parent might ask their teenager if they want their advice or help on any issue they may be struggling with, and then providing only sufficient help and advice to assist them solve the problem themselves.

Prompting a gradual increase in teenagers' involvement in family decision-making by encouraging them to regularly participate in discussing family issues increases the probability that they will become skilled at making good personal decisions. Problem-solving can also be used when encouraging teenagers to contribute to the family's daily and weekly chores. This not only shares responsibility for these day-to-day tasks, but also helps teenagers learn skills they will need when they become fully independent.

Problem-solving is a valuable skill that has benefits across the lifespan. It actively promotes neural growth, reduces stress, and builds resilience in adapting to a range of day-to-day challenges in social, educational, and vocational domains. Recent studies have shown that positive parenting as depicted in a parent–child problem-solving task may contribute to positive brain development and buffer the negative effects of socioeconomic disadvantage on brain development and specific aspects of adaptive functioning during adolescence (Whittle, Simmons, Dennison, Schwartz, Pantelis et al., 2017; Whittle, Vijayakumar, Simmons, Dennison, Schwartz, Panatelis et al, 2017).

The development of social and emotional competence also occurs during adolescence. Recent research has demonstrated an association between social and emotional competence and academic achievement in early adolescence (Oberle, Schonert-Reichl, Hertzman, & Zumbo, 2014). Developing good self-regulation in relation to emotional arousal is also an important life skill, however helping teenagers to develop this can be challenging for parents. The natural threat detection mechanism in the teenager's limbic system is usually already well developed, but the *higher* cognitive skills needed to moderate this may still be a work in progress.

Although a parent might struggle to identify it, there is usually a trigger for a teenager's emotional reaction. In parent–teenager situations it is often something a parent says or does. It might be the tone of voice, a certain look, a phrase, or a combination of these. A parent might say that they did not do anything different. That brings up the issue of the wider context. Things can happen in families and for teenagers that *set the scene* for a meltdown to be more likely. For the teenager, it could be a lack of sleep, an argument with a friend, a problem at school, or a posting on social media. For the parent, it might be a disagreement with their partner, a bad day at work, or a comment from a neighbor. Any of these could increase the chances that the trigger gets pulled.

When this occurs, parents need to remain calm and listen, make sure they really understand what is distressing their teenager by checking with them and reassuring them it is okay to feel emotions, and help them to label the emotion if they can. This assists teenagers to learn self-regulation, which is a vital skill required for coping with stressful events they will encounter in life.

Parents should aim to discuss with their teenager what responsibilities go with being part of a family, and what privileges may be allowed if those responsibilities are met. This often requires negotiation and compromise, trialing new arrangements, and monitoring progress.

There are two ways that a parent can reduce the chances of these meltdowns occurring and reduce their frequency. First, they need to watch out for high risk setting events. This means tuning in to their own state of mind and that of their teenager. Events from a parent's day should not be allowed to contaminate interactions with their teenager. This might mean the parent taking some anti-stress time to make sure they have dealt with anything that they are still carrying around. They also need to tune in to their teenager's behavior and learn to recognize signs that they might be close to the edge, and try to provide them with some anti-stress time before engaging them.

Teenagers will build the brain circuitry that helps them to self-regulate their emotions if parents consistently show them a good model. Parent modelling of pro-social behavior, such as giving and volunteering, has been demonstrated by Ottoni-Wilhelm, Estell, and Perdue (2013). Further research is required to explore how parental modelling can promote other aspects of teenage social development. When modelling self-regulation, a parent needs to remain calm. It is also generally unhelpful for a parent to try to have a rational discussion with their teenager at this time as the part of their brain that can do this (the prefrontal cortex) is subordinated to the stress-detector/threat response neural circuits in the limbic system. The parent should show concern, and simply validate the emotional experience. Staying calm and resisting the temptation to try and solve the problem will allow the in-built calming mechanisms all humans possess to gradually take over although it may take longer for some teenagers than for others. After they have calmed down is the time to talk.

Developments in the prefrontal cortex of the teenage brain can result in them getting into trouble in unfamiliar situations because they have not yet learned how to come up with ideas that could get them out of trouble. Neuroimaging studies have shown that as adolescence may be a developmental period with particular sensitivity to the social context, the influence of peers can be either beneficial or detrimental for social development (van Hoorn et al., 2018). Most teenagers get into trouble, not because they are bad or impulsive, but because they had not anticipated that it could happen. Teenagers often pretend to the world, and sometimes to themselves, that they can handle new situations. However, because they have a limited experience of the world, they often cannot even imagine some of the situations they might get themselves into. Therefore, they may not invest time in thinking about how they would deal with such a situation if it were to occur.

Imagine a teenager goes to a party, and ends up in the kitchen with a friend and a couple of older peers. One of the older boys produces a bottle of spirits that they have found in a cupboard or perhaps brought with them. They pass the bottle around and encourage the teenager to take a long drink from the bottle. What is the teenager going to do? This has never happened before and they really only have two options. The first is to go along with the others and join in. The obvious consequences are that they get really drunk and very ill, but they may also get involved in other dangerous activities while under the influence of alcohol such as driving, swimming, fighting, or having unprotected sex. The second option is to refuse and leave the room or the party. However, this can be very difficult for an unskilled teenager to do. It is easy enough to tell a teenager *Just say no*! but in the face of intensive peer pressure it is often not that easy. It may also mean losing a friendship or being excluded from a peer group. These consequences are very powerful and many teenagers will not have the social skills or the confidence and self-assurance to successfully carry through with this option. The best way to prepare a teenager for situations like this is for parents to provide them with practice at problem-solving and thinking ahead. In this way, a teenager can plan ahead and think about other options that they can use that might help them avoid just going along with risky behavior, or losing face or being excluded from their peer group.

While this process is likely to be parent-initiated initially, the ultimate goal is for the teenager to develop the cognitive skills necessary for them to become autonomous in anticipating potential threats to their well-being and in developing a behavioral repertoire to avoid or manage such threats. In this way, parents will be able to make decisions about what activities to permit their teenagers to participate in based on an assessment of their competencies rather than on some arbitrary age-based or other flawed criterion.

Parenting Emerging Adults

Although the transition from puberty to independent, functioning adult has been described here as a gradual continuum, there are some characteristics of those at the upper end of that continuum that warrant special attention. The achievement of legal adult status, which has remained relatively unchanged for many years in most Western countries, removes some of the constraints that parents may have relied on to control the activities of their older children.

Studies of parents' approaches to granting autonomy in relation to older children leaving home have identified four groups: (1) those who were happy to let them go; (2) those who were reluctant to let them go; (3) those who were actively holding on to them; and (4) those who engaged in regular power fights, often disapproving of their children's lifestyle choices (Kloep & Hendry, 2010; Vassallo, Smart, & Price-Robertson, 2009). These parenting views were seen as spanning the range of possible responses through acceptance of this family transition, role loss, conflict, and rejection.

However, an increasing number of children remain under their parents' roof. A recent UK report stated that at age 20, 57% of all young people are still living at home (Hagell et al., 2015). Data are similar in Australia, with over 50% of 18- to 24-year-olds not having left home (Australian Bureau of Statistics, 2009). Many young adults aged 20–24 commonly cite financial issues as one current reason for not leaving the parental home (ABS, 2009). Some other reasons include convenience, comfort and a lack of confidence.

The rising number of young adults who *fail to launch* or are substantially delayed in *leaving the nest* has significant implications for parents including economy, role confusion, responsibilities, marital and personal stress. Any delay in the psychosocial independence of adult children delays the relationship transition from that of responsible parent to that of a more mutually satisfying adult friendship and has the potential to generate confusion, conflict, and stress (Kloep & Hendry, 2010; Seiffgke-Krenk, 2006; Tarrant, 2011).

Research into the parenting styles adopted with adult children identifies some variation on the categories described earlier by Baumrind (1968). When compared to an authoritarian style, autonomy-enhancing parenting better facilitates individuation in emerging adults (Grolnick, Deci, & Ryan, 1997), while controlling parents may use intrusive and manipulative means such as guilt induction or love removal while downplaying their children's own perspective (Kins, Beyers, Soenens, & Vansteenkiste, 2009). Other research has supported these findings with autonomy-supportive parenting being associated with high levels of well-being for adult children residing at home (Ryan, Deci, Grolnick, & LaGuardia, 2006: Soenens, Vansteenkiste, Luyckx, & Goossens, 2006). The permissive parenting category is however reportedly quite prevalent and appears to be associated with poorer parent–child outcomes (Furnham & Cheng, 2000; White, 2002).

Strengths and Limitations of the Existing Evidence Base

Many of the intervention studies referred to in this chapter are cross-sectional, with relatively small samples drawing from economically and socially advantaged populations. It is therefore difficult to generalize many of the findings to wider populations. In addition, research reporting the effects of many potential mediating and/or moderating variables is still relatively absent. Growth in this area will be an important step in

gaining a more nuanced understanding of some of the current findings. Also, although many families in developing countries appear aspirational in wanting to enjoy what they see as the advantages of a first world lifestyle, research is still sparse on what aspects of their existing lifestyle they are willing to sacrifice to this end (Lancy, 2017).

Also, in this context, research is needed to establish the critical elements that contribute to brain development and skills acquisition. Ongoing developments in gene sequencing and brain imaging also offer tantalizing glimpses of what may be possible in determining how specific experiences contribute to neural development, given the changes in this domain that are thought to occur following puberty and continuing into early adulthood. Greenfield (2016) has pointed out that the current brain imaging technologies are incapable of displaying the level of detail required to provide answers to key questions about this domain as they show "a window on to the brain at work *but* at work over a protracted period in time and with much of the vitally important ongoing brain activity missing from the picture" (p. 15). No doubt that further advances will begin to answer some of these questions.

Ongoing research in the field of developmental disability (especially autism) also has the potential to contribute to our understanding of normative development. Hopes of isolating and identifying specific genes for specific impairments have largely faded with a greater emphasis being placed on multiple genes contributing across multiple pathways in many cases. The current stance relating to autism being regarded as occurring on a spectrum is one example of this trend. How findings in this area might inform current educational practices in schools and further education remain to be seen.

Future Directions for Research

While longitudinal research has identified plausible risk and preventive factors that are robustly associated with positive or negative developmental outcomes in later life, research that evaluates interventions that manipulate these variables is largely absent. Such research will require large scale population projects over many years, probably funded by governments or major charitable enterprises. Investment in such projects is difficult to obtain but there is sufficient confidence about what the variables to be studied are, that the field must embrace this challenge.

As more and more developing countries change their cultural practices, their family arrangements and child-rearing behaviors in response to global trends, there will be opportunities to examine the impact on child and adolescent development. One area where research is clearly needed is in the area of education. There are concerns being raised in many developed countries that current classroom-based practices are not based on evidence about how children learn and are consequently not preparing children well for success in later life. Many established educational practices are not based on credible research, nor on effective cultural practices (Lancy, 2017).

Societal changes in such issues as home availability, life-time work opportunities, globalization, automation, an ageing population, climate change, and a declining fertility rate to mention just a few, create a potent mix of uncertainties that make it difficult to predict how families will adapt in the coming years. Presumably, there will be different social experiments that may result in more changes to the way in which parents and their adult children interact. For example, trends from developing countries which see several generations residing together may be explored in more developed nations as population growth combines with higher property prices and limited employment prospects. Alternatively, a move to higher density city living may see grandparents, parents, and adult children purchasing and living in adjacent or adjoining units or properties to optimize support and privacy.

Neurobiology and its related fields including genetics, and epigenetics, are likely to continue to grow and become more sophisticated, allowing further research to be conducted into the relationships between brain and behavior. This will

be particularly important in relation to those children and adolescents who are born or develop impairments that confer some level of disability. This is an area of research that has tremendous potential and is one of the fastest areas of psychological research currently underway. Huge advances have already been made, but the growing nexus between principles of learning, brain research, and epigenetics has the potential to transform the lives of many whose development is currently adversely affected in some form or another. One such area is the exploration of work in the area of naturalistic developmental behavioral interventions as briefly illustrated in the case example (see Box 1).

Implications for Policy and Practice

The cognitive and moral education of young people in Western societies today, as is still the case in many more-traditional societies, might best reside with competent adults who care for them in secure and lasting relationships—primarily their parents. Many educational systems do not support this approach. Concerted efforts should be made to provide parents with easily accessible, up-to-date evidence-based support and information that will assist them in this endeavor. This will need to be achieved with or without the support of governments who often have competing demands and priorities that change from election to election.

Demographic trends that result in people having fewer (or no) children are also likely to present governments with challenges that relate to investments in maternity/paternity leave, childcare, education, and health care. Shifts in funding and support in these areas may well have implications for the mental health and development of those families who do choose to raise children.

Conclusions

Parenting children as they transition through the teenage years and into their early twenties does not require threshold changes. It is best characterized as a seamless process whereby parents continue to tune in to the skills, feelings and wishes of their increasingly adult children as they encounter and adapt to the various life challenges that accompany that journey. The development of autonomy does not have to occur at the expense of a warm, loving relationship that is reciprocated between parent and offspring. It is expected that the parent/s will have transferred much of the decision-making but will continue to be consulted in discussions about important life events.

Different cultures will respond to change in different ways as technology continues to increase human connectedness globally, more and more people migrate into urban centers, and medical science decreases child mortality and increases longevity. The composition of families may change and the challenges facing young people will likely also change in the face of possible climate change and the growing automation of jobs and other human activities.

Parents may not know how these challenges will play out, but the fundamentals of raising adaptive, caring, emotionally resilient citizens are largely independent of these and are within the competence of most parents if given the right amount of support and encouragement.

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Parenting of Adult Children: A Neglected Area of Parenting Studies

James N. Kirby and Nam-Phuong T. Hoang

Introduction

The parenting of children and teenagers can affect a range of factors stemming from emotional, behavioral, and social outcomes of the child, as well as influencing the stress and well-being of the parent themselves (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000; Sanders, Kirby, Tellegen, & Day, 2014; Stack, Serbin, Enns, Ruttle, & Barrieau, 2010). The plethora of parenting research, however, has tended to primarily focus on the parent–child relationship where the child is typically below 16 years of age. Little work has examined the parenting of adult children, where the relationship dynamic is different to that between a parent and a child (Kirby, 2015). There are many instances where understanding the relationship between a parent and their adult children is important, including the increasing numbers of young adults living at home, the increasing proportions of grandparents providing regular care to grandchildren, and the situations where the aging parents continue to provide care for adult children who have suffered some kind of physical or mental illness (Cherlin & Furstenberg, 1986; Coall & Hertwig, 2010; Hayslip & Kaminski, 2005a). As such, there is great heterogeneity when considering the parenting of adult children.

In attempting to understand the parenting of adult children, this chapter focuses on five key areas: (1) provide a theoretical background on the involvement of parents in the lives of adult children; (2) review the evidence for specific tasks and challenges associated with managing a parent–adult children relationship; (3) discuss the strengths and limitations of the existing evidence base to support coparenting teams; (4) provide a number of future directions for research in this field; and (5) conclude with providing some important policy and practice implications. Across these five key sections, three unique aspects of parenting an adult child will be discussed: (1) when the adult child transitions from adolescence to adulthood; (2) when the adult child becomes a parent; and (3) when the adult child is suffering from ongoing health or mental health difficulties. Collectively, the aim of this chapter is to highlight how the parenting of adult children has both benefits as well as unique challenges that can become quite difficult to manage for all family members.

Theoretical Background

Research within the field of parenting has revealed that the quality of the parent–child interaction changes significantly from childhood into

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adulthood (Dallas, 2007; Mancini & Blieszner, 1989). The parent–child relationship in early childhood is characterized by a high level of dependency and shared experience (Kretchmar, 1996). Meanwhile, in adulthood, a great majority of children develop their own autonomy and personal agency that enable them to build their own livelihood and a distinct social network (Aldous, 1985; Fischer, 1983a). A great amount of work in the literature, however, has suggested that despite that change, parents and their adult children typically remain close (Lawton, Silverstein, & Bengtson, 1994; Shelton & Grundy, 2000). The important question is why do parents remain so close to their adult children?

Historically, the ties between parents and the adult child were seen as a means of increasing young adult livelihood via vocation, land, and inheritance (Hareven, 1995). The emergence of family solidarity and developmental stake theories then refuted that premise and advocated that the parent–adult child bond is a combination of different factors, including structures, affection, norms, and exchanges of support (Baranowski & Schilmoeller, 1999; Lawton et al., 1994). Family members stay together because of the positive sentiments between members, and parents are emotionally and financially invested in their offspring as they view their offspring as a reflection of their own accomplishments. The involvement of parents in their adult child's life can reflect a parent's need for ongoing affection and connection with their child, as well as being concerned with the passing down of their values to the next generation (Fingerman, Cheng, Tighe, Birditt, & Zarit, 2012; Umberson, 1992). The family solidarity and developmental stake theories help to explain why there can be differences in parental investment among siblings. Research has found that parents have a tendency to invest more in offspring whom they found themselves emotionally closer with and those who they believed to be most successful or need their support the most (Bengtson & Roberts, 1991). Parents who continue to co-reside and take care of their adult children who suffer from mental or physical disability, for example, believe that it is their responsibility to respond to what they see as necessary for their child (Greenberg, Seltzer, & Greenley, 1993; Krauss & Seltzer, 1998). This sense of parental responsibility often occurs alongside the belief that there are no alternatives (or that the alternatives are unacceptable) (Lefley, 1987).

Erikson's (1993) personality development theory also provides some implications to understand the involvement of aging parents in their adult children's lives. According to Erikson (1993), individuals at each developmental stage are presented with a different psychosocial task. Successfully resolving that task will lead to a productive life, while failure might result in damage to the individual's well-being. For middle and old adulthood, the primary task is related to the concept of *generativity*—the concern of guiding the next generation (Erikson, 1993). Generativity is typically achieved through interaction with one's children and grandchildren (Erikson, 1993). It is through that interaction, that parents develop their sense of being needed and valued which can help to avoid a sense of stagnation (Fisher, 1995; Thomas, Sperry, & Yarbrough, 2000).

Apart from the family solidarity, the developmental stake and personality development theories (which provide a general explanation for parent's involvement in adult child's life), there are several other models that are particularly useful in offering insights into understanding the nature of parent involvement with adult children in their role of grandparents. Evolutionary theory postulates that humans are classified as cooperative breeders (Burkart, Hrdy, & Van Schaik, 2009), meaning that we have evolved as a species to work in groups when raising offspring. Indeed, this is a defining aspect of the human species; whereas most other species die very shortly after losing their ability to reproduce, adult humans have a long postreproductive period, up 40–50 years in some cases (Coall & Hertwig, 2010). This has led some to suggest that the aging parent (or grandparent) is the second most helpful adult family member behind their adult child (or parent) when raising grandchildren (Coall & Hertwig, 2010). In support of this position, one of the strongest and most robust findings across the grandparent literature is that, "maternal grandmothers invest the most in, have most contact with, and have the closest rela-

tionships with their grandchildren" (Coall & Hertwig, 2010, p. 5). This is then followed by maternal grandfathers, paternal grandmothers, and finally, paternal grandfathers.

The grandmother hypothesis (Alvarez, 2000) also proposes that mother involvement in family life helps increase her daughter's fertility and the chance of the grandchildren surviving. Indeed, research has found that if the grandmother is present in the family, it doubles the odds of more children being born (Hawkes, 2014). One of the primary interpretations of this finding is that as a result of having the grandmother available, the mother now has assistance with the childcare of her other children, while she is able to tend to the needs of her newborn (Alvarez, 2000; Coall & Hertwig, 2010; Hawkes & Coxworth, 2013). Thus, grandparent involvement is pragmatically helpful for growth in family size. However, with increasing independence, geographical movement, reductions in family size, and isolation in Western culture it raises the question does the old adage, "it takes a village to raise a child," still apply in today's modern age? When examining the current trends of extended family involvement in families, we can see that grandparent involvement is still relatively common. In the US, for example, approximately 23.7% of all children under 5 years receive childcare from their grandparents (Laughlin, 2013). Across Europe it is estimated that 40% of children receive regular childcare from their grandparents (Di Gessa, Glaser, Price, Ribe, & Tinker, 2016).

While there is limited literature, studies of intergenerational relationships within collectivist cultures have also proposed the importance of *familism* as the motivation behind the caregiving behavior of grandparents. Familism, according to Confucianism, refers to the centralization of family in one's worldview (Rappa & Tan, 2003). It is "a form of social organization in which the interests of the individual are subordinated to those of the family group" (Heller, 1970, p. 73). According to Heller (1970), one important aspect of familism is the feeling of belonging, and the preference of family members as an in-group compared to non-family members as an out-group. Subsequently, there is trust among family members and distrust of outsiders. Adult children tend to see their parents as being more trustworthy and choose them over other type of support for advice or help in taking care of their own child (Goh, 2006). Similarly, the aging parents, being concerned about the well-being of their adult children and their success, are willing to provide help (Chen & Lewis, 2015). The involvement of aging parents in their adult child's life in general and grandchild care in particular ensures the sustainability of family structure and the *belonging* among family members (Bengtson, 1985; Copen & Silverstein, 2007; Hagestad & Burton, 1986). The aging parent's role, from this perspective becomes a symbol of family continuation, a tradition keeper, a historian, a role model, a family *watch dog* (Hagestad, 1985; Troll, 1985).

Tasks and Challenges Associated with Being a Parent to Adult Children

Research on the complexity of relationships between parents and their adult children dates to the late 1990s with the introduction of the intergenerational stake phenomenon and the family solidarity hypotheses (Bengtson & Kuypers, 1971; Bengtson & Roberts, 1991). Bengtson and Kuypers (1971) suggested that parents and their young adult children significantly differed in their perception of the relationship, and this difference remains consistent across the lifespan. Parents viewed their relationship as more significant and emotionally important than did children. Parents are more concerned with passing down their values and building family relationships, thus, they have a tendency to overemphasize the closeness and affection with their offspring. Young adults, on the other hand, are more motivated by the desire to develop their own autonomy and social relationships and less interested in building affection with their own parent, and might see the parent's effort of getting close as overly interfering (Bengtson & Kuypers, 1971).

Fingerman (2003) proposed the developmental schism theory as an attempt to further explain parent and adult children relationships. Fingerman (2003) suggested that there are two dominant schisms that govern interactions between the parent and their adult children: (1) independence and (2) the value placed on the relationship. The different emphasis on one of these two schisms between parent and adult children would lead to different types of tension and conflict (Fingerman, 2003). Tensions and conflict between parents and adult children could be categorized into two groups: individual conflict and relationship conflict (Birditt, Miller, Fingerman, & Lefkowitz, 2009). Individual conflict refers to individual independence and self-care, such as health, job, education, finance, and lifestyle. Meanwhile, relationship conflict indicates the manner in which dyad members "interact and encompass issues of emotional closeness and cohesion or lack thereof" (Birditt et al., 2009, p. 2). Some examples of relationship concerns include: personal differences, uninvited advice, child-rearing, and past relationships. Parents have a tendency to report more concerns regarding the child's lifestyle, money, and health, while adult children were more concerned with their interaction with their parents (Aquilino & Supple, 1991; Birditt et al., 2009; Clarke, Preston, Raksin, & Bengtson, 1999; Fingerman, 2004; White, 2002).

Not only does the topic of conflict between the parent and adult child differ by generation, concerns and challenges that parents and their adult children experience vary significantly given the continuing development of the adult children (Fischer, 1983b). Across adulthood, there are two major points of transition which tend to most redefine the relationship between parent and the adult child: (1) when the children transition from adolescence into adulthood (early emerged adults) and (2) when the adult children become parents themselves. In order to have an ample understanding of the tasks and challenges that parents are facing in the relationship with their adult children across adulthood, the next two sections will discuss in more depth the parent–adult child relationship during those two critical transitions. Additionally, a third section will be dedicated to the discussion of another challenging, yet neglected area of research in parent–adult children relationship: Being a parent to adult children with disability.

Being a Parent to Early Emerged Young Adults

There are many different definitions for early emerged young adults (EEYA). For example, the Australian Bureau of Statistics [ABS], 2008) typically considers youth aged between 16 and 24 years, whereas others consider a young adult as over 18 years (Aquilino, 1997), while others suggest a young person is anyone over 12 years of age (Cotton, Wright, Harris, Jorm, & McGorry, 2006). The most common age range typically used when describing young adults is between 18 and 25 years, which is often used when describing mental health prevalence rates (Kessler et al., 2005). Early emerged young adulthood is characterized by transitions: transitions from school, family relationships, romantic relationships, working environments, and living arrangements (Dubas & Petersen, 1996; White, 2002). Typically, a time of uncertainty and instability, it is not surprising that EEYA has been described as a stressful period with high levels of interpersonal stress between family members and friends (Neff & Pommier, 2013; White, 2002). Despite EEYA indicating an increased desire to be independent (White, 2002), this is tempered with the realization that there are many times where young adults still require the support, both emotionally and financially, of their parents.

Over the past couple of decades, alongside dramatic societal changes, the connection between parent and their adult children is sustained longer than ever both physically and emotionally. The greater involvement in higher level education, decreasing availability of low skill jobs, rising economic and housing costs, and changes in marriage expectations (Cobb-Clark, 2008), have resulted in an increasing number of young adults living at home. The number of 18- to 24-year-olds living at home in Australia has increased from 50% to 57% from 1997 to 2007

(Milnes et al., 2011). The number of women aged 20–24 living at home in Western countries has also increased from 25% in 1979 to 39% in 2000, and the number of men from 45% to 52%. Even when adult children no longer reside at home, the widespread use of technologies in the last decade has enabled parents to have more involvement in their children's lives (LeMoyne & Buchanan, 2011). Data from the 1988 National Survey of Family and Households (NSFH) found that nearly half (46%) of parents had provided advice and a third had provided practical assistance for their young adult children in the past month (Eggebeen, 1992). More recent data revealed that 75% of young adults received parental advice, and nearly 50% received practical assistance on a monthly basis (Fingerman, Miller, Birditt, & Zarit, 2009).

Although retaining proximity with parents could create a comfortable and safe environment for the young adult's transitions, there is evidence that the close distance and continuing involvement of the parent in young adults' lives are associated with more conflict and potentially poorer family relations. White (2002) reported a narrative review of the concept of "home" in young adults aged between 18 and 25, based on interviews with 83 Australian young adults living at home. They found that young adults reported the struggle for independence, and the ambiguity of roles and expectations, as young adults were treated as both children and "not children" at the same time (White, 2002), led to conflict and strained family relations. Conflict between young people and their parents has been shown to arise from different aspects of daily interactions: from parental requirements concerning information on young people's whereabouts, the permissibility of sexual relationships at home, incompatible views about drug and alcohol use, to complaining about young people's nonparticipation in domestic life (in particular, levels of contribution to household duties), young adult's disruption to parents' lives caused by young people's presence in the family home and young people's increasing assertion of independence (White, 2002). Parents who coreside with their adult children reported less satisfaction with the relationship than those who do not (Umberson, 1992).

The circumplex model of family system (Olson, Sprenkle, & Russell, 1979) has described the relationship between parents and the young adults as a process of adjustment. In this process, parents seek to balance between their emotional closeness and autonomy support to their child in order to meet their adult children's developmental needs. This adjustment, while functioning as a response to the individual developmental paths could also shape individual life paths. Too little or too much of either one of those two factors, could lead to adult's difficulties in functioning across the lifecycle. In order to keep the relationship in balance, it is crucial that the dynamic between parent and child is shifted from an adult–child relationship into an adult–adult one (Mancini & Blieszner, 1989). Parents need to develop a new set of expectations toward their now adult children and find a balance between controlling and supporting in their interactions with their adult child. A balance of control and support will enable young adults to successfully transition from adolescence to adulthood. On the other hand, excessive involvement and rigid parenting could intrude, or even impede, the individual's development of self and competence (Aquilino, 1997; Filus & Roszak, 2014; Givertz & Segrin, 2014).

An important question that needs to be examined when discussing the relationship between parent and adult child, is how much of this relationship is determined by past parenting experience. Social learning theorists believe that the parent–adult interaction is an extension of the past parent–adolescent child relationship. Those who follow this school of thought argue that the family relationship has a tendency to work toward homeostasis and thus, to continue throughout life. A longitudinal study by Aquilino (1997), however, revealed that the past experience of the parent–adolescent relationship only accounted for less than 10% of the parent–adult child interaction. There are many other factors that could contribute to the change in this relationship over time. Factors, such as life course transition (e.g., getting married, new job [but not parenthood]) or cohabitation, could positively change

the relationship while occasions, like children moving out of home, could weaken the tie between parent and adult children (Aquilino, 1997).

Impact on Young Adult's Transition to Adulthood

While research focusing on the parenting of early emerged young adulthood is still in its infancy, available studies have highlighted the importance of parent–child interaction to the young adult's transition. Authoritative parenting was found to be associated with higher relationship satisfaction, adult child's self-efficacy and higher psychological adjustment in young adults (Aquilino, 1997; Filus & Roszak, 2014). Meanwhile, intrusive parenting was found to interrupt the development of the child's development of self; inhibit the child's ability to build their own autonomy, their self-exploration and self-discovery, and their well-being (Barber & Harmon, 2002; LeMoyne & Buchanan, 2011). Families where parents and children have more open communication also exhibit a mutual understanding of each other's points of view and needs (Sillars, Koerner, & Fitzpatrick, 2005). Open conversations also enable young adults and parents to resolve conflict or disagreement more quickly and effectively without holding guilt and resentment toward each other (Neff & Pommier, 2013).

Being a Parent to the Parent

Grandparents are an important component of the family unit (Whitbeck, Hoyt, & Huck, 1993). With changing demographic trends reflecting an increase in dual earner households (Stevenson, Henderson, & Baugh, 2007), and the demand on childcare services constantly increasing (Absher, 2006), the role that grandparents play within the family has increased significantly. It was estimated that across European countries, 58% of grandmothers and 49% of grandfathers provided childcare of different types, and most Germans in their late 50s, spend on average 12.8 h each month supervising their grandchildren (Kohli, 1999). In Australia, grandparents are the biggest providers of childcare between birth and 12 years of age (Australian Bureau of Statistics [ABS], 2012; Ochiltree, 2006). Some grandparents start their role very young (e.g., in their 30s), whereas others become grandparents for the first time quite late in life (e.g., in their 70s) having already given up the notion of ever becoming a grandparent (Rosenthal, Moore, & Moore, 2012). As such there is great heterogeneity in the grandparenting population, and there are few theoretical frameworks to help understand this complexity (Coall & Hertwig, 2010).

The involvement of grandparents in regular childcare is often referred to as *co-parenting*, which by definition, is a shared activity undertaken by those adults responsible for the care and upbringing of children (McHale & Lindahl, 2011). This joint activity serves children best when: (1) each of the coparenting adults (parent and grandparent) are capable of seeing and responding to the child as a separate person with feelings and needs different from their own; and (2) when the adults find ways to work together to co-create a structure that adequately protects and nurtures the child (McHale & Lindahl, 2011). Traditionally, co-parenting is used to indicate the cooperation between two spouses in order to raise healthy children. However, there has been increasing recognition that children are growing up in more diverse family structures and the functional co-caregiving unit may extend beyond mothers and fathers (Kurrien & Vo, 2004).

Mason, May, and Clarke (2007) suggested that grandparents do not stop being parents simply because their children have had children; indeed parenting is a lifelong journey. However, being a parent to an adult, who themselves is a parent, requires a different skill set than being a parent to a child. Conflicts can arise between grandparents and parents over a multitude of different scenarios, such as what parenting strategies are used by each party, what expectations people have, how people communicate with each other, and what ground rules to set. The underlying premise behind these challenges has been referred to as the *double-bind effect* (Thomas,

1990). The double-bind effect occurs when grandparents attempt to meet the parents' expectations, and parents' expectations are such that they expect the grandparents to be simultaneously supportive without interfering (Thomas, 1990). This has also been referred to as the norm of non-interference and the norm of obligation (Aldous, 1995). The norm of non-interference emphasizes that grandparents are reluctant to get involved in the affairs of their offspring who have children and have established their own household rules (Cherlin & Furstenberg, 1986). The norm of obligation emphasizes that despite the norm of non-interference, grandparents also feel obligated to help out if their offspring need assistance (Rossi, 1990). Consequently, the involvement of grandparents in childcare, can lead to, or exacerbate, conflict and tension between grandparents and parents (Mason et al., 2007).

The difficulty grandparents face in providing care while not interfering is illustrated in research by Thomas (1990) and Mason et al. (2007). Thomas (1990) asked 69 mothers (52 married and 17 divorced) to describe the advantages and disadvantages of having grandparents in the family. Both married and divorced mothers agreed that grandparents' child-rearing advice and their interference in child-rearing were the worst aspects of having grandparents in the family. This finding was replicated in a study conducted by Mason et al. (2007) where 46 grandparents were interviewed about their caregiving role. Based on the thematic analysis of the study, two major themes emerged for grandparents: (1) "being there for parents"; and (2) "not interfering." Mason et al. (2007) drew the conclusion that the grandparent role is characterized by ambivalence and this can lead to confusion, frustration, and tension in the grandparent–parent team.

Leung and Fung (2014) showed that among Hong Kong non-custodial grandparents, these grandparents regarded their roles as very important, involving disciplining the grandchild. Parents on the other hand, showed a tendency to consider the grandparents as assistants or partners, while they themselves should be primarily responsible for teaching their own children. This ambiguity in roles and boundaries between parent and grandparent roles creates a loophole for conflict as grandparent involvement might be seen as over interference by parents (Leung & Fung, 2014).

Impacts on Family Well–Being

The close relationship between grandparent and parent and the grandchildren has a number of benefits for grandparents. Grandparents report having a second chance at successful parenting (Robinson, 1989), feeling more useful and productive as individuals (Hayslip & Kaminski, 2005b), and gaining a higher sense of satisfaction from life (Ochiltree, 2006). Negatives, however, were also observed. The ambivalence of grandparents in their childcare role can lead to stress and depressive symptoms for caregiving grandparents when compared to non-caregiving grandparents (Jendrek, 1994; Musil & Ahmad, 2002). Grandparents also report loss of friendships (Musil, Warner, Zauszniewski, Wykle, & Standing, 2009); finding it difficult to manage more than one grandchild at a time (Ochiltree, 2006); and feeling as though they were being taken for granted by the grandchild's parents (Goodfellow & Laverty, 2003).

For the parents, grandparents' support enables parents (especially mothers) to pursue their career while still attending to their children. Having grandmother support helps lower the levels of maternal stress among working mothers (Kim, 2016). A cooperative coparenting relationship between mother and grandmother was also found to be significantly associated with lower depression in immigrant families, even after accounting for environmental and acculturation stress (Conn, Marks, & Coyne, 2013). In contrast, higher levels of conflict and lower cooperation between grandmother and mother was associated with higher levels of maternal depression (Barnett, 2008; Conn et al., 2013). Regarding parent's own parenting, studies have shown mothers whose own mothers were more direct (both demanding and clear) and who reported low relationship conflict demonstrated low negative control in their parenting (Barnett, 2008;

Conn et al., 2013). On the other hand, mothers who demonstrated high levels of individuation (i.e., a balance of autonomy and mutuality) and reported low relationship conflict showed higher levels of nurturing parenting (Barnett, 2008; Conn et al., 2013).

Not only does grandparent involvement affect grandparents and their own parent well-being, the presence of a grandparent in grandchildren's lives has also been reported to impact child development. Grandparent involvement with families has been associated with a number of benefits: academic as well as mental development of the grandchildren. Children who are more frequently in contact with their grandparents do better at school and exhibit fewer emotional problems and more pro-social behaviors than children who are in less frequent contact (Coall & Hertwig, 2010; Goh, 2006). However, it was also acknowledged that grandchildren who received childcare from their grandparents, compared to children who received no grandparental care, had elevated rates of hyperactivity and peer difficulties (Black & Nitz, 1996; Chase-Lansdale, Brooks-Gunn, & Zamsky, 1994; Coall & Hertwig, 2010). These results suggest that although grandparent care is helpful, it does not prevent emotional or behavioral problems from developing in grandchildren.

Being a Parent to Adults with Physical and Mental Health Difficulties

Increased longevity and the deinstitutionalization of care for mental and physical health have had enormous implications for families. There are increasing numbers of physically and mentally ill individuals returning to family care rather than being in the public and private healthcare sectors (Yesufu-Udechuku et al., 2015). It was estimated that approximately 35–50% of institutional patients returned to their family members or relatives for ongoing care of which 85% or more were the primary caregivers (parents) of the patient (Lamb & Goertzel, 1971; Minkoff, 1978). Recent data published by the Australian Bureau of Statistics [ABS] (2013) revealed that 38,100 parents aged over 45 years were caring for at least one child with a type of disability; 4100 of them are aged over 65.

There are many reasons for parents to volunteer caring and continued support for their adult children with a disability. Parents might believe that it is their responsibility to take care of their offspring or they find there are no alternatives or other alternatives that they can trust (Lefley, 1987). Many parents find the situation to be of mutual benefit as they have companionship and emotional support from the adult children (Grant, Ramcharan, McGrath, Nolan, & Keady, 1998; Krauss & Seltzer, 1998; Rimmerman & Muraver, 2001).

Studies that examine the health and well-being of parents who provide care for their physically, developmentally or mentally ill adult child found this situation has put parents under a number of burdens and challenges. One of the most challenging tasks is managing the adult child's daily activities. Daily tasks including feeding, toileting, dressing, and mobility are of paramount stress as parents age and face their own health issues (Cuskelly, 2006; Lefley, 1987). Depression, anxiety, mood swings, paranoid ideas and refusal of treatment are also commonly observed among these adult children as a consequence of their health condition (Duckro, Chibnall, & Tomazic, 1995; Neely-Barnes & Dia, 2008; Rimmerman & Muraver, 2001; Seligman, 1991). For parents of adult children with intellectual disability, the concern of sexual abuse and exploitation or being harmed and shamed in public are also of great concern (Baladerian, 1991; Cuskelly & Bryde, 2004; Glaun & Brown, 1999). The literature examining the mental health of the family caregiver has further indicated that unfortunately physical and/or verbal abuse toward the parents can occur from the individual suffering the mental illness. Around 15–39% of caregivers (largely parents) experienced some sort of abuse during their time providing care for the adult child with a disability (Crocker et al., 2006; Crocker, Mercier, Allaire, & Roy, 2007; Solomon, Cavanaugh, & Gelles, 2005). There are several reasons for adult children to become frustrated and angry toward their parents. For many adults with a disability, the onset of their illness inhibits or restricts them from achieving the autonomous function that is

crucial for their personality development which can lead to anger and frustration toward their caregivers (Kraemer & Blacher, 2001; Lefley, 1987). In other cases, adult children can have a tendency to blame their parents for their condition, and for ruling their lives (Arieti, 1955).

Parents who provide care for their adult children with a disability are also regularly placed in the position of having to deal with social stigma toward their children. Unpredictable behaviors of the adult child and potential difficulties with emotional dysregulation can cause parents embarrassment when in public (Dunkle, Ingersoll-Dayton, & Chadiha, 2015; Lefley, 1987). Parents also constantly reported feeling guilt and worry for their child's future (Cuskelly, 2006; Mengel, Marcus, & Dunkle, 1996). The feeling of guilt does not necessarily come from the child's condition but might emerge from their negative response to the child's assertiveness or the fact that they have to leave their children with others if they have to work out of home (Mancini & Blieszner, 1989; Solomon et al., 2005). Another fear experienced by parents providing care for their adult children is having to prepare for their children's lives when parents pass away. Many parents struggle finding someone willing to assume the role of a guardian for their adult child as they do not want to burden their other offspring, yet are unable to find a satisfactory third party care provider that is within their budget (Hastings, 1997; Neely-Barnes & Dia, 2008).

The literature has found that parents often find themselves in conflict with healthcare services that they use for their children. In a study by Llewellyn (2004) interviewing Australian parents who provide care for their adult children with intellectual disability, parents expressed a significant level of frustration with the care service for their children. Inadequately trained staff, lack of expertise and understanding of their children's needs, and frequency of staff turnover are some of the issues of concern raised by parents. Associated with this, financial stress is another area of concern for parents. Health care services for adults with disability are often costly. Parents of adult children with a disability however, are less likely to be employed either due to their aging or the commitment of care for their adult children (Australian Bureau of Statistics [ABS], 2008). Lack of employment which might occur along with lower family income, restricts parents' capacity to find quality care for their children.

Impact on Parents

The decision to provide care for an offspring with disability does not always come from the obligatory nature of the situation. Indeed, the care for an adult child with disability has many positive aspects. Adult children with a disability provide parents with companionship and social support (Findler, 2014; Manor-Binyamini, 2014). In many cases, especially in single parent families, the adult child is sometimes the mother's only emotional and social support source (Seltzer, Greenberg, and Krauss (1995). Rimmerman and Muraver (2001) found that mothers who are taking care of their adult child with a disability at home experience fewer undesired life events than those who do not. Lamb and Goertzel (1971) further reported that caregiving for adult children was associated with a greater sense of being needed, which is important for adults in their late adulthood. What is more, an adult child living with and helping parents with the household chores, might contribute to parents perceiving their role as less burdensome and gaining more satisfaction from it (Findler, 2014).

Despite the positive appraisals of caring for adult children, stress and burden on parents is undeniable. A rich body of research has confirmed that parents of adult children with a disability are at risk of both mental and physical health problems (Greenberg et al., 1993; Mailick Seltzer, Greenberg, Floyd, Pettee, & Hong, 2001; Seltzer et al., 1995; Seltzer, Floyd, Song, Greenberg, & Hong, 2011). Goodman (1978) found that parents of intellectually impaired adults have a high likelihood of experiencing chronic fatigue, sadness and feelings of hopelessness. A longitudinal study by Seltzer and colleagues (1997) also found that parents providing care for their disabled adult children experienced high levels of stress which was significantly and positively correlated with the amount of time

spent in the caregiving role. More recently, Minnes and Woodford (2005) found that sixteen percent of the parents of adult children with disability are in the clinical range for depression. Another study conducted by Noh and Turner (1987) on adult children with schizophrenia living with their families, also indicated that the longer the patient lived at home, the higher the distress experienced by the caregiving parent.

That continuing strain experienced by parents might result from the fact that parents have a tendency to prioritize their children's welfare over their own well-being, thus paying little attention to self-care (Cuskelly, 2006). This focus on the adult child's needs and neglect of their own needs not only impacts the parent as an individual but is also associated with other family issues such as marital dissatisfaction or aversive experience of the illness by other offspring (Lefley, 1987; Mancini & Blieszner, 1989). In the long term, that dissatisfaction and negative experience could lead to withdrawal and emotional distancing by a spouse or other family members (Cuskelly, 2006; Findler, 2014). The lack of social connection and social isolation by their friends and families in turn, could serve as a risk factor for parental depression. Parents who reported that they were socially isolated had higher levels of depression, while parents who found themselves being supported by family members were able to cope better with the demands of their caregiving roles (Findler, 2000; Heller, Hsieh, & Rowitz, 2000).

Cultural Differences in Parent–Adult Child Relationships

The parent–adult child relationship is a complex social phenomenon. This multi-determined relationship reflects both the developmental patterns of parents and the child, the life situations that families encounter, and family cultural beliefs (Gaden, 1996; Givertz & Segrin, 2014; Goodman, 1978; Kurrien & Vo, 2004; Silverstein, Giarrusso, & Bengtson, 1998). A substantial amount of this chapter has been spent discussing how the quality of this relationship and the tasks and challenges presented to parent–adult children relationships vary according to three different aspects of one's adulthood. The important question that remains unconsidered is whether the dynamics of the relationship between parents and their adult children differ across cultures.

To date, most published studies of the relationship between parent and adult children have been in Western cultures. Although the past 10 years has seen an increasing number of publications in non-Western cultures, the number is still limited. Those available, however, have valuable contributions that demonstrate a robust effect of culture on family relationships. Neighbors, Forehand, and Bau (1997) noticed that among the African American population, young adults rely on their parents more for support compared to their White-American counterparts. Birditt et al. (2009) also found that the relationship among African American parent–adult child dyads is characterized by significantly higher levels of ambivalence than those of White-American dyads.

Studies of the grandparent–parent relationship also increasingly acknowledge the variation in grandparent involvement across cultures. As postulated by McAdams and de St Aubin (1992), the level of grandparent involvement in their relationship with children and grandchildren is particularly determined by one's preference, societal norms, and developmental and responsibility expectations. As those factors vary, the understanding of what is entailed in being a parent to adult children across contexts is also diverse and complex. Grandparenthood in some cultures is viewed as more important than in others. A study by Goodfellow and Laverty (2003) among different ethnic groups in Australia revealed that overseas-born grandparents inclined more to traditional and family values and were more committed to family care and contribution than Australian-born grandparents. Comparative studies between Black, Hispanic, and White grandmothers in the US also indicated that Black and Hispanic grandmothers played a more significant role in nurturing grandchildren compared to White grandparents (Fuller-Thomson & Minkler, 2007; Gibson, 2005; Minkler & Fuller-Thomson, 2005; Pruchno, 1999; Williams & Torrez, 1998).

Recent attention of scholars in the US has highlighted that White adult children have little expectation for their parents to provide support with childcare (Hayslip, Shore, & Emick, 2006). In many non-Western cultures, however, adults have high expectations for their own parent to be involved in the care of their offspring (Kurrien & Vo, 2004; Thang, Mehta, Usui, & Tsuruwaka, 2011). In East Asian cultures, for example, when a couple is married and planning a family, traditionally either the paternal or maternal grandmother is by default the care provider for their grandchildren (Bhopal, 1998). Grandparents themselves also "look forward to achieving the status of grandparent because it defines their contributions, value and central position within the family" (Mehta & Thang, 2011, p. 4). In this context, parents while still the primary caregivers, become less central in the caregiver role. Grandparents on the other hand, become a major nurturing figure and afford the right to provide discipline for the grandchildren (Kurrien & Vo, 2004).

The differences across cultures in parent–adult child interaction date back to the early days of human relationships. Historically, the parent–adult child relationship in Western societies was built upon inheritance, vocation, and land (Fingerman et al., 2012). In many non-Western cultures on the other hand, the relationship is primarily shaped by the obligation of family ties (Mehta & Thang, 2011). In societies such as those in China, Hong Kong, Korea, and Vietnam, the Confucian influence strongly emphasizes the practice of filial piety (respecting the elderly) and family relationships (Selin, 2014). Confucianism indicated that one gains a higher status according to one's seniority (Yum, 1988). Younger generations, thus, are of subordinate position and are expected to behave within a set of proscribed rules in order to accomplish their filial duty (Wong & Ahuvia, 1998; Yum, 1988).

When there is disagreement between the two generations, the parent's commands and wishes are prioritized (Chen & Lewis, 2015). Adult children are expected to suppress their opinion in order to *save face* for the elderly and keep the family harmonious (Goh & Kuczynski, 2010; Leung & Fung, 2014). Goh and Kuczynski's (2010) study of Chinese families revealed that the adult children reported being openly criticized by their own parents for their parenting. They also felt hesitant to communicate with the grandparents due to the filial piety and cultural emphasis on family harmony (Goh & Kuczynski, 2010). Some adult children reported attempting to talk to their parents but the conversation either led to the scenario where the parent became upset (Leung & Fung, 2014) or threatened to not take care of the grandchildren anymore (Bhopal, 1998; Goh & Kuczynski, 2010; Leung & Fung, 2014). As a result, most of them either choose not to deal with conflict (and suppressed their emotion) or avoid disciplining the child in front of the grandparents (Goh, 2006). These findings are interesting, as studies of parent and adult child relationships in Western societies, have found that adult children were more open to discussing problems, while their mothers were more likely to use avoidance tactics in conflict (Fingerman, 2003).

In brief, the difference in parent–adult children relationships in general and the expectations of the individual in the role of grandparent in particular reflects the variation of care commitments which are determined by personal, occasional, and cultural factors. Depending on the cultural background that family members identify with, the expectation of grandparenthood and parent–adult child relationship would be different. Research and interventions aimed at the grandparent–parent relationship thus need to acknowledge and respect the family cultural background that influences their interpersonal relationships. We turn next to discuss the strengths and limitations of the evidence for parenting adult children and then suggest some directions for future research.

Strengths and Limitations of the Existing Evidence for Parent–Adult Children Relationships

The parent and adult child relationship is a particularly strong and unique form of social interaction. It starts with the connectedness in the parent–infant relationship and changes dramatically over the course of the lifespan, shifting

from a pattern of dependency to one of a mutual and reciprocal relationship (Mancini & Blieszner, 1989; Umberson, 1992). Over the past several decades, the growing body of research into intergenerational relationships has advanced our knowledge regarding the parent–adult child relationship. Several areas of investigation however, have not yet been brought to bear.

First, despite the sizable number of studies in the field, the ebb and flow of the relationship has yet to be elucidated. The majority of research into the parent–adult child relationship to date has focused on the exchange of care between parent and their adult children or examining the parent–adult child relationship as a predictor of other outcomes. It is of particular importance to note that the pattern of interaction itself is crucial to the understanding of family functioning and the development of intervention programs (Kirby & Sanders, 2012). Few studies, however, have focused on examining the pattern of this interaction in everyday life. There are also an insufficient number of longitudinal studies to track the development of parent–adult child relationships over time (Mancini & Blieszner, 1989). Two hypotheses could be adopted to explain the inadequate development of research within this field. First, the relationship between parent and their children in later life might be considered less important than those in earlier stages of the parent–child relationship, or sometimes is considered as a continuation of the parent–adolescent one (Mancini & Blieszner, 1989; Whitbeck et al., 1993). Second, as a majority of studies concerning the parent–adult child relationship target the aging population, there may be a tendency to report very few issues, not because there are no challenges but because parents tend to see their relationship with their children as more positive than do their children. The older the parents are, the more likely they are to value their relationship with their adult children and see it as a positive aspect of their life (Bengtson & Kuypers, 1971; Fingerman, 2003). What has not been fully acknowledged by researchers in family studies is the fact that conflict and tension within the parent–child dyad is the second highest during the child's adulthood following adolescence (Winch, 1971).

The second limitation of current literature is the lack of theoretical frameworks and instruments specifically designed to examine the parent and adult child relationship. Most studies investigating parent–early emerged adult child relationship currently have to adopt measures designed for parent–adolescent populations (Givertz & Segrin, 2014). Studies of grandparent–parent relationships on the other hand, rely on adopting theories and measures of mother–father coparenting relationships or general social relationships (Kirby, 2015; Kurrien & Vo, 2004). It is important however, to note that the parent–adult child relationship has distinct characteristics that make it quite different to that of a parent–adolescent child relationship or other social interactions. Different from adolescents, adult children gain significant levels of independence from their own parents. The older they get, the less likely that they have to depend on their parents for support (Aquilino, 1997). But being independent does not means this relationship totally transforms into a typical social interaction, such as that between friends. There is a strong emotional tie between parent and their adult children that might not be featured in any other social relationships including spousal ones (Clarke et al., 1999; Umberson, 1992). Using theoretical frameworks and instruments that guide the parent–adolescent relationship or general social interaction might not fully reflect the true dynamics of parent–adult child interactions.

Third, the vast majority of interventions available to support parents in their relationship with their children focus on children under 18 years of age (Sanders, 2008). This has meant that program development has largely neglected a large population of parents in the relationship with their adult children (Hayslip & Kaminski, 2005a, 2005b). Becoming a "good" parent in later life is difficult when there is a fine balance between what is interpreted as providing support and what is considered interfering. It is difficult to know what parents should do when the norms of the role are vague and when there are differing expectations from parents and the adult children regarding their relationship. In a study by Kirby and Sanders (2012) exploring the experience of grandparents who provide care for their grand-

children, grandparents indicated that managing the relationship with the parent is one of the most difficult areas that they need help with (Kirby & Sanders, 2012). Lefley (1987) in a study of aging parents who provided care for their adult children also noted that parents expressed a strong desire to receive information and strategies to guide their interaction with their adult child and to manage their difficult behaviors.

To date, there have been few intervention programs that specifically addressed the relationship between parents and their adult children, and of them, there are two that focus on the parenting and parent–adult child relationship aspect. The first program to be mentioned is Grandparent Triple P (GTP). GTP is a parenting program designed for grandparents who provide frequent care for their grandchildren. The aim of GTP however, is not only to provide a refresher course in parenting strategies but also to help improve the relationship between grandparents and parents, and provide coping strategies to manage stress and tension that can arise from the grandparenting role. Results from a randomized control trial of GTP indicated a significant change in relationship quality between parents and grandparents post intervention (Kirby & Sanders, 2012). To provide an example of how GTP can be applied to a family where grandparent childcare is used see Box 1. The replication of the program in Hong Kong (Leung, Sanders, Fung, & Kirby, 2014) also indicated a prominent effect of GTP on improving the relationship between grandparents and parents.

The second program with potential in supporting the relationship between parents and their adult children was one developed to support aging parents as caregivers (Mengel et al., 1996). The program was based on a group format in which participants gathered together for two hours for five consecutive weeks. The program has two components: (1) an education component focused on providing parents with needed information about resources and support services available that they could access; and (2) a support component providing parents a chance to learn coping strategies for their stressful and nontraditional parenting. The program was reported to receive positive feedback and satisfaction from participants, but no data was collected regarding the program effectiveness in improving parent's well-being or ability to cope with stress (Mengel et al., 1996). Although each program has its own merits and was proven to benefit parents and the adult children in their relationship, unfortunately, there is inadequate evidence considering the efficacy of those programs in the community. Given the fact that most parent–child interaction occurs in normal home and community settings, the extension of intervention programs to the broader population together with the continuing evaluation for program effectiveness could be useful and beneficial for parents who are still in contact with their adult children, especially those with special need.

Last but not least, despite the available evidence that showcased the major role of culture in parent–adult child interaction, there remains a paucity of evidence regarding the variation of parent–adult child relationships across cultures. This lack of diversity is, unfortunately, not unique to studies of the parent–adult children relationship. The bias of psychology publications toward the unrepresentative WEIRD (Western, Educated,

Box 1 Clinical Example of the Application of Grandparent Triple P to a Family where Grandparent Care is Used

Case History

Dell is a single grandmother, who attended GTP primarily to help manage the difficulties in her relationship with Melissa (her daughter) about parenting Cassie. Dell reported not having great difficulty managing Cassie; however, she had great difficulty discussing aspects of parenting with Melissa. Dell reported that she could not speak to Melissa about parenting issues, as any form of communication they had about parenting would often result in yelling and disagreement. This would make Dell depressed, and she reported always feeling stressed when with Melissa, as she worried they would start to fight about

(continued)

Box 1 (continued)
parenting. Dell was seeking assistance for two key areas: improving her relationship with Melissa and also helping manage her feelings of depression and stress.

Intervention and Outcome
Dell completed the Grandparent Triple P program. To specifically address Dell's primary concerns this meant focusing on strategies to help her relationship with Melissa. A key strategy for Dell was the routine for dealing with parent emotional distress. This focuses on the grandparent remaining calm when the parent is emotional. The routine emphasises that the grandparent "stop and listen" to the parent, and try to acknowledge, name, and validate the emotion the parent is experiencing. The most important component of this routine is when the grandparent asks the parent what they would like them to do. In this way, the grandparent is avoiding the grandparent trap of providing unsolicited parenting advice to the parent. After completion of the intervention Dell reported improvements in relationship satisfaction with Melissa, as well as reduced conflict. In addition, Dell felt less emotionally stressed.

Industrialized, Rich and Democratic) populations has skewed our understanding toward an incomplete or even inaccurate picture of the human experience globally (Gilbert et al., 2007; Hayslip, 2009; Hurme, 1997; Nielsen, Haun, Kärtner, & Legare, 2017; Woods, 1996). What researchers need to be constantly aware of in the field of human-related studies is a major part of human development is determined by their environment (Nielsen et al., 2017). There is however no such universal environment for human growth (Kurrien & Vo, 2004; Nielsen et al., 2017). In order to obtain a comprehensive and accurate understanding of any psychological phenomenon, it is thus essential to examine the psychological process within a specific social context and also be cautious when generalizing the findings beyond that context at hand (Nielsen et al., 2017). Across cultures, the level of involvement of parents in their adult children's lives varies from less involved to highly involved. The dynamic of the relationship also varies dramatically from an adult–adult-like pattern in individualistic societies to more senior–junior relationship among collectivist ones (Trotman & Brody, 2002; Woods, 1996). Findings and theoretical models delivered from studies of WEIRD populations, thus need to be carefully reviewed and considered when being generalized to other sociocultural groups as many experiences might not be relevant.

Future Directions

There are many considerations worth discussing for the future of research and interventions aiming to address parenting of adult children. However, there are five recommendations that we want to highlight.

Recommendation 1: Consider the Heterogeneity of the Population

As discussed throughout this chapter, the parent–adult children relationship is quite heterogeneous depending on the stage of both parent and child development and the family situation that the family are in (Mancini & Blieszner, 1989; Woods, 1996). As such, parents who are parenting their early emerging adult child or parents who provide care for their adult child with a disability might require a different type of support to parents who play the role of grandparent. Notably, to our knowledge there are very few intervention programs that have looked specifically at parenting adult children. This is the area where there is becoming an increasing need for attention, given the number of adult children living at home or being cared for by their parents.

Moreover, the diverse cultural backgrounds of grandparents add to the heterogeneity of the population and are an important consideration when examining the parent–adult children

relationship. For example, the involvement of aging parents in families may differ depending on cultural norms, such as countries with collectivistic family-based structures (e.g., Hong Kong) and individualistic family-based structures (e.g., Australia, the UK, and the US). To date, studies of parent–adult child are still very limited to individualistic cultures. Further research into the cross-cultural experience of parent–adult children interaction is warranted. The contemporary framework of parent–adult children of Western families also needs to be reconstructed to better reflect the diversity of parent–adult child relationship where the relationship is more an obligation than an option (Kurrien & Vo, 2004).

It is also recommended that the acceptability of the strategies advocated in any support programs and the cultural acceptability of the programs be assessed with different populations. The aim of assessing the acceptability of any interventions focused on improving the experience of parenting adult children is to determine whether parents from different backgrounds and different situational cohorts find the strategies advocated in parenting programs acceptable. A key reason to assess for acceptability of a program from a target group is that individuals are more likely to access treatments that they view as acceptable (Borrego & Pemberton 2007), while treatments that are perceived as unacceptable may not be accessed regardless of their effectiveness (Eckert & Hintze 2000).

Recommendation 2: Greater Focus on the Pattern of Parent–Adult Child Interactions

It has been widely acknowledged that parental support has a fundamental effect not only on the parent and adult child, but also other family members' well-being (Caldwell, Antonucci, & Jackson, 1998; Contreras, López, Rivera-Mosquera, Raymond-Smith, & Rothstein, 1999; Findler, 2000; Gee & Rhodes, 2003; Kim, 2016). Studies across the field of parent–adult children relationships have however presented controversial findings. More parental support in some studies indicated better health and career outcomes in adult child; while in others, it is associated with more distress and lower family relationship satisfaction in both the parent and adult children (Breheny, Stephens, & Spilsbury, 2013; Conn et al., 2013; Kim, 2016). The important question that has been widely neglected here is why the experience of parenting is so diverse and what mechanisms are behind these differences. The limited cross-cultural studies have proposed culture as one of the moderators. Culture nevertheless, is not the exclusive answer as studies in the same culture still find the difference in experience to be true (Bhopal, 1998; Conn et al., 2013). Future research that focuses on discovering the process of interaction which pay more attention to the manner of the relations between parent and adult children and the type of support that parents provide their adult children will benefit the understanding of parent–child relationship as a standalone phenomenon. The understanding of what contributes to the quality of this interaction would serve as valuable information for the development of a parent–adult children relationship theoretical framework.

Recommendation 3: The Collection of Long-Term Data

The evidence-based practice of parenting adult children would benefit greatly from continued rigorous collection of long-term data. The type of study design would vary depending on the population being examined, and the focus of the research question. However, it is fundamental that follow-up measurements are taken, and long-term data is gathered. Ideally, longitudinal studies would be of most value in tracking the curves of parent–adult child relationship. Unfortunately, limitations on research funding often impede the ability to gather long-term data. Meanwhile, randomized controlled trials of intervention programs for parents of adult children with long-term data should also be encouraged. A minimum 3 months post-intervention assessment period is essential but longer follow-up to and beyond 24 months post-intervention should also be

collected. Studies both longitudinal and cross-sectional also need to ensure that a combination of measurement options are included, such as self-report measures, observations, and collateral feedback from both parents and the adult child to determine the effect of the relationship on both generations.

Recommendation 4: Involve the Consumer in the Program Development Stage

Parents at different stages of life and in different family situations require different skill sets to manage their relationship with their children. Being parents to the early-emerged adults is different from being parent to an adult child who is now a parent or being parents to an adult who has severe disability, and each requires unique skill sets. When considering developing a new program or applying existing interventions to the parents of adult children, it is important to gauge the perspective of the consumer group, as their views could impact on engagement with and uptake of the program (Sanders & Kirby, 2012). It has been argued previously that better engagement with consumers has the potential to improve the quality and ecological fit of interventions and their evaluation with specific target groups (Sanders & Kirby, 2012). There are many avenues available to program developers to increase the engagement of consumers and one such way is to provide population specific variants of existing evidence-based parenting programs (EBPPs; Mazzucchelli & Sanders, 2010). There are a number of theories postulating the components necessary for effective consumer involvement in program design. Two notable theories are the participatory action research paradigm (PAR; Whyte, Greenwood, & Lazes, 1989) and Diffusion of Innovations Theory (Rogers, 1995). Both theories argue that in order for a program to have success, there needs to be a participatory process where consumers and developers are involved in a synergistic exchange of ideas to produce meaningful products, programs, or services for a particular target group. Qualitative research methods (e.g., focus groups, key stakeholder feedback, surveys) provide a particularly useful framework for engaging in this participatory exchange.

Recommendation 5: The Inclusion of Compassion-Based Approaches in Parent–Adult Child Interventions

Compassion has been a neglected area of research within family psychology, which is surprising given that compassion helps to build social relationships and connectedness through caring prosocial behavior (Gilbert, 2014; Kirby, 2016b). Compassion has also been found to help predict positive group cohesiveness and cooperation (Gilbert, 2014), and a meta-analysis of compassion-based interventions demonstrated that they can reduce psychological distress and increase well-being (Kirby, Tellegen, & Steindl, 2017). Recently, Kirby and Laczko (2017) examined whether a Loving-Kindness Meditation (LKM), a common exercise used in compassion-based interventions (Kirby, 2016), could help improve the relationship between young adult children still living at home with their parents. The study used a 15-min version of LKM. In a group based micro-trial design, a total of 102 participants were randomly allocated to receive a LKM or a matched control Focused Imagery (FI) exercise. FI matches LKM in two areas, (a) it involves participants following guided instructions and (b) participants visualize body parts such as arms and legs. Participants completed measures examining self-compassion, compassion motivation, and emotional, cognitive and interpersonal responses to vignettes describing conflict between young adults and their parents. Results from the study found that young adults in the LKM condition were higher in motivation to be self-compassionate compared to the FI condition. Moreover, young adults' initial fear of self-compassion influenced emotional responses to the vignettes, whereby young adults with low fear in the LKM condition were less anxious to discuss interpersonal conflict with their parents. It would be interesting to examine whether the

same improvements could be achieved if the target was the parent. The application of LKM in the context of parent–adult children relationship is thus promising. In a cultural context like that of Asia where parents are subordinate to the relationship and the filial piety restricts their capacity to effectively communicate with the grandparent, LKM might be a good suggestion for an intervention program. Further research however needs to be conducted before any conclusion can be drawn about the effect of LKM on Asian parent–adult children relationship.

Implication for Policy and Practice

Given the large involvement of parents in the lives of their adult children, particularly in the case of providing ongoing regular childcare or with the ongoing care of children with physical and mental health difficulties, there are a number of important policy and practical implications. In relation to policy, there are now greater calls for parents to have access to universal parenting support as a public health issue, yet this is not extended to parents caring for adult children or to those who are providing regular childcare to their grandchildren. This is due partly to a lack of evidence examining interventions for these populations, however, given the similar parenting concerns and difficulties that can emerge, extending to grandparents would be a useful policy consideration. Moreover, given the ageing population, it will become increasingly more common for adults to provide care for their own parents in their older age. As a result, interventions aimed at assisting these family caregiving relationships are critical in preventing emotional and mental health problems.

In terms of practice, it is important for clinicians and practitioners to consider the role of parents on issues related to adult children. For example, does the individual presenting for assistance live at home with their parents? If so, what is that relationship quality like, and are there issues with tension and conflict? If the presenting problem is focused on coparenting, examining what the childcare arrangements are with grandparents is important, and it might be worthwhile to ask for consent from the parents to seek the views of grandparents involved in childcare. However, in doing so it is important to inform parents and grandparents of the limits of confidentiality at the outset. Despite adult children and parents being able to recognize the practical logistical reasons for high involvement, there might be little discussion of the underlying emotional angst that can be present out of fear of further damaging the relationship. Thus, clinicians need to be accurately aware of creating safe environments to explore any underlying emotional conflict that might be present.

Conclusions

Collectively, this review has provided some insights into the challenges and strengths in the parent–adult children relationship across the life course and different family situations. It has described the high involvement that parents have with adult children who live in both Western and non-Western cultures, and identified that parents can provide beneficial assistance to not only their adult children but also their grandchildren. However, these benefits do not come without consequences, as there can be conflict and tension between parent and adult children as well as stress, strain, and frustration for the parents providing care for their adult children with a disability. Evidence-based parenting programs, such as GTP and the compassion based approach to parent–adult child relationship, hold promise in helping assist aging parents to create nurturing environments for adult children to successfully move through their adulthood with many changes and introductions of new roles. Future research should further evaluate EBPPs with parents of adult children populations.

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Parenting and Carer Responsibilities During the Later Years

Christine Brown Wilson

Introduction

Globally, the world is aging and in many countries, people are living longer and healthier lives. According to the World Health Organisation (WHO, 2015) this is due both to reduced childhood mortality in low and middle income countries, and reduced mortality in older years in high income countries. While this offers opportunities as older people contribute to society in many ways, it also provides challenges as increased age brings increased risk of disabling chronic conditions (WHO, 2015). The most common conditions include cardiovascular conditions such as stroke, heart conditions, lung disease, and dementia. Worldwide, dementia is becoming a leading cause of disability and the second leading cause of death in Australia (Australian Institute of Health and Welfare [AIHW], 2012). However, not all older people will suffer disabling conditions and many will live healthy lives even with chronic conditions. Adopting a life course perspective of aging suggests that the environments in which we live and the choices we make at different points in our lives also influence how we age. This might go some way to explain the diversity in aging, which is rarely explained by chronological age. For example, living in lower socioeconomic environments will impact on access to health care, education, and employment prospects, which then impact on economic security in older age. Health is more than simply about illnesses or their absence, but also influenced by how people are able to interact with the physical and social environment in which they live. For example, maintaining a role or identity alongside relationships make older people feel they are able to continue making an active contribution. Functional ability in being able to move around and meeting one's own needs are also important, as are being able to make one's own decisions (WHO, 2015). As we age, maintaining what is important to us is about managing gains and losses across the life course, resulting in the adaptation to different contexts, creating a personal world in which we can function optimally. This implies that personal development and aging are co-occurring processes of change, and suggests that older people are able to shape aging into a positive experience even when confronted with irreversible decline (Marcoen, Coleman, & O'Hanlon, 2007). Baltes and Carstensen (1996) suggest that individuals develop strategies to manage this loss of function over time through a process of selection (doing what matters most; what gives meaning to the *self*); optimization (modification of the environment to create more desirable outcomes for the *self*); and compensation (managing losses and overcoming problems

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to create greater autonomy and well-being). Behaviors then reflect the type of task being undertaken—whether it is focused on development of abilities, recovery, and maintenance or when this is no longer possible, regulation of loss. Older people that reported using this approach were found to achieve higher scores on measures associated with successful aging (subjective well-being, positive emotions, and absence of loneliness; Freund & Baltes, 1998). Therefore, to enable older people to maintain what is important to them, support may be required that enhances function alongside a recognition of the role and identity of the older person. This requires professionals to suspend unhelpful stereotypes of older people based on chronological age and to see the person with capacity to develop as they age. In terms of services, this might be about early diagnosis to maintain capacity, interventions to reverse or slow decline, or to provide support that enhances capacity (WHO, 2015).

Alongside increased longevity, reduced birthrates across countries mean fewer younger people will be available to support successive cohorts of older people (Wimo & Prince, 2010). Equally, rapid globalization and increasing global connectivity means younger generations are moving away from families, even in societies where historically, filial piety and cohesive family networks were the norm. As we live longer lives, this means successive generations remain alive at the same time but many older people now live alone rather than in a supportive family structure (WHO, 2015). This will have a greater impact on older people with declining capacity, who may require more support from their social networks to maintain their role and function in the community. This is of particular relevance for people living with dementia, as decline in executive functioning means that many decisions and everyday activities become increasingly difficult to undertake independently. This is reflected in the fact that 1.2 million people are currently involved in dementia caregiving in Australia (Australian Institute of Health and Welfare [AIHW], 2012). This will undoubtedly have an effect on relationships between the caregiver and the person they are caring for as well as within families and communities.

In this chapter, I consider how aging impacts on the role and identity of older people alongside the strategies older people use as their abilities change. I also examine the role of relationships in later life when faced with deteriorating conditions such as dementia, and the impact this may have on the family as some members take on the role of caregiver. I examine how adopting the role of caregiving by family members whether as an aging spouse or an adult child may change the dynamics of family relationships including the parent–child relationship, and I examine the issues that may arise when this occurs. I also explore how caregiving for aging parents impacts on adult children who may also have children for whom they still have caregiving responsibilities. Dementia provides additional challenges for preserving the older person's autonomy and when faced with multiple caregiving duties, there may be the risk of infantilization and parentification by adult children. To place this in context, I begin by examining how aging impacts on parenting as roles change within families.

The role of parenting is seen as an achievement by older people, the perception of which increases in middle age, becoming stable towards the age of 50 (Fadjukoff, Pulkkinen, Lyyra, & Kokko, 2016). Parental identity is not a commonly studied subject—research considers the focus on the children and impact on services of aging parents, but rarely considers the perspective of the aged parent and how they perceive the situation. Anecdotal reports suggest that aging parents wish to preserve their independence and do not always appreciate being assessed when they are visited by children and grandchildren (Berman, 2016). Older people express ambivalence about receiving care from their older children but report annoyance at overly protective strategies employed by these adult children (Spitze & Gallant, 2004). In response to this, older people may resist the children's attempts to control the situation, withhold information to maintain clear boundaries or use others as confidantes (Spitze & Gallant, 2004). Such strategies may result in diminishing levels of interaction

between the parent and adult children, impacting on the ongoing development of the grandparenting role. This may then result in the adult children perceiving their parents as stubborn or willfully working against the support children are trying to provide (Heid, Zarit, & Fingerman, 2016). Such reports of stubbornness may be due to differing perceptions of the goals trying to be achieved and the older person's continued struggle to maintain their independence and sense of identity (Miller, 2015).

Heid et al. (2016) examined stubbornness from the perspective of the older person and their adult children to find that lower relationship quality between the child and greater levels of disability were associated with higher perceptions of stubbornness by the adult children. There were also significant differences between the reports of stubbornness by the children when compared to self-reports of the aging adult suggesting perceived stubbornness may also be influenced by family relationships and context (Heid et al., 2016). Although older people value the care being shown by their adult children when they try to be involved (Spitze & Gallant, 2004), children may also act in ways that may be perceived to be demeaning by their parents, resulting in acts of parental stubbornness (Heid et al., 2016). For example, if the parent feels they are being judged as lacking competence by the adult child, they may stop telling their children when they require support (Berman, 2016), which may be perceived as stubborn behavior. From the older person's perspective, this may simply be about maintaining their independence. Equally, older adults report that interactions with their children that undermine their sense of competence result in their withdrawal from more frequent interactions with children and their families (Berman, 2016). This suggests that improved relationships and communication might enable children to be more sensitive to parents' needs or goals, which may result in parents being more accepting of the children's involvement or suggestions (Heid et al., 2016). From this discussion, it is evident that challenges exist in all families as people age and relationships and roles change. Older adults appear to move from a sense of achievement in their parenting to an experience of perceived surveillance by their children, which may threaten their parental identity.

Declining physical and cognitive ability may impact on the older person's capacity to maintain involvement with families through the sharing of stories or playing with grandchildren which may then result in increasing levels of surveillance, resulting in the older person engaging in a range of behaviors to preserve their identity that may be perceived as stubborn by adult children. Such a situation may be exacerbated if one or more parent has a diagnosis of dementia resulting in difficulties in the recall of conversations or shared events that form the fabric of a family's history. If older people are already struggling to maintain their identity and independence, the diagnosis of dementia places an even greater strain on this endeavor. For example, the older person as parent/grandparent may lose the ability to remember birthdays or host family gatherings, and actively play with or supervise grandchildren. Losing these abilities has ramifications for the sense of competence experienced by the older person with an impact on mood and well-being, which may lead to treatable conditions such as depression. As the dementia advances, additional strains are created for family relationships as social interaction decreases, which may result in reduced contact by family members, with additional strain on the partner/spouse of the person with dementia. Understanding the premorbid personality of an older person, their life choices, and the family dynamics prior to diagnosis is an important starting point for professionals in this field.

Dementia and Relationships

Dementia is an umbrella term denoting a collection of symptoms as a result of over 100 different conditions (Australian Institute of Health and Welfare [AIHW], 2012). Dementia is a progressive condition for which there is no cure and which affects everyday activities as the person with dementia loses the ability to problem-solve, is unable to remember the steps in activities, such as dressing or cooking, or recognize everyday

items. Dementia also affects a person's mood, memory, judgment, and communication, all of which become increasingly impaired as the condition progresses (Australian Institute of Health and Welfare [AIHW], 2012). The nature of the condition means that social relationships will be affected, with many caregivers and people with dementia speaking about the loss of a social network as dementia progresses.

Social relationships have a direct impact on how we define ourselves and it is no different for the person with dementia. The interactions we have with others influence our self-identity, and for the person with dementia, may enhance their ability to maintain their sense of self or hinder it, depending upon the quality of the interactions (McRae, 2011). Families and the support they provide for the person with dementia in maintaining their sense of identity are particularly important in this regard (McRae, 2011). Meaningful social connectedness is a valued aspect of aging well, and for the person with dementia this is demonstrated by respect and honesty within their relationships (Harris, 2011). Relationships with a person with dementia may move from being a relationship of equals due to the person with dementia's changing abilities. Irrespective of this, mutuality and reciprocity still remain as the person with dementia finds different ways of giving to their relationships, thus demonstrating their continued worth as a person (Langdon, Eagle, & Warner, 2007). To achieve this there must be a recognition of both strengths and limitations on both sides of the relationship, and that way the person with dementia can be supported in continuing to make a valuable contribution (Harris, 2011). Indeed, conversation analysis with frequent conversation partners suggest that the person with dementia retains sensitivity to the sequential aspect of conversation (Young, Lind, & van Steenbrugge, 2016). Kindell, Keady, Sage, and Wilkinson (2017) in a review of the literature identify that people with dementia and their frequent conversation partners also develop different skills to maintain communication. This suggests that interventions aimed at supporting the person with dementia and their conversation partners in this regard can be very helpful in supporting identity and ongoing relationships (Kindell et al., 2017). Supporting families in understanding how conversations might be adapted, may enable the person with dementia to maintain a greater role within the family as they are perceived to still be able to contribute to their respective role as parent or grandparent through ongoing social interaction, including the sharing of wisdom.

Maintaining or developing friendships is an important part of maintaining a social identity for a person diagnosed with dementia (Langdon et al., 2007; McRae, 2011; Ward, Howarth, Wilkinson, Campbell, & Keady, 2011). This can be particularly problematic when a person living with dementia finds it difficult to keep up with and respond to social conversations, or when long-standing friends do not understand dementia (Ward et al., 2011). However, a number of in depth qualitative studies involving people with dementia identify how friends will often support the person with dementia, even when their abilities begin to deteriorate (Harris, 2011; McRae, 2011; Ward et al., 2011). This reflects the desire of the person with dementia, for others to be authentic or *normal* in their interactions with them (Langdon et al., 2007). The facilitation of peer support networks for people living with dementia that moves beyond family support is acknowledged as central to supporting the person with dementia to maintain their identity. Having shared interests through involvement in leisure activities or gender groups, such as *men's sheds* also facilitates the development of a greater support network for the person with dementia (Ward et al., 2011). As the symptoms of dementia progress, it becomes more difficult for the person with dementia to maintain friendships and so they become more dependent upon their family support network, many of whom become informal caregivers.

The Role of Caregiving

Caregivers are defined as people who provide personal care, support and assistance to people with disability, medical conditions (including terminal or chronic illness), mental illness or frail age. Caregivers may include family members,

friends, relatives, siblings, neighbors, or members of the wider community taking this role, known as fictive kin. Grandparents or foster caregivers providing care to a child with a disability, medical condition (including terminal or chronic illness), or mental illness are not generally included within this definition.

In 2015, there were over 2.8 million unpaid caregivers in Australia providing 1.9 billion hours of unpaid care. This means that the estimated replacement value of unpaid care provided in 2015 was AUD $60.3 billion. With the changing social structures due to globalization, it is anticipated that the need for informal care will outstrip supply by 2025 (Deloitte Access Economics, 2015). Women make up the majority of caregivers, representing 69.7% of primary caregivers and 56.1% of all caregivers (Australian Bureau of Statistics, 2016). For people with dementia, caregivers are an increasingly important resource worldwide (Wimo & Prince, 2010). For example, there were 46.8 million people worldwide living with dementia in 2015 and this figure is expected to double in the next twenty years (Prince et al., 2015). In Australia 353,800 people live with dementia, with 1.2 million people involved in caregiving (Alzheimer's Australia, 2016). Dementia caregivers generally have poorer health outcomes than non-dementia caregivers (Pinquart & Sörensen, 2003), which may include exacerbation of physical problems and/or mental health issues such as depression (Schoenmakers, Buntinx, & Delepeleire, 2010) and psychological burden (Pinquart & Sörensen, 2003).

Caregiving is a complex process and there are a range of factors that influence how caregivers manage this process. In a systematic review of the literature, Quinn, Clare, and Woods (2010) suggest that the motivation to provide care and the meaning derived from the caregiving relationship has an impact on the well-being of family caregivers. Both motivation and meaning influence how a caregiver perceives the caregiving situation. Further issues, such as kinship, geographical location, and social expectations, all influence caregivers' decisions to care and thus their well-being (Quinn et al., 2010). The Stress-Process Model developed by Pearlin, Mullin, Semple, and Skaff (1990) is considered the seminal approach to understanding both the stressors and coping mechanisms used in the caregiving process. According to this model, caregiver stress is influenced by (1) background and context such as sociodemographics, caregiving history, and social networks; (2) primary stressors such as the cognitive status of the person being cared for, their functional ability alongside subjective indicators such as feeling overloaded; (3) secondary role strains such as family conflict, work–caregiving conflict, economic issues and construction of social life; and (4) secondary intrapsychic strains such as a sense of mastery, self-esteem, role captivity, and competence.

Pearlin et al. (1990) suggest that primary stressors, role strain, and intrapsychic strain are influenced by mediators such as coping mechanisms and social support, which potentially reduce the risk of poor outcomes such as depression, anxiety, and poor physical health. A systematic review and meta-analysis undertaken by Pinquart and Sörensen (2004) suggests that although caregiving stressors are related to poor health outcomes such as depression, positive aspects of caregiving (known as uplifts) relate independently to the subjective well-being of caregivers. This means that the subjective well-being of caregivers might be protected if they receive sufficient uplifts from caregiving and can find time to undertake activities external to the caregiving relationship (Pinquart & Sörensen, 2004). This challenges the perceived notion that reducing strain is the only option to support caregivers.

Caregiving has been widely researched with large epidemiological studies to understand what influences caregiver strain and/or well-being; qualitative studies that explore the lived experience and/or meaning of caregiving and systematic reviews with meta-analyses and meta-syntheses to draw the evidence together. For example, Pinquart and Sörensen (2011) undertook a meta-analysis of studies identifying the impact of caregiving according to the family relationship held: spouses, adult children, and children-in-law. In their meta-analysis, Pinquart and Sörensen (2011) found that spouses were more likely to provide more hours of care than adult children, and so

report poorer health outcomes compared to adult children. The hours of care tended to be influenced by geographical location, with spouses who cohabit with the care-recipient reporting that they provide more hours of care than adult children who are less likely to be living with the care-recipient. However, adult child caregivers report the same amount of care tasks as spousal caregivers, which may be explained by the fact that adult children condense their caregiving tasks into fewer hours as they rarely cohabit with the person they are providing care for. Although female caregivers report higher hours of care provision than their male counterparts, following logistic regression analyses, gender differences in psychological health, physical health, and caregiving stressors were small or very small in magnitude. Indeed, the experiences of men and women are becoming similar in more recent cohorts, although women still report higher levels of caregiving stressors (Pinquart & Sörensen, 2004). Pinquart and Sörensen (2011) found no differences in psychological distress between adult child caregivers and spouses, although spousal caregivers had higher levels of depressive symptoms, which was associated with lower age, lower educational attainment, being employed, lower informal support, worse physical health, and higher levels of support provision. Adult children reported more depressive symptoms than children-in-law but also reported more uplifts. These findings suggest that different groups of caregivers may have different needs and so require different interventions.

Sandwich caregivers are considered a separate group of caregivers that are caring for one or more dependent children and one or more aging parents. It is posited that these caregivers have differing needs when compared to adult child caregivers without dependent children or spouses (Schumacher, MacNeill, Mobily, Teague, & Butcher, 2012). This situation may be further complicated by the more recent phenomenon of young adults staying at home for longer and delaying the transition to adulthood. This suggests that consideration should be given as to what point in child rearing the sandwich caregiver may be; for example, if there is the full nest, emptying nest or empty nest (Mitchell, 2014). In this context, women were felt to experience more generational demand than their male counterparts, with the caregiving experience also shaped by sociocultural norms and ethnic backgrounds. For example, perception of competing demands was often seen through a cultural lens and was also influenced by the health status of the aging parent. Adult children who might be later in making the transition to adulthood also placed additional demands on caregivers, where resources were diverted from the aging parents to the young adult (Mitchell, 2014).

The issue of time emerges across a number of studies with sandwich caregivers identifying feeling squeezed and not having enough time to fit in all the responsibilities (Boyczuk & Fletcher, 2016; Mitchell, 2014; Schumacher et al., 2012). Schumacher et al. (2012) suggest that sandwich caregivers recognize they are on a journey starting with the need for reconciling life transitions, which normally occurred as the caregiving started for an aging parent. A small phenomenological study suggests that sandwich caregivers identify an ebb and flow to their caregiving responsibilities according to the needs of either their children or aging parents (Boyczuk & Fletcher, 2016). This creates the need to juggle changing parental demands with elder care responsibilities over time alongside external pressures such as work commitments (Schumacher et al., 2012). Increased stress is then more likely to emerge when something happens that upsets the balance of caregiving responsibilities such as an additional activity for children or hospitalization of an aging parent (Boyczuk & Fletcher, 2016).

Emotional strain and guilt of not being able to deliver care to either aging parents or dependent children is also draining for the sandwich caregiver (Boyczuk & Fletcher, 2016). Balancing the guilt of not being able to care for children, not being able to care for parents, and not being able to care for self, compounds the emotional drain felt (Schumacher et al., 2012). Difficulty in reconciling work and caregiving relationships is also known to predict greater role strain (Wang, Shyu, Chen, & Yang, 2011). The sense of not having control when caring for aging parents was cited as a stressor negatively impacting on the adult child caregiver's ability to provide care. For

example, parents might not want to relinquish control and then did not appreciate the strain being experienced by adult children as they had to juggle their day-to-day activities to react to eldercare requirements (Boyczuk & Fletcher, 2016). The sense of doing it alone or that other siblings are not providing sufficient support also impacts on the sense of frustration felt by sandwich caregivers (Boyczuk & Fletcher, 2016). However, when caregivers felt they were juggling everything at a good level, they were less likely to report caregiving strain (Mitchell, 2014). Caregivers with an empty nest or with parents who were in good health, reported gaining a sense of joy or fulfillment from their caregiving duties as they felt they were managing all responsibilities (Mitchell, 2014).

Leisure is considered a mechanism by which people generally counter stress and support coping in their daily lives. Finding time away from caregiving in leisure activities is problematic for many caregivers, but potentially more so for sandwich caregivers with two sets of caregiving responsibilities. For sandwich caregivers, the level of control they have over their choice of leisure is potentially more important than the type of activity chosen (Schumacher et al., 2012). However, for sandwich caregivers to establish control and then engage in leisure as a self-care activity, the formation of a social support structure was necessary. Social support enables the sandwich caregiver to recreate the caregiving journey to create time for themselves by modifying leisure opportunities to fit in with their caregiving responsibilities (Schumacher et al., 2012). This trajectory is not necessarily linear and may be interpreted alongside the concept of ebb and flow of caregiving responsibilities (Boyczuk & Fletcher, 2016). Social support or its absence was considered important in caregiver strain with those feeling more supported reporting less caregiver strain (Mitchell, 2014). The importance of partners in the support process has been recognized across studies although this might not always be available due to increasing demands on one partner for childcare when the other partner is involved in elder care (Boyczuk & Fletcher, 2016).

Another group of caregivers that may have competing family demands are those caring for people with young onset dementia. Young onset dementia is defined as the onset of dementia prior to age 65 but can occur as young as 30 years of age. It is not uncommon for people with young onset dementia to still have active parenting roles and employment responsibilities, which contributes to additional stress and financial strain (Van Vliet, de Vugt, Bakker, Koopmans, & Verhey, 2010). The needs of the person with dementia as well as the family caregivers will vary according to the stage of their life course, although the person with young onset dementia still needs to feel valued through worthwhile occupation (Brown et al., 2012). In a small qualitative study (Allan, Oyebode, & Allen, 2009), those with young onset dementia identify the lack of emotional availability for children and the parentification of the child's role in the family, which often created a strain in family relationships. In a prospective longitudinal study of 215 patient–caregiver dyads in the Netherlands, a cross-sectional analysis demonstrated that informal care was more than three times the amount of formal care (Bakker et al., 2013). Supervision or surveillance was reported by approximately 50% of participants and constituted the largest proportion in time, with the additional informal support primarily provided by children (53.3%; Bakker et al., 2013).

Millenaar et al. (2014) undertook a qualitative study with 14 child caregivers (adolescent children aged between 15 and 27 years) focused on the experience of living with a parent with young onset dementia. These children struggled with competing priorities of their caregiving responsibilities alongside their daily lives, particularly when the parent without dementia was under increasing strain. Needing help and advice from people who understood the conditions was important, particularly as not all children were involved in discussions with health care professionals. This subsequently will alter the family dynamics as children increasingly perceive themselves as taking the role of the parent with the parent living with dementia (Ablitt, Jones, & Muers, 2009). In particular, the child reports the loss of guidance provided by the parent with dementia and this loss may be felt keenly at all ages within the parent–child relationship.

Changing Family Dynamics

The role of the person with dementia will change as their abilities decline, which impacts family dynamics and relationships. This situation is particularly pronounced when family members need to take over previously unfamiliar roles. For young children, this is often around surveillance of the parent (Allan et al., 2009), and for spouses or adult children, this may include issues such as financial management (Tilse, Wilson, & Setterlund, 2009). In dementia, cognitive and procedural skills will be influenced by a range of factors such as the progression of the disease, the part of the brain affected, medications, ability to recall, and verbal communication (Moye & Marson, 2007). This is particularly relevant with the range of skills required for managing one's finances (Pinsker, Pachana, Wilson, Tilse, & Byrne, 2010). Financial management is an area that often signals a change in an older person's abilities and may impact on their sense of being able to maintain their own activities of daily living. Financial management is an area where adult child caregivers may step in and provide incremental support to older couples, one of whom may have dementia. This may be due to the parent usually responsible for finances developing ill health, cognitive decline, or as a result of an acute episode such as hospitalization (Tilse, Setterlund, Wilson, & Rosenman, 2005). Adult child caregivers providing this support will need to make assessments of capacity to decide what level of involvement in decision-making is needed to support their parent with dementia.

Internationally, many countries have legislation that provides for the presumption of capacity to retain the involvement of the person in decision-making. However, when working with older people, who may lack capacity, substitute decision-making rather than assisted decision-making tends to occur (Gardiner, Byrne, Mitchell, & Pachana, 2015; Tilse et al., 2009). This may be due to assumptions of incapacity based on ageist stereotypes, or a power imbalance within relationships (Tilse, Setterlund, Wilson, & Rosenman, 2007). The caregivers' assessment of capacity may influence their decisions to support the person with dementia in more informal ways such as by the paying of bills, and helping with withdrawals in financial matters (Tilse et al., 2005). Conversely, caregivers may restrict a person's autonomy based on assumptions of incapacity, increasing dependence (Pinsker et al., 2010). Furthermore, involving the person with dementia in decisions can be difficult for caregivers as the decision-making capacity of people living with dementia may fluctuate and change according to the situation and context (Moye & Marson, 2007). This does not mean that the person with dementia is unable to continue to make decisions or be involved in decisions that affect them (Samsi & Manthorpe, 2013). However, when managing financial assets, caregivers have reported difficulties in the time required to involve the person with dementia in decision-making, particularly when communicating complex information or when preferences are not able to be articulated by the person with dementia (Tilse et al., 2009). Caregivers may then engage in substitute decision-making by taking over the decision-making and not involving the person with dementia. This might not be an active decision but may evolve as the person with dementia is perceived as losing capacity to be involved in the decisions that are required. To maintain the person with dementia in decision-making requires caregivers' active involvement in retaining their relative's engagement through providing cues, reducing options, using retrospective information, and using the best interests' principle (Samsi & Manthorpe, 2013). Therefore, the interaction between the person's condition, the situation and personal relationships needs to be considered when supporting decision-making (Pinsker et al., 2010). This may create points of conflict between caregivers and the person with dementia as the caregiver may be making decisions that support their ability to cope, which may not be what the person with dementia wants. This change in decision-making capacity necessitates changing roles within familial relationships creating difficulties for the caregiver as they learn to manage their own needs in relation to the needs of the person they are caring for (Furlong & Wuest, 2008). This is further exacerbated as the person with dementia becomes less able to conform with expected norms of social relation-

ships, which may result in increasing isolation as the dementia progresses and the person with dementia loses the ability to maintain their own social relationships with increasing reliance on family caregivers. Caregivers may counter this social isolation by developing an informal network with other caregivers in a similar position. These networks sustain caregivers as they seek to maintain a place in the social world for themselves and the person with dementia (Daly, McCarron, Higgins, & McCallion, 2013).

Maintaining family relationships with the person with dementia has been highlighted as a key role by family caregivers (Ablitt et al., 2009; Quinn, Clare, & Woods, 2015; Yang, Liu, & Shyu, 2014). Mutuality between the caregiver and care-recipient such as love, shared values, shared pleasures, and reciprocity has been shown to reduce the impact of role strain, even when caregiving requirements are high (Yang et al., 2014), with less mutuality predicting greater role strain (Wang et al., 2011). Further to this, preparedness for the role and predictability of the caregiving situation are additional factors considered to moderate role strain in family caregivers with social resources supporting them to manage complex family relationships (Yang et al., 2014). However, Quinn et al. (2010) in a systematic review of motivation and meaning for caregivers of people living with dementia found limited studies that focused on the impact of family relationships.

The quality of the relationship between caregiver and care recipient is linked to the subjective well-being of both the caregiver and care-recipient (Ablitt et al., 2009). In a large (447 caregivers) cross-sectional study, positive pre-caregiving relationships were seen to influence the meaning of caregiving and were associated with positive outcomes (Quinn, Clare, McGuinness, & Woods, 2012). This suggests that understanding and working with caregivers' preexisting relationships with the person receiving care may influence caregivers' well-being. However, positive pre-caregiving relationships did not significantly predict variance in meaning (Quinn, Clare, & Woods, 2012). Indeed, only 39% of variance was explained by familial relationships, with a greater link being shown between caregiver competence and meaning, suggesting that how caregivers perceive their role can have a positive effect on the meaning derived from caregiving (Quinn, Clare, & Woods, 2012). Therefore, interventions that enable caregivers to feel competent in their role within the context of family relationships may support improved outcomes (Quinn, Clare, McGuinness, & Woods, 2012).

Often the reasons people become caregivers are developed through relationships within families featuring issues such as moral obligation, duty and love, or guilt (Quinn et al., 2015). The quality of the caregivers' daily relationships and the development of closer relationships have been identified as positive outcomes of the caregiver role (Carbonneau, Caron, & Desrosiers, 2010; Nolan, Grant, & Keady, 1996). As caregiving occurs over time with the abilities of the person being cared for generally diminishing, relationships within families and between caregivers and the care-recipient will change (Ablitt et al., 2009). Quinn et al. (2015) interviewed 12 family caregivers to understand the subjective experience of this change in relationships. This included not only changes to ability but also changes in personality and mood that were very different to the person they once knew (Quinn et al., 2015). This included a loss in the mutually supportive nature of the relationship where at times the caregiver could feel overwhelmed at having to make all the decisions and at times censoring information shared with the care receiver. It was at this point the caregivers' relationship of spouse or daughter changed to one of caregiver. Then a balance had to be found between involving the person with dementia in activities and decisions and the needs of the caregiver. Trying to achieve this balance often resulted in strained relationships. Even when the situation became increasingly difficult, caregivers described how the meaning they derived from being a caregiver buffered this struggle (Quinn et al., 2015). Changes in relationships over time also occur between spouses when one is involved in caregiving. For example, in a longitudinal study of 20 couples one of whom had dementia using grounded theory methodology, Hellstrom, Nolan, and Lundh (2007) found an iterative cycle of relationship change: (1) sustaining couplehood reflecting the efforts of both partners to maintain

the quality of their life—as might be anticipated, this was more prevalent in the earlier stages of dementia; (2) maintaining involvement often occurred simultaneously with sustaining couplehood but as the dementia progressed, this moved from a shared activity to one initiated by the caregiver; and (3) moving on was noted towards the end of the study as the person with dementia was no longer able to be as actively involved in the relationship as they once were. Some caregivers no longer saw themselves as a couple at this point, although others still engaged in activities where the sense of being a couple was still maintained. Similarly, most studies focus on the perspective of the caregiver, with limited studies focusing on the loss of role of the person with dementia. A distinct gap in the research is on how aspects of the role as a parent or grandparent might be maintained in the presence of dementia.

While studies focusing on the relationship between the caregiver and care-recipient are very important to understand the dynamic and context of caregiving for the primary care receiver and care-recipient, such relationships occur within a broader family context. Indeed, studies have found that dementia becomes a shared challenge across the family (Allan et al., 2009). Although caregivers may express unmet needs in extended family relationships, few caregivers are able to identify what it is they need from their family relationships (McCabe, You, & Tatangelo, 2016). For some caregivers, this may mean further isolation from family networks when other family members are perceived not to understand the issues associated with dementia and either provide unhelpful contact or withdraw (Daly et al., 2013). There remains limited research in this area (Ablitt et al., 2009; Brooker, La Fontaine, Evans, Bray, & Saad, 2014) and while relationships in families have been found to be beneficial for those experiencing mental health issues or other chronic conditions, there is limited gerealizability to supporting people with dementia due to the difference in cognitive abilities and the trajectory of the condition (Brooker et al., 2014).

In a systematic review and meta-synthesis of family relationships in dementia care, all studies focused on care dyads; either spouses or daughters, with limited discussion about the impact on other family members (Brooker et al., 2014). However, Celdran, Villar, and Triado (2012), involved 145 grandchildren (89 girls and 56 boys aged between 14 and 21 years) who had a grandparent with dementia in a mixed methods study located in Spain. Only 38.2% of this sample perceived their life was different due to having a grandparent with dementia and this response was influenced by cohabitation with the grandparent. This was primarily due to the change in family routines, which meant the grandchild was unable to engage in activities such as homework or going out with friends due to responsibilities of looking after their grandparent. Most of the adolescents identified how their parents supported them in actively maintaining a relationship with their grandparent with dementia and coping with the condition. Twenty participants reported an improvement in their relationship with the grandparent who did not have dementia due to emotional closeness and supporting that grandparent. However, eight participants reported a negative impact when the grandparent gave all of their attention to their spouse with dementia, resulting in the grandchild feeling neglected. However, there was no perspective provided about the loss of role from the grandparents' perspective. The complexity of relationships between grandchildren, grandparents with dementia, and the parents suggests a family systems perspective might be helpful in understanding relational dynamics in the wider family (Celdran et al., 2012).

Family systems perspectives posit that families have a hierarchical structure comprised of subsystems capable of self-stabilization to compensate for changing environmental conditions and self-organization to adapt to these changes, resulting in the whole being more than the sum of its parts (Cox & Paley, 1997). The subsystems within families generally focus on the level of relationships such as parent–child, marital relationships, siblings, adult children, and grandparents. However, the family system also operates in a wider family and community context with the potential to impact on the self-adaptive function of the immediate family. For example, what constitutes a family in terms of caregiving in the

twenty-first century has also been largely underexplored in the literature. This absence is particularly notable when considering caregiving from the perspective of Lesbian, Gay, Bisexual, Transgender, or Intersex (LGTBI) relationships. Indeed, Brotman, Ryan, and Cormier (2003) suggest that the needs of Gay and Lesbian individuals and their families remain largely ignored in health and social care services where heterosexual relationships are considered normative. Many LGTBI elders have fictive kin resulting in wide social networks that do not conform to the usual definitions of family but provide an opportunity for people to feel valued and safe (Crameri, Barrett, Latham, & Whyte, 2015). However, the failure to recognize these relationships results in older people being marginalized within services, with caregivers not being recognized or supported. This is further complicated in some countries through structural inequality with the lack of legal recognition for same sex partnerships and marriage. To develop inclusive services requires an understanding of culture and identity and how it permeates every aspect of our lives. Cultural safety is of particular importance for older LGBTI couples in Australia where homosexuality was identified as a mental disorder until 1973 and considered a criminal offence until 1997. This means older people may have experienced enforced *cures* or detention as younger people and continue to be fearful in heteronormative aged care services and so hide their sexuality (Barrett, Whyte, Comfort, Lyons, & Crameri, 2015). To address this issue in Australia, the National LGBTI Ageing and Aged Care Strategy was released in 2012 to ensure all Australians received fair and equitable health care services (McPhail & Fulop, 2016). This reform supports the recognition that LGBTI people have special needs and require additional support to build safe social networks as they age (Barrett et al., 2015).

Cox and Paley (1997) suggest that targeting family interventions at times of transition might maximize the value of an intervention, as this is when families may be adapting to the external and/or internal environments. When applying this theoretical construct to supporting a person living with dementia and their families, understanding how the role of parent or grandparent might be changing for the person with dementia and the impact on family relationships and dynamics will enable practitioners to consider how best to support all family members. For example, different members of the family becoming more involved in caregiving duties may change the family dynamic, resulting in family conflict and relational problems as roles change (Van Vliet et al., 2010). Equally, when considering the family as a system, we can see that the needs of child caregivers are very different to their parents although all relationships within the family are interdependent (Millenaar et al., 2014). Adult children may also be supporting the spousal caregivers as age deterioration occurs which may impact on their ability to involve the person with dementia in decision-making, even though they may have the capacity to do so. The interplay between relationships and impact on the wider family are rarely acknowledged within the literature, and may not be seen as relevant by services that are focused on the needs of the person with dementia. However, there are multiple interdependent care roles within families supporting a person with dementia in their role as partner, parent or grandparent. Therefore, understanding the interplay and quality of relationships between the person with dementia and other family members as part of an assessment process may enable services to identify more relevant interventions to support the older person, their caregivers, and the family as a whole. For example, increasing the mobility of an older person, with or without dementia through hip and/or knee surgery might make a key difference in their ability to be more involved in social gatherings and maintain a grandparenting role with younger children. Equally, enabling an older person with dementia to undertake regular exercise may also improve cognitive function and so enable them to maintain a more active role as parent/grandparent. However, ongoing support for older people to maintain family roles invariably comes from within the family and so supporting family caregivers is integral to promoting the continued role of older people with declining function as active members of the family unit.

Interventions to Support Caregivers

In a systematic review of caregiver needs, McCabe et al. (2016) suggest that caregiver needs fall into two broad categories: managing the care-recipients' needs and how to manage the caregiver's own personal needs, including maintaining their physical and psychological health. A range of multicomponent interventions have been developed over time to address the complexity of caregiver needs to facilitate the person with dementia living in the community for longer. These interventions involve a number of different components, which makes them difficult to compare (Parker, Mills, & Abbey, 2008). Two reviews suggest that multicomponent interventions influenced time to institutionalization for the person with dementia, but found no statistical significance in other areas (Olazarán et al., 2010; Pinquart & Sörensen, 2006). However, a range of systematic reviews show limited evidence of effectiveness of interventions directed primarily at caregiver needs (Parker et al., 2008; Pinquart & Sörensen, 2006; Schoenmakers et al., 2010). Three key multicomponent interventions featured in these systematic reviews individually demonstrate positive effects for a range of caregiver outcomes: New York University Caregiver Intervention (NYUCI), the Resources for Enhancing Alzheimer's Caregiver Health (REACH), and the Seattle Protocols. Although not all outcomes were reflected in the systematic reviews when data were pooled, each of these interventions have a psycho-educational component considering issues of family relationships and as such, warrant closer examination.

New York University Caregiver Intervention (NYUCI)

NYUCI was developed and tested by Mary Mittelman and colleagues at New York University using a large randomized controlled trial (RCT) between 1987 and 2009. The intervention focused on counselling and support. Caregivers received six counselling sessions within the first 4 months of diagnosis, as an individual and with the wider family. This was followed by continuous participation in a support group over the course of the dementia journey with ad hoc counselling when requested by the caregiver or another family member (Mittelman, Epstein, & Pierzchala, 2003). This intervention demonstrated significant effects on depressive symptoms of the caregiver for up to 3 years (Mittelman, Roth, Coon, & Haley, 2004) and significantly improved caregiver reaction to problem behaviors (Mittelman, Roth, Haley, & Zarit, 2004) when compared to caregivers not receiving the intervention.

The family counselling sessions in NYUCI were aimed at enabling caregivers to mobilize social support from within their network (Drentea, Clay, Roth, & Mittelman, 2006) ensuring other family members provided more concrete assistance with caregiving and emotional support (Roth, Mittelman, Clay, Madan, & Haley, 2005). This increased the social support network for caregivers, increasing satisfaction with emotional support and practical assistance from family and friends (Roth et al., 2005). This level of satisfaction was attributed in part to having socially supportive contacts come into the home to provide emotional support, providing psychological respite for the caregiver (Drentea et al., 2006). Caregivers also reported a positive impact on their physical health (Mittelman, Roth, Clay, & Haley, 2007). Furthermore, the intervention significantly delayed admission into residential care (Mittelman, Haley, Clay, & Roth, 2006) and was also found to support the transition to institutionalization when it occurred (Gaugler, Roth, Haley, & Mittelman, 2008). As this intervention was trialed over a twenty-year period, it was also able to explore the impact on the caregiver following the death of the person they were caring for and found reduced depressive symptoms in the caregivers in the intervention group before and after bereavement. This suggested resilience in the intervention group that was not present in the control group (Haley et al., 2008).

Resources for Enhancing Alzheimer's Caregiver Health (REACH)

REACH was initially a multisite intervention designed to test out a number of interventions for caregivers based on the stress-health model (Schulz, Burgio, Burns, Eisdorfer, & Gallagher-Thompson, 2003). Across six sites, involving 1222 caregivers and care-recipients, interventions were focused on each aspect of this model and included: Individual Information and Support Strategies, Group Support and Family Systems Therapy, Psycho-educational and Skill-Based Training Approaches, Home-Based Environmental Interventions, and Enhanced Technology Support Systems (Schulz et al., 2003). The REACH studies were then combined into a single intervention known as REACH II that consisted of 12 in-home and telephone sessions for a period of 6 months where different behaviors were identified and prioritized and the caregiver was supported in being able to engage in pleasant activities that were meaningful and tailored to the person with dementia's remaining abilities relevant to the function of the care-recipient. This intervention demonstrated significantly greater improvements in quality of life (as measured by indicators of depression, burden, social support, self-care, and patient problem behaviors) and a reduction in rates of clinical depression between the intervention and control groups. Institutionalization of care recipients did not differ statistically, although rates of placement were higher in the control group than in the intervention group (Belle et al., 2006). Improvement was also seen in caregivers' self-perceived health within the intervention group suggesting that positive experience in caregiving and satisfaction may have health-enhancing effects on caregivers' self-perceived health (Basu, Hochhalter, & Stevens, 2015).

Seattle Protocols

The Seattle Protocols have been developed to support family caregivers in managing behavioral and psychological symptoms of dementia through targeted individualized, person-centered approaches (Teri et al., 2012). Lind Teri and colleagues developed an intervention that recognizes the person–environment fit and encourages family caregivers in identifying triggers that may prompt behavioral issues that caregivers find difficult to manage and then consider different ways of supporting the person with dementia. The protocol focuses on current, observable interactions within the unique psychosocial context (Teri et al., 2012). Caregivers are asked to identify three behaviors they would like to change and rate these on how problematic they are and how often they occur. Strategies for changing the antecedents or consequences are discussed and a behavior modification plan agreed upon. Ways of increasing pleasant events, developing caregiver communication and support were also explored over the time of the intervention (Teri et al., 2005). Following this intervention, caregivers had significant reductions in self-reported depression, subjective burden, and reactivity to behavior problems and reported that the care recipient had a higher quality of life than those who were not in the active group (Teri et al., 2005). This study is particularly noteworthy as it was delivered in real world practice environments by non-researchers.

Strengths and Limitations of the Literature

Family caregivers are becoming increasingly important in the support of older people or people living with chronic and life-limiting conditions such as dementia. There has been a developing body of research over the past 40 years focusing on the needs of family caregivers and more recently, the care-recipient within the dyadic care relationship. Studies have been both quantitative and qualitative with a developing evidence base of systematic reviews incorporating either meta-syntheses or meta-analyses. Although there has been quality research developing and testing interventions for caregivers with good levels of fidelity, each

group of studies has their limitations. For example, although NYUCI conducted a large RCT over 20 years, this was not an ethnically diverse population. Alternatively, REACH II had equal numbers of White, African American, and Hispanic caregivers but was limited by only having one immediate follow-up, so it is difficult to say whether this intervention would have sustained benefits.

Studies have also focused on different caregiving relationships along with both the positive and negative impacts of the caregiving relationship, with sufficient evidence for systematic reviews and meta-analyses. For example, Pinquart and Sörensen (2004) suggest well-being might be protected if the caregiver receives sufficient uplifts from caregiving and can find time to undertake activities external to the caregiving relationship. This challenges the perceived notion that reducing strain is the only option to support caregivers. However, there still remain few longitudinal studies that consider the trajectory of caregiving or studies that consider the breadth of relationships impacted by caregiving. There are limited studies on the different types of adult child caregivers: sons, daughters, or daughters-in-law (Pinquart & Sörensen, 2004) or on male caregivers specifically (Greenwood & Smith, 2015).

Throughout this chapter, we have seen the breadth of caregiving experiences and how these differ according to the life stages of the caregiver and the person living with dementia. Pinquart and Sörensen (2011) for example identify the different needs between adult child caregivers, in-laws and spouses, suggesting that different groups of caregivers may require different interventions. This is particularly relevant to the growing cohort of people living with young onset dementia where the impact of caregiving across different family relationships requires further exploration. For example, Brown et al. (2012) suggest that person-centered services including whole of family support and communication in planning, delivery and transition points is critical for future development. This is particularly important for LGBTI communities where there exists limited evidence.

Future Directions for Research, Policy and Practice

Returning to the broader issues of the changing relationships that occur as children become more aware of the aging of their parents, as discussed earlier in this chapter, adopting a biographical approach to assessment may support greater levels of partnership, working not only with professionals, but also within families (see Box 1). Working with older people and their families prior to or early in the caregiving journey may support all parties to effectively communicate their goals and aspirations enabling family relationships to adjust to the changing roles. For example, older people may be sought out in times of decision-making or crisis to ask for advice and guidance by children or grandchildren. This may be a source of pride and provides a sense of coherence and meaning for an older person. The

Box 1 Partnership Working

In working with older people including those living with dementia and their caregivers, adopting a biographical approach has been suggested as an integral mechanism for developing positive relationships and ensuring the service or intervention meets the needs of everyone in the relationship (Brown Wilson, 2017). By valuing the stories people share, all professionals gain a better understanding of the person with dementia's attitudes, feelings, concerns, and expectations, as well as those of the family (Brown Wilson, 2012). Recognizing and valuing the stories people share ensures assessment is informed by these stories, which in turn can acknowledge the role of family caregivers within the professional relationship, thus promoting partnership working.

Partnership working is considered key in supporting caregivers, irrespective of the intervention (Gaugler, Potter, & Pruinelli, 2014). In this context, the partnership is

(continued)

Box 1 (continued)

with the person with dementia, families, and service providers who welcome and respect each other's input and observation. A key feature of partnership working is communication that values the input from the person with dementia and the family caregiver in the context of the professional team (Gaugler et al., 2014). When involved as partners, the person with dementia and family caregivers feel safe to ask questions until they feel fully informed to make the best decisions and are not afraid to disagree with providers, expressing their own opinions and their goals for treatment and care. For this to occur, Nolan et al. (1996) suggest that trust needs to exist between caregivers and professional teams. As the caregiver has lived with the changing demands of the care-recipient, it is suggested that caregivers become experts in working with the care-recipient and this expertise needs to be acknowledged by professional teams (Nolan et al., 1996).

Although many services operate multidisciplinary teams where all members share what they are doing with other team members thus ensuring all needs of the person receiving the service are met, the ability to work collaboratively remains underdeveloped, particularly when considering the issue of supporting the person with dementia and their caregiver, in the context of the wider family and community structures.

loss of this role alongside changing physical and cognitive abilities may adversely impact on the older person's well-being resulting in reduced mood. Furthermore, as abilities decline, social interaction may become more problematic resulting in increasing social isolation for the older person and their partner, within and external to the family. These are important areas for professionals to consider as they assess family and social support for older people and caregivers. One example might be to consider group counselling methods with family and friends of the person receiving care, thus facilitating open communication of the care needs and enabling the person receiving care to not only be heard but also to hear the concerns and strains on the wider family network. When older people have impaired communication, involving speech pathologists in working with family and friends to become more effective conversation partners might improve the sense of competence for the caregiver as well as maintaining relationships and social identity for the person receiving care, thus preserving their wider social support network.

Considering social support from a community perspective might also enable family and friends to identify how they might maintain or develop opportunities for pleasant events shared with the person receiving care particularly if they have a diagnosis of dementia. There are a number of groups for example, that facilitate events for people living with dementia and their caregivers. Dementia Adventure is a company that provides the opportunity to connect the person with dementia and their caregiver with nature and a sense of adventure (http://www.dementiaadventure.co.uk). Also, there are Art and Dementia programs internationally that provide an opportunity for people with dementia with their caregivers to enjoy art while being supported in public spaces (https://nga.gov.au/artdementia/). While community activities such as these might not be considered interventions, they provide an opportunity for the person with dementia and their caregiver to remain connected in the community with the potential to make wider social networks with people having similar experiences with similar interests.

Proactively supporting the development of social networks might also enable caregivers to find more support when negotiating difficult decisions with the person they are caring for or when involving them in decision-making. This can be difficult when considering the issues of children taking over what the parent may consider to be their responsibility or if an aging

spouse was the person used to making all the decisions in a family unit. The role of the professional in supporting family caregivers in involving the person they are caring for in decision-making is also an underexplored area of practice and research. Even when a person has severe cognitive impairment, they are still able to be involved in decision-making, although many family members might not recognize this. Working collaboratively with the person receiving care and the family caregiver as part of the interprofessional team has the potential to facilitate the decision-making process, ensuring all voices are heard and all concerns and aspirations are responded to.

Conclusions

Throughout this chapter, we see the importance of relationships as people age and how their role in the family and wider community changes due to frailty, or disability such as dementia. However, the older person even with increasing levels of frailty is still able to retain an active role as parent/grandparent or great grandparent. With increasing levels of disability, it is important that this is recognized by the wider family unit and these roles continue to be facilitated in ways that are meaningful for the older person. The impact on an older person's identity and the role that social networks play in maintaining the roles has been explored. The central role that caregiving plays in maintaining the sense of social connection for older people, particularly those living with dementia cannot be overstated. The increasingly important role that caregivers play in supporting older people to remain living in the community means that appropriate levels of support need to exist for caregivers alongside the person receiving care. Caregivers also require relational support from family, social networks, and the wider community, and we have seen there are a range of caregivers within family networks, all with differing needs. However, across studies there is a common thread that caregivers need to feel a sense of competence and maintain activities that give their lives meaning. This suggests interventions for people receiving care within the community need to also consider relationships with the caregivers, family, and wider social support networks. Understanding who is family and where the support lies is crucial if we are to provide inclusive services. A range of multicomponent interventions have been developed and tested across diverse communities within the US, with each study demonstrating a person-centered perspective, enabling the intervention to be tailored to the caregiver and the person with dementia. There is limited evidence of translation across studies with the exception of REACH II that has been translated for specific groups, such as REACH-VA (Nichols, Martindale-Adams, Burns, Graney, & Zuber, 2011) and REACH-OUT (Burgio et al., 2009), and internationally (Cheung et al., 2015; Heinrich et al., 2015).

The current model of support tends to focus on caregiver strain, intervening when health or ability to care is affected, often ignoring the abilities of the person with dementia. The evidence base for supporting family caregivers is focused at this point of the caregiving trajectory, generally when caregivers come to the attention of services. The meta-analyses reviewed in this chapter have not demonstrated many statistically significant effects, which challenges us as professionals to review this continued approach. Therefore, considering caregiving as a journey with ebbs and flows that affect everyone in the wider family and social support network might be a more effective way to conceptualise how professionals might provide support for caregivers and the person with dementia. The challenge for professionals is to identify how the relationships within the family might be developed and supported to enable older people to make the transition from the sense of achievement as parents in later life to communicating their goals and aspirations as they age.

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Part V

Supporting Parenting

The Impact of Poverty and Discrimination on Family Interactions and Problem Development

Jean K. L. Lee, Anthony Biglan, and Christine Cody

Introduction

In this chapter, we discuss the impact of poverty and discrimination on family functioning and child and adolescent development. Research on family interventions has identified numerous programs that have shown benefits in improving family interactions and preventing problem development (e.g., McMahon & Pasalich, 2018; Sanders & Burke, 2018). The primary focus of these interventions is on helping parents adopt ways of interacting with their children that are more effective. The success of these programs attests to the impact of family interactions on child and adolescent development. However, we must consider other distal influences if our efforts to increase the prevalence of nurturing families are to be completely successful. In this chapter, we focus on two of the most important distal influences—poverty and discrimination. We review evidence of the impact of these factors on families and on child and adolescent development, paying particular attention to how poverty and discrimination may affect development due to their deleterious effect on the quality of family interactions.

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Growing up in chronic poverty or in areas of persistent poverty brings a myriad of risks and lost opportunities, making it difficult to break out of the poverty cycle (Patterson, Reid, & Dishion, 1992; Ratcliffe & McKernan, 2010; Silver, Mijanovich, Uyei, Kapadia, & Weitzman, 2011). Family relationships are important in childhood development; stress from environmental factors, such as poverty and discrimination, affects those relationships. As a result, the health of family members suffers. Poverty is a risk factor for many physical and mental disorders (NRC & IOM, 2009) and is particularly harmful to most aspects of child development (McLoyd, 1998).

Living in areas of high poverty affects children, even if they themselves are not living in poor families. In high-poverty neighborhoods, the impact becomes evident in lower birth weights, infant mortality, child abuse, injuries, teenage pregnancy, high school dropout rates, and increased criminal activity (Bradley & Corwyn, 2002; Sherman, 1994). Similarly, children attending schools with a higher proportion of poor children have an increased risk of poverty in adulthood, regardless of their own individual economic status (Rank & Hirschl, 2001a, 2001b).

This chapter focuses on families in the US. We do this for several reasons. First, the US has a particularly high rate of poverty despite its standing as one of the world's wealthiest countries (Organisation for Economic Cooperation and Development [OECD], 2017). Second, there is

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considerable research in the US on the impact of poverty on families and children. Third, the US appears to be leading a trend toward the adoption of free-market policies that are increasing poverty and, perhaps, discrimination (Hacker & Pierson, 2010, 2017). Indeed, Sweden has experienced the greatest increase in economic inequality of OECD countries since the 1980s, thanks to the adoption of policies consistent with free-market principles (OECD, 2015). Finally, perhaps because the trend toward greater poverty and economic inequality is growing, the evidence about the problem in the US provides a cautionary tale for nations around the world as to the dangers of allowing family poverty and discrimination to increase.

The Nature of Problem Behaviors

Problem behaviors of children and adolescents are some of society's most costly problems. The most common problems include antisocial behavior; tobacco, alcohol, and other drug use and abuse; risky sexual behavior; dropping out of school (Biglan, Brennan, Foster, & Holder, 2004); and depression and suicide (Thapar, Collishaw, Pine, & Thapar, 2012).

These problems place a high cost on society, including immediate and long-term healthcare needs, destruction to personal property, and negative financial impact on employers and on the workforce. In 1998, the total estimated cost in the US of all youth with multiple problems was US $507 billion, adjusted for inflation (Miller, 2004).

Adolescent problem behaviors are interrelated; a young person with one problem is likely to have other problems (Boles, Biglan, & Smolkowski, 2006). The seriousness of each problem increases with the number of problems, and having multiple problems makes behavioral improvement less likely (Biglan et al., 2004).

Essentially, these problems stem from the same environmental conditions (Biglan et al., 2004). Family interactions are well-established proximal influences on problem development (NRC & IOM, 2009). However, there are also distal environmental influences, including poverty (Biglan, 2015a, 2015b), discrimination (Brody et al., 2001), and neighborhood deprivation (Shaw et al., 2016).

In the next section, we describe the features of family interactions that affect development. Following that, we describe how poverty and discrimination influence family interactions. We then review evidence about the extent to which the impact of poverty and discrimination on family interactions mediates the impact of these same problems on development.

The Role of Family Interactions in the Development of Problem Behavior

Family relationships and interactions can lead a child to either a successful trajectory or one that leads to the development of multiple problem behaviors. Three aspects of family interactions are particularly important influences on the development of child and adolescent problem behavior. One influence is coercive interactions between parents and children, which make problem behavior more likely. On the other hand, positive reinforcement in interactions between parents and children fosters the development of myriad prosocial behaviors and verbal and cognitive skills. Yet another parental influence on children and adolescents involves engagement with children, monitoring, and setting limits consistently and in non-harsh ways.

Coercion and Its Impact

Coercion involves using aversive behavior to influence others (Dishion & Snyder, 2016). This has evolutionary roots: the survival of organisms improved if their responses to threats led effectively to avoiding them. Thus, humans and other organisms have evolved patterns in which they are quick to learn behaviors that enable them to end or avoid threats. If children whine or become angry when their parents ask them to do something, their parents may find the child's behavior aversive and will stop asking. If that ends the

children's anger, the parent feels reinforced for backing off. That, in turn, may reinforce the child for getting angry or whining. This aversive behavior repeats the next time the parents request something the child does not want to do.

With repeated exposure to coercive interactions, children learn aggressive ways to get what they want and do not learn skills such as taking turns, self-regulation, and impulse control (Capaldi, Pears, & Kerr, 2012; Patterson, 1982). Children who develop aggressive behavior and other conduct problems are more likely to do poorly in school. They may not do what the teacher asks, and as a result do not learn as much. If they are aggressive with peers, their peers are likely to reject them. Rejected children often befriend other rejected children and form deviant peer groups. These groups become training grounds for multiple problem behaviors (Patterson et al., 1992). As adolescents, these children also begin to participate in costly problem behaviors, such as drug abuse and antisocial behavior (Biglan et al., 2004). When they become adults, they are more likely to argue with their partners, get divorced, and raise children who have the same problems (Biglan et al., 2004), which make it difficult to escape from the cycle of coercive interactions and poverty (Van Ryzin, Fishbein, & Biglan, 2017).

Positive Reinforcement

On the other hand, children learn a variety of prosocial behaviors if parents richly reinforce positive behavior (Biglan, 2015a). Because parents seldom consider things like paying attention or playing with their children as reinforcement, it may be more useful to call them positive behavior support. In any case, the evidence is clear that, when parents and children have high rates of positive interactions, it benefits the child's development (Biglan, 2015a).

In particular, experimental evaluations of the effects of parent training programs show that such interventions typically increase the number of positive interactions between parents and children (Biglan, 2015a). Ample evidence indicates that these types of interactions contribute to children's prosocial development (e.g., Dishion et al., 2014; Patterson, DeGarmo, & Forgatch, 2004).

Monitoring and Limit Setting

Parents can increase and improve involvement with their children and guide their children's development of prosocial behavior by monitoring the behavior and setting limits. Monitoring includes framing rules and expectations and then knowing where their children are, what they are doing, and how they are progressing in their activities. Limit setting involves setting clear expectations in a non-harsh way, and providing mild but consistent negative consequences when the children fail to meet set limits. Dishion and McMahon (1998) reviewed the evidence that monitoring and limit setting are critical in preventing the development of diverse problems in adolescence.

The Impact of Poverty on Families

The Census Bureau's 2014 estimates indicated that 14.8% of Americans (46.7 million) lived in, or close to, the poverty level (DeNavas-Walt & Proctor, 2015). According to DeNavas-Walt and Proctor, "for the fourth consecutive year, the number of people in poverty at the national level was not statistically different from the previous year's estimates" (2015, p. 12).

The OECD looks at poverty in a way that allows comparisons among countries: it calculates the poverty line as half the median household income of the total population of each country. The number of people whose income falls below the poverty line over the total population is the poverty ratio. In 2014, the US had one of the highest rates of poverty, followed by Mexico, Korea, Australia, and the Netherlands (OECD, 2015).

Poverty is a risk factor for physical, psychological, and behavioral problems. A 2012 brief from the National Center on Health Statistics stated that 60% of adults with an income below 130% of the poverty line had one risk factor of

high cholesterol, high blood pressure, or smoking for cardiovascular disease (Fryar, Carroll, & Ogden, 2012). In comparison, only 40% of more affluent people in the population have these same risk factors (Fryar et al., 2012).

Children raised in poverty have a greater risk of heart disease as adults (Galobardes, Lynch, & Davey Smith, 2004, 2008). This appears due to inflammatory processes caused by stress responses at a young age (Miller, Chen, & Parker, 2011). If these children escape poverty as adults, they still have a 20–40% greater risk of heart disease (Miller et al., 2009). However, Miller et al. (2011) found that children raised in poverty who reported having nurturing mothers did not have increased cardiovascular risk.

Children living in poverty also have a greater risk for psychological and behavioral problems. They have a greater risk of academic failure, antisocial behavior, drug abuse, and poverty in adulthood (Biglan, 2015a, 2015b; Biglan et al., 2004; NRC & IOM, 2009). Childhood poverty can also lead to depression; Tracy, Zimmerman, Galea, McCauley, and Vander Stoep (2008) found that children aged 11–13 years who were living in poverty had significantly more symptoms of depression. Parental divorce or separation and lowered levels of parental support mediated the effect of poverty on depression.

Evidence indicates that living in high-poverty neighborhoods has effects over and above the effects of a family's poverty. Neighborhood deprivation is associated with higher rates of academic failure, chronic health conditions, and antisocial behavior (Magnuson & Votruba-Drzal, 2009).

The Influence of Poverty on Family Interactions

One of the most important pathways from poverty to child and adolescent problem behavior may be through the effects of poverty on coercion in families. In a 2008 study, Conger and Conger found that Iowan farm families who experienced devastating loses in their income due to a reduction in farm prices had significant increases in parental stress and depression, marital conflict, and coercive interactions with their children. Conger, Conger, and Martin (2010) reviewed the evidence regarding the impact of family economic hardship on family functioning. They identified four studies with differing ethnicities (African American, Chinese American, Mexican American, and Finnish), all of which found "positive and statistically significant paths from (a) indicators of economic hardship to economic pressure; (b) economic pressure to parent emotional distress; (c) parent emotional distress to conflicts between parents; (d) conflicts between parents to disruptions in effective parenting behaviors; and (e) disruptions in parenting to child maladjustment" (Conger et al., 2010, p. 692).

The studies reviewed by Conger et al. (2010) did not explicitly show that coercion in parent–child interactions is the mechanism through which disrupted parenting affects child maladjustment, but the above-cited study by Conger and Conger (2008) did show this. In addition, an earlier study by Conger, Ge, Elder, Lorenz, and Simons (1994), which studied a sample of 378 adolescents over three years, found that economic difficulties had an association with increased spousal irritability and coercive exchanges over money matters. It found in turn that these economic difficulties led to hostile interactions between parents and children, and a greater number of emotional and behavioral problems of the adolescents. In addition, Erel and Burman (1995) found associations between marital conflict and parent–child conflict.

The Influence of Poverty on Positive Support

Despite the overwhelming evidence of the value of increasing positive reinforcement in families (e.g., Dishion et al., 2008), we have found no studies of the relationship between family poverty and rates of positive reinforcement. Conger et al. (2010) did find an association between poverty and disrupted parenting. While this may reflect a reduction in rates of positive reinforcement, the studies they reviewed did not directly observe family interactions.

The closest we have been able to find is the work of Hart and Risley (1995), who observed interactions between parents and young children in a sample of parents with varied incomes. They found that parents in families receiving welfare spoke with their children significantly less frequently than those parents who were able to earn higher incomes. In particular, they said fewer positive, encouraging things to their children. The lack of evidence on this issue points to the need for precise studies of the ways that poverty affects the rates of positive reinforcement in families.

The Influence of Poverty on Monitoring and Limit Setting

At least three situations could contribute to an association between family poverty and lower levels of parental monitoring. First, to the extent that poverty increases coercive parent–child interactions, it may undermine monitoring because parents who frequently conflict with their children simply may learn to avoid confrontations that might arise if they began to set limits on the children. A 2000 study by Kilgore, Snyder, and Lentz endorses this notion. They found that, among African American families, coercive interactions and lower levels of parental monitoring mediated the relationship between lower family income and children's conduct problems.

Second, parents living in poverty may have less time available to monitor their children effectively. This paucity of time may arise from having to work more than one job; or in other instances, single parents may be raising the children, leaving little time for effective monitoring and limit setting.

Third, children from families living in high-poverty neighborhoods live in less safe environments (Levitt, 1999), neighborhoods posing greater challenges for preventing problem behavior. Pettit, Bates, Dodge, and Meece (1999) studied the predictors of externalizing problems among early adolescents. They found that such behavior increased between grades six and seven as a function of decreased neighborhood safety, unsupervised contact with peers, and low levels of parental monitoring.

It therefore seems clear that poverty is a risk factor for the development of most child and adolescent problems, and that one of the most important ways in which poverty influences these outcomes is through its impact on parent–child interactions. Poverty makes coercive interactions more likely, appears to reduce the likelihood of positively reinforcing interactions, and undermines monitoring and setting limits. All of these factors make it confounding that more research is not available on these apparently causal pathways. One simple implication of this evidence is that family interventions provided to poor families should target these three aspects of parent–child interactions.

Poverty as a Moderator of the Effects of Parenting Interventions

Evidence indicates that poverty may make it less likely that families will benefit from family interventions, although the evidence is not clear-cut, and there is evidence that families living in poverty can still benefit from such interventions. A meta-analysis conducted by Lundahl, Risser, and Lovejoy (2006) found that the effect sizes for changes in children's behavior, parents' behavior, and parental perceptions were significantly lower for families with lower socioeconomic status. Changes in children's behavior were also significantly lower in studies with a greater proportion of single-parent families.

Evidence also indicates that families living in neighborhoods of concentrated poverty may be less likely to benefit from family interventions. Shaw et al. (2016) assessed the impact of the Family Check-Up in neighborhoods that varied in their level of deprivation. The Family Check-Up is a brief non-stigmatizing family intervention that identifies parents' concerns about their children, provides positive feedback about effective parenting practices, and recommends ways to address parents' concerns. The authors measured neighborhood deprivation with an eight-item scale that included percentage of families below the poverty level, crowding in house, percentage of single-mother households, and percentage of unemployed adults. Shaw et al.

found that young children living in neighborhoods of high deprivation were significantly less likely to benefit from the program, in terms of its preventing teacher-rated aggression at age 9.5. At the same time, however, the families in highly deprived neighborhoods who received the Family Check-Up improved the quality of their parent–child interactions during the toddler period, and those improvements predicted lower level aggression at age 9.5. Thus, despite the obstacle that deprivation can pose to families getting long-term benefit from this family intervention, there was some evidence that it can improve parent–child relations and that, if it does, that improvement can reduce the likelihood of aggression in later childhood.

The Impact of Discrimination on Families

Studies of discrimination in the US establish that it is extensive and harmful. Klonoff and Landrine (1999) conducted a careful study of the exposure of African Americans to discrimination. They recruited a representative sample of 520 African Americans in California and asked them to complete a survey about their exposure to discrimination. They found that 96% of black people had experienced discrimination at some point in the past year, and 95% said it had been stressful. Those who reported more experiences of discrimination were significantly more likely to report psychological symptoms such as anxiety and depression.

A more recent and more extensive study of discrimination across all ethnic groups concurs with the Klonoff and Landrine findings. In 2016, the American Psychological Association released *Stress in America: The Impact of Discrimination*, which presented the results of an annual nationwide survey conducted in the month of August to understand the mind/body health impact of stress in America. It surveyed 3361 adults over age 18; participants included 33% male, 67% female, 32% White, 24% Hispanic, 25% Black, 12% Asian, 6% Indigenous, and 35% who were living at or below 200% of the annual federal poverty guideline. The survey asked how often the participants reported experiencing major forms of discrimination in employment, encounters with law enforcement, education, neighborhoods, healthcare, and transportation. All types of discrimination were associated with increased stress and lower overall well-being.

When broken down into groups according to race, 81% of American Indian/Alaskan Natives, 76% of Black Americans, 74% of Asian Americans, and 72% of Hispanics reported experiencing discrimination every day, compared to 61% of the entire sample. The survey also found that those living in urban settings experienced more stress than those living in suburban and rural areas. Black, American Indian/Native Alaskan, and Hispanic groups experienced higher than average levels of stress and rated issues such as access to healthy foods and green or community spaces as problems compared to white and Asian Americans. The percentages of groups in poverty were higher in American Indian/Alaskan Native, Hispanics, and Blacks at 41–45% compared to White and Asian groups at 24%.

The exposure to discrimination experienced by people living in poverty receives less attention than discrimination experienced by other groups. A study by Cozzarelli, Wilkinson, and Tagler (2001) found that a sample of Midwestern college students viewed poor people, compared to those in the middle class, with many more negative traits. The students were significantly more likely to use terms like unmotivated, uneducated, unpleasant, dirty, angry, stupid, criminal, violent, immoral, alcoholic, and abusive. How likely is it that poor people have unpleasant interactions with people who carry such stigmatizing attitudes toward them?

The Impact of Discrimination on Well-Being

Pascoe and Richman (2009) conducted a meta-analysis of studies into the relationship between perceived discrimination and health. They analyzed the results of research with 134 samples. They examined racial and ethnic discrimination (65% of articles reviewed), gender discrimination (14%), and unfair treatment or unspecified dis-

crimination (15%). People who experienced discrimination were more likely to report poorer mental health. Similarly, studies that assessed the relationship between perceived discrimination and health found greater reported discrimination to be associated with poorer health. The authors also reviewed evidence suggesting that one of the most important pathways from discrimination to compromised well-being is through the stress responses and increased inflammatory processes.

Schmitt, Branscombe, Postmes, and Garcia (2014) conducted a more recent meta-analysis of the impact of discrimination on psychological well-being. Their study included 328 effect sizes and a total sample of 144,246. They found a significant relationship between perceived discrimination and psychological problems, with the relationship being considerably greater for disadvantaged groups. Effects were also larger for children than they were for adults. The authors also analyzed the effects in 54 tests involving experimental evaluations that manipulated perceptions of discrimination. Again, they found that exposure to discrimination resulted in negative outcomes.

Exposure to discrimination is associated with the development of adolescent problem behaviors. Brody et al. (2006) recruited 714 African American children between the ages of 10 and 12, and assessed them at three time points over a 5-year period. Their exposure to perceived discrimination corresponded with a significant increase in problem behaviors (depression and conduct problems) between the first and second assessments.

Reducing the Impact of Discrimination on Children and Adolescents

There is evidence that supportive parenting decreases the impact of discrimination on the development of anger, hostile views of relationships, and violence. Simons et al. (2006) surveyed 332 African-American adolescent males. They found that having supportive parents reduced the impact of exposure to discrimination. Simons et al. identified two ways in which supported parenting benefited these youths. First, it reduced their anger and hostile views of relationships. Second, it reduced the likelihood that anger and hostile views of relationships would lead to violence.

Murry, Brown, Brody, Cutrona, and Simons (2001) studied the role of racial discrimination in parenting quality. They recruited a sample of 383 African-American children at ages 10 or 11. They found that, when families faced more discrimination, stressful life events increased psychological distress more than in the absence of discrimination. Moreover, discrimination increased the impact of psychological distress on the quality of relationships in the family. That is, it appears that discrimination amplifies the impact of stressful life events and psychological distress on the quality of relationships in the family.

The Implications of This Analysis for All Families

The evidence reviewed here shows that poverty and discrimination harm a significant proportion of families in the US. One of the most important ways these adversities harm families is by diminishing the quality of parenting. This, in turn, leads to development of a variety of child and adolescent problems, including aggressive and antisocial behavior, academic failure, depression, and substance abuse. Inexorably, these problems make intergenerational poverty more likely (Van Ryzin et al., 2017). Family interventions can improve the quality of parenting and prevent the development of these problems. Research has shown these benefits for high-poverty families (e.g., Dishion et al., 2008). Moreover, family interventions that assist African American families in helping their children learn to cope with discrimination can significantly improve outcomes (Brody et al., 2006).

However, the efficacy of family interventions may decrease for families dealing with these adversities. Both the poverty of individual families and the extent of deprivation in neighborhoods attenuate the effects of interventions. One reason may be that parents who are coping with these adversities have less time and fewer

resources to enable them to benefit from family interventions. In addition, it may simply be harder to reach and engage families with these interventions when families are experiencing adversities. For example, our service systems may be less likely to reach these families and families may be reluctant to seek services due to a history of aversive encounters with service providers and other authorities.

These considerations have implications for researchers and service providers who are working to improve family well-being. If our ultimate goal is to affect the entire population of families who could benefit by improving the quality of family relationships, we need to employ all the tools that are available for doing this. Programs like the Triple P—Positive Parenting Program have developed ways to reach a larger proportion of the population of families through media and brief interventions (Sanders, 2008). Moreover, progress is being made in the more widespread dissemination of evidence-based family interventions (Dishion, Forgatch, Chamberlain, & Pelham, 2016; Leslie et al., 2016).

However, it is unlikely that we will ever reach every single family that can benefit from an evidence-based family intervention. For this reason, it is important to identify and implement policies that will reduce the prevalence of these adversities. In what follows we will briefly review evidence on the impact of public policy on family poverty and exposure to discrimination.

Policies Relevant to Family Economic Security

Komro, Tobler, Delisle, O'Mara, and Wagenaar (2013) reviewed the empirical evidence regarding the impact of 98 policies relevant to child and adolescent well-being. They identified 46 policies that had sufficient empirical evidence of benefit to encourage their widespread implementation. Many of them would be beneficial to families living in poverty. These include tenant-based rental assistance, access to affordable or free high-quality childcare, and alternatives to incarceration. In addition, Komro, Livingston, Markowitz, and Wagenaar (2016) found that interstate variations in the minimum wage affected infant mortality and low birth weight, with higher wage states having lower levels of these outcomes.

Other evidence that increasing family income can have a beneficial effect on families in the absence of a clinical intervention comes from a natural experiment reported by Costello, Compton, Keeler, and Angold (2003). They were conducting a longitudinal study of children's psychological disorders, including a subgroup of families who were members of a Native American tribe. In the middle of the study, the tribe opened a casino, which led to a significant increase in the income of the Native American families. Costello, Erkanli, Copeland, and Angold (2010) found that the rate of internalizing and externalizing disorders declined significantly among the families that rose out of poverty.

The Recent Evolution of Public Policy

There is a larger issue involved in the question of how we can reduce family poverty. Biglan (2018) argues that the promotion of free-market theory in the US over the past 50 years has undermined public support for policies that could have prevented the increases in poverty that the US has experienced. Hacker and Pierson (2017) have documented the ways in which advocacy for lower taxes and minimal government undermined the economic well-being of many Americans.

This analysis implies that our efforts to improve the well-being of families will be hampered as long as our economic and political systems are dominated by free-market economic theory that influences people to believe that government programs do not work, that the individual pursuit of wealth will necessarily benefit everyone, and that the failure of people to get out of poverty is simply a product of individuals' deficits (e.g., Herrnstein & Murray, 1994). For this reason, Biglan (2015a) has called for the creation of a coalition among all of the sectors of society that brings them together around values and goals that make the well-being of all members of a society the touchstone of policymaking.

As we noted above, this is not only an issue in the US. Sweden, which recently went through a

period of adopting free-market policies, has experienced the largest increase in economic inequality of any developed country (OECD, 2015). The increase in economic inequality occurred after their government established some new policies. They included (a) reduced tax on work (making disposable income inequality increase), (b) removal of inheritance tax and "fortune tax" (a tax on large amounts of money just sitting in a bank account), and (c) creating tax deductions for work on remodeling and cleaning your house or apartment (which largely means returns for people in the upper brackets already). Another of the drivers of inequality is the very rapid increase in housing costs, combined with tax deductions (30%) on mortgages (OECD, 2011a).

Policies Relevant to Discrimination

Strategies for reducing discrimination are less clear. At least in the US, evidence indicates that the most common strategies employed in workplaces for the purposes of reducing discrimination may actually be increasing it.

The dominant approach to reducing prejudice and discrimination in the US is diversity or multicultural training, which educates people about the existence of prejudice and discrimination, the harm they cause, and applicable laws and policies to prohibit discrimination. Elizabeth Paluck of Harvard and Donald Green of Columbia estimated that US organizations spend US $8 billion a year on diversity or multicultural training. Their thorough review of the research found no evidence that these programs reduce prejudice or discrimination. In fact, they could find no experimental evaluations of their impact (Paluck & Green, 2009). Moreover, in a study of a large sample of business organizations, Kalev and Dobbin (2006) found that diversity training was associated with a significant *decline* in the proportion of black women in managerial positions and had no effect on the inclusion of white women or black men.

Research by social psychologists shows that a frontal assault on people's prejudice usually makes them more resistant to criticism. Matthew Hornsey and colleagues of the University of Queensland in Australia have demonstrated this in multiple studies. In one (Hornsey & Imani, 2004), they found that, when Australian university students read comments from a person who stated Australians were "... racist towards indigenous Australians and they're intolerant of Asians" (p. 370), they rejected the criticism and disliked the critic if they learned that the speaker was a non-Australian as opposed to an Australian (Hornsey & Imani, 2004).

It may be true that criticizing people for their prejudiced views will make some of those people sensitive to appearing intolerant. However, it is not enough just to motivate people not to appear prejudiced. The psychologists Butz and Plant (2009) reviewed numerous studies showing that people who fear criticism avoid sensitive topics but, as a result, people they encounter, along with unbiased observers, viewed them as prejudiced.

People often experience significant stress when they interact with members of stigmatized groups. Jim Blascovich and his colleagues at the University of California at Santa Barbara (Blascovich, Mendes, Hunter, Lickel, & Kowai-Bell, 2001) have studied how people react in talking with stigmatized people. They found that such interactions produce measurable stress reactions. In another study, Butz and Plant (2006) found that black people who expected white people to be biased were more likely to be anxious in their interactions with whites and wanted to avoid interactions.

Finally, there is the rebound effect. When people try to suppress prejudicial thoughts—or for that matter, any thoughts they do not want—they can do it only for short periods; the effort is draining and ultimately their suppressed thoughts come roaring back. For example, Neil Macrae and his colleagues at the University of Wales showed college students a picture of a skinhead and asked them to write about a typical day for such a person (Macrae, Bodenhausen, Milne, & Wheeler, 1996). When instructed not to use any stereotypes, half of them used them less often. Nonetheless, in a second round of writing about another skinhead, they used more than the students who had not tried to suppress stereotypes. In a second study, Macrae et al. (1996) found that

instructions to suppress stereotypic thinking led people to sit further away from the chair they had expected a skinhead would be sitting in.

In sum, our naïve efforts to suppress prejudiced behavior by educating people about it are not working and indeed seem to be leading many people to resist these efforts; increase their prejudicial thoughts, feelings, and behavior; and avoid interactions with stigmatized people. When interactions do occur, they tend to go badly for both parties, making both people uncomfortable and more likely to avoid further interactions.

There are better ways. Two of us have previously written about principles that could help reduce divisions among the many groups that display prejudice against other groups (Biglan & Cody, 2016). Considerable evidence suggests that people become less prejudiced when they interact with members of stigmatized groups in safe and comfortable settings that enable them to get to know each other. This is especially true when people identify shared goals and when they work collaboratively to achieve their goals. Some of the strongest evidence comes from research conducted at the University of Minnesota (Smith, Sheppard, Johnson, & Johnson, 2005). This work has shown that, when students work in small groups to accomplish a shared task and each person has a unique contribution to make to the team's goal, the usual status divisions in schools diminish and the participants form friendships across social groups.

Research on the value of entertainment media is also consistent with this approach (Paluck & Green, 2009). Movies, television, and books that tell sympathetic stories about stigmatized people promote empathy and compassion for stigmatized people. Indeed, recent research on the impact of the Harry Potter book series has shown that it has influenced a generation of young readers to be more tolerant to a wide variety of stigmatized groups, including gay men and women and refugees.

A Role for Family Interventionists

These considerations may seem far afield from the problems that family researchers and service providers typically study. However, we are unlikely to solve the problems that our societies face unless the people working on different facets of human well-being forge a coalition to bring about change (Biglan, 2015b; Biglan & Cody, 2016). The success of family interventions could increase if healthcare providers began to provide these services (Leslie et al., 2016), since we would reach more families. If the criminal justice system incarcerated fewer people and did a better job of rehabilitation, we would have fewer families living in poverty, experiencing stress, and requiring a family intervention. If schools were more effective in promoting prosocial behavior and preventing mental, emotional, and behavioral disorders, it would supplement the impact of family interventions and might make some family interventions unnecessary. Finally, if policymakers adopted laws and regulations that reduced family adversity, increased support for the provision of family interventions, improved the criminal justice system, and made schools more nurturing, we could achieve historically lower levels of child and adolescent problems.

Experts on family process and family interventions have a unique role to play in all of these matters. More than any other groups working to advance public health, they are the experts on precisely what families need to thrive and raise healthy and productive children. Family experts need to educate policymakers and citizens about the impact of poverty and discrimination on families. They can play a leadership role in joining with leaders in healthcare, education, and criminal justice to advocate for policies that would reduce the prevalence of family poverty and exposure to discrimination.

Conclusions

The community of experts on family process and family interventions need to be concerned with all of the ways that adversities, such as poverty and discrimination, affect families. Poverty and discrimination are highly prevalent in the US and are a growing problem in many developed countries (OECD, 2015). Poverty and discrimination affect family relationships and children's development. Their impact appears to result from the ways they

increase coercion, reduce positive reinforcement, and undermine parental monitoring and limit setting. Although poverty makes it less likely that families will benefit from family interventions, such interventions can be effective, even with families living in poverty and those exposed to discrimination (Brody et al., 2006; Shaw et al., 2016).

These facts point to the need for changes in public policies that are maintaining poverty (Hacker & Pierson, 2017). Evidence indicates that an array of policies would benefit families (Komro et al., 2013).

Experts on family process and intervention can educate policymakers about these facts and can advocate for policies and programs to help families reduce and overcome adversities that are harming children. In the end, they can bring about permanent, positive changes that will advance the future well-being of our society (Box 1).

Box 1 Evolving a More Nurturing Society

Most progress in preventing psychological and behavioral problems of youth has resulted from research on how families and schools can learn to be more nurturing (Biglan, 2015a, 2015b). As a result, we know much about how to work effectively with families and schools. But as this chapter documents, aspects of the larger social system (e.g., poverty, economic inequality, and discrimination) harm schools and families. Above that, the value systems that exist in society influence these problems.

Over the past 50 years, a value system promoting materialism and individual self-aggrandizement has begun to dominate American society, and most societies around the world (Biglan, 2018). The theoretical, and purportedly empirical, basis for this system is the ideology of free-market economics, which argues that the individual pursuit of economic gain benefits all of society. The role of advocacy for free-market economics in contributing to public values in policies that have increased poverty, economic inequality, and discrimination is well documented (Hacker & Pierson, 2010; Mayer, 2016).

Although behavioral scientists traditionally take the stance that their work is value free, we are in general committed to improving health and well-being. From that standpoint, it is vital to educate the public about the conditions that contribute to that well-being. In addition to articulating the nature of environments that nurture well-being, we must communicate that value systems involving prosocial and altruistic behavior benefit all of society's individuals and those around them.

To fully realize the benefits of everything we have learned about improving human well-being, we must strengthen our skills in public advocacy for the values, policies, and practices that will ensure that a steadily increasing proportion of the population lives in environments that enable them to live productive lives in caring relationships with others.

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Role of Universal Parenting Programs in Prevention

Raziye Salari and Pia Enebrink

Introduction

Parent training programs based on social learning theory are traditionally offered to parents of children with disruptive behavior, either individually or in groups (e.g., Michelson, Davenport, Dretzke, Barlow, & Day, 2013). These programs are identified as the treatment of choice for child externalizing problems, particularly conduct problems. While availability of effective treatments for children with existing problems is necessary, focusing on children already at high risk is unlikely to reduce the number of children with externalizing problems at the population level. To reduce the rates and burden of child mental health issues at the population level, a public health approach is required with parenting help being available to all parents.

The purpose of this chapter is to examine the evidence base for universal parenting programs. We start by describing the public health approach to parenting, which requires evidence-based parenting information and parenting programs to be universally available to all parents regardless of their risk status. Next, we provide a narrative review of studies that examine the effectiveness of universal parenting programs in preventing mental health problems and/or child maltreatment in the general populations of children and parents. Finally, we conclude the chapter by discussing the strengths and limitations of the current evidence base, future directions for research, and implications for policy and practice.

Theoretical Background

Mental health problems among youth and their parents are of increasing concern. Merikangas, Nakamura, and Kessler (2009) found that about one fourth of children and adolescents have manifest mental health problems, such as anxiety disorders, behavior disorders, mood disorders and substance use disorders. Unfortunately, child maltreatment is also all too frequent. Lifetime (before the 18th birthday) prevalence rates of investigated child maltreatment reports in the US were recently estimated to be as high as 37% (Kim, Wildeman, Jonson-Reid, & Drake, 2017). Anxiety and depression are regarded as major health problems across the globe, with global point prevalence rates among adults being about 7% for anxiety (Baxter, Scott, Vos, & Whiteford, 2012), and 5% for major depression (Ferrari et al., 2012). According to the World Health Organisation, depressive disorders are estimated to affect 350 million people worldwide (Marcus,

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Yasamy, van Ommeren, Chisholm, & Saxena, 2012), and were the second leading cause of years lived with disability in 2010 (Ferrari et al., 2013).

Not all children afflicted by a disorder access clinical services (Kazdin, 2017; Prinz & Sanders, 2007). This might be because the child and family live where they do not have access to evidence-based services, or they may be reluctant to seek support due to perceiving the help-seeking process as stigmatizing or problematic. The currently available evidence-based programs are not effective in reducing all mental health problems or improving the well-being of every child and family (Weisz & Kazdin, 2010). The need for improved and more easily accessible mental health services does not preclude a focus on preventive interventions. Rather, according to a stepped care approach, the different levels of care and support need to be complementary. An intervention which is offered to everyone in a population via a universal approach (Haggerty & Mrazek, 1994), is a way of lowering the distribution of the particular risk variable in focus, instead of, or in addition to, focusing on detecting and treating an illness once it has developed.

In the classic paper by Geoffrey Rose (1981) the concept of the prevention paradox is discussed. Compared to participating in a clinical intervention, participating in a population-level intervention offers less advantage for a specific individual, whereas the community gains larger benefits when the population approach is employed. The paradox is that the low or moderate risk population contributes the majority of cases with a specific disease, simply because comparatively those with high risk constitute a much smaller group. A low-dose intervention offered to many can have a larger preventive effect compared to a very intensive intervention to only a few at risk. For instance, consider a population of 100 children where 7% are at high risk for or already have obesity, whereas the rest of the population has a low to moderate risk for developing obesity. The hypothetical risk levels for actually developing obesity may be 80% for the high risk population, and 15% for the low to moderate risk population, resulting in approximately 6 and 14 children with obesity from each population. In this hypothetical example, 20 children develop obesity but only six of them (30%) come from the high-risk population. If children from the low-risk and moderate-risk samples receive interventions before they develop obesity, we reach 70% of those that will eventually develop excessive weight. Depending on the effectiveness of the intervention, we may prevent obesity from developing for some of the afflicted children. In this context, an effective public health approach where the general population is targeted is of great interest. An effective public health approach also requires the programs to be easily and equally accessible by all segments of a population (see Box 1).

The concept of mental health is comprised of subjective well-being, self-efficacy, and perceived competence as well as a lack of mental health problems. A public health approach may, therefore, promote mental health as well as prevent emotional and behavioral disorders from occurring. Public health approaches apply principles from medicine, psychology and social sciences and can utilize multiple intervention pathways to reduce risk. There are several strategies that may be used to enable people to increase control over their health, such as building a healthy public policy, creating supportive environments, strengthening community actions, developing personal skills, and reorientation of health services. The means of action can be at a micro-environmental (individual, family) as well as macro-environmental level (social, organizational), and include various strategies such as dissemination of information, initiating a dialogue between professionals and citizens, developing public services, and integrating mental health issues in education (Lavikainen, Lahtinen, & Lehtinen, 2000).

Public Health Approach to Parenting

A public health approach may also focus on parenting (Sanders, 2012). Including parents from the general population in a public health intervention could lead to a larger reduction of children and families with needs, compared

Box 1 Reducing Health Inequality Through Proportionate Universalism

It has been argued that universal programs may in fact increase health inequality, since the more affluent segments of the population, such as those with higher education, are more likely to engage in programs offered universally while the programs struggle to reach those that are more disadvantaged and therefore at higher risk. Marmot et al. (2010) suggest that in a fair society, prevention and treatment activities should be directed towards all rather than only towards those most disadvantaged, but the intensity of the actions should be proportionate to the level of disadvantage. In other words, while providing universal access to programs, we should pay more attention to engaging those segments of the population that have been traditionally more difficult to reach, and reduce the barriers that they may experience for accessing programs. They call this approach proportionate universalism.

The potential difficulties in operationalizing proportionate universalism have not, however, been sufficiently studied in the public health literature, for example, how need and disadvantage should be defined and measured, what proportions of resources should be allocated to different levels of needs, and how it should be ensured that allocated resources do actually reach their intended subpopulations (Egan et al., 2016; Mackenzie et al., 2012).

to including only those parents or families with an existing problem, in line with both the prevention paradox (Rose, 1981) and the public health proposal (Spoth, Kavanagh, & Dishion, 2002). For example, the prevalence of conduct problems and attention deficit hyperactivity disorders (ADHD) is unlikely to change if we only focus on offering treatment to children who have already been referred for behavioral problems.

The family and the relationship between parents and children are of major importance for children's psychological well-being and health during childhood and adolescence. A warm and close child–parent relationship (Carter, McGee, Taylor, & Williams, 2007), as well as supportive and consistent positive parenting (Boeldt et al., 2012; Kawabata, Alink, Tseng, van Ijzendoorn, & Crick, 2011) are important protective factors for child mental health problems and externalizing behaviors. For instance, a meta-analysis showed that more positive parenting behaviors were associated with less relational aggression (small effect sizes), whereas harsh parenting (i.e., rejecting and hostile parenting) was associated with more relational aggression (small effect sizes), for both mothers and fathers (Kawabata et al., 2011). In another meta-analysis, the authors found that inter-parental conflicts and parental aversiveness were associated with childhood depression and internalizing problems (Yap & Jorm, 2015). Additionally, for internalizing outcomes in general, less warmth, more abusive parenting and overinvolvement were more frequent, whereas no parental factors were specifically linked to anxiety outcomes (Yap & Jorm, 2015).

Increasing involvement of parents in public health approaches is likely to be advantageous for preventing both child externalizing and internalizing problems and for promoting children's general mental health. The use of the parent as an active agent in a universal parenting program is a way of working contextually around the child, contrasted with targeting the child in an intervention. That is, a change is first established in parental behavior, which then leads to problem reductions and improvements in child behaviors. A parenting program approach can be a way for parents to develop both self-efficacy and strategies to support their child and prevent problems from developing or worsening. A universal parenting program has the potential to reach many parents and help them support their children. These programs are intended for the whole population and do not target parents with specific risk factors (such as parents with low socioeconomic status, or lower education, teenage parents, or

when the parent or child fulfills the criteria for a specific diagnosis), although they can also be universally offered to all parents residing in underprivileged areas.

Over the years, various universal parenting support programs have been developed. Some of these programs have been inspired in their development by already established selective and indicated prevention programs for parents of children below 12 years, such as the Incredible Years (Webster-Stratton & Reid, 2003) and Positive Parenting Program—Triple P (Sanders, 2008), whereas others originally were developed as a universal program, such as the International Child Development Programme (ICDP; Sherr, Solheim Skar, Clucas, Tetzchner, & Hundeide, 2013). Among programs developed for adolescents are Teen Triple P (Ralph & Sanders, 2003), Parents Plus Adolescents Programme (Nitsch, Hannon, Rickard, Houghton, & Sharry, 2015), and ABCD Parenting Young Adolescents Program (Burke, Brennan, & Cann, 2012). Programs may differ in whom they are intended for and in which context, in the particular content and pedagogical setup, as well as in the underlying theoretical base, such as social learning theory, family systems theory, or attachment-based theory. Available parenting programs target parents with children at all ages, some even before birth, and during pregnancy, although there are fewer universal parenting programs available that specifically target parents of adolescents. The programs may be individual- or group-based, delivered in the family home, at primary care centers, schools and preschools, or in community settings. Some may also be delivered in a self-help format, such as a book intending to change parenting behaviors, or a DVD, or radio or TV programs or by making programs available online.

Whereas reviews show that selective and indicated programs decrease child behavioral problems and improve parenting competencies and skills (Barlow, Smailagic, Huband, Roloff, & Bennett, 2014; Dretzke et al., 2005; Furlong et al., 2012), there have been fewer evaluations of universal programs. This might be because it has been only during the last decade that we have seen an increased focus on universal parenting programs.

Evidence for Parenting Interventions in Context

Numerous studies have evaluated the effectiveness of parenting programs in improving child and parental outcomes. Several meta-analyses of these studies have demonstrated that parenting programs are effective in producing positive changes in both children and parents (e.g., Chen & Chan, 2016; Sanders, Kirby, Tellegen, & Day, 2014). However, most studies have been conducted on parenting programs that are offered as selected or targeted interventions. In this chapter, we exclusively focus on studies that have evaluated parenting programs as universal interventions, i.e., when parenting programs were universally offered to a general population of parents with no prespecified known risk factors (neither in terms of symptoms nor in terms of socioeconomic or minority status). Studies could involve evaluations of a blending of universal, targeted and indicated interventions providing that they were offered to the entire population. We only included studies that used a randomized or quasi-experimental controlled design with at least one of the comparators being a *do nothing*, *waitlist control* or *care as usual*. In addition, evaluation of intervention effectiveness had to be based on at least one validated instrument measuring child or parental mental health (including child or parental general mental health/well-being, child externalizing and internalizing problems) or official reports of these problems (e.g., patients' journals). We also included intervention studies that measured child maltreatment, a general indicator of children's mental health since it is a major risk factor for a wide range of mental health problems both concurrently and over time (see Kim et al., 2017). We defined parenting programs as structured psychosocial programs that aim to prevent mental health problems in children by changing parents' attitudes, beliefs,

knowledge, efficacy, or behavior. There were no restrictions on the duration or mode of delivery (e.g., group, individual, self-directed, media-based, or online). However, programs had to offer access to a trained facilitator/therapist (face-to-face, telephone, or online). Programs could start antenatally, but at least half of the sessions had to be delivered postnatally. We undertook the search in Medline (Ovid), PsycInfo (Ovid), Web of Science Core Collection, ERIC (ProQuest), and Cochrane Library (Wiley) using the following keywords and their synonyms/alternatives: child, parent, parenting programs, behavioral and emotional problems, mental health, maltreatment, prevention and promotion.[1] Our search was limited to studies published from January 1990 to March 2016 in peer reviewed journals in English.

In our literature review, we found 34 papers evaluating parenting programs that were offered universally to parents. Table 1 shows a summary of the general characteristics of these studies. The vast majority of the studies were published in recent years (2010–2016). Eight had become available between 2000 and 2009, and only two before 2000. All studies were conducted in the Western part of Europe (Germany, Norway, Switzerland, Sweden, the UK, Ireland, Italy, and Finland), North America (US and Canada), or other English speaking countries (Australia and New Zealand). Studies varied considerably in terms of design, type of outcome measured, type, dose and theoretical basis of the programs under evaluation, sample size, the age of the focal child, and assessment times. Most studies were randomized controlled trials (RCTs). Unit of randomization was most often the family/individual, or the school/preschool. Externalizing problems was the most common outcome measured for children, followed by more general measures of behavioral and emotional difficulties. Programs were mainly offered in the form of weekly group sessions of one to two hours lasting between 5 and 10 weeks, translating to between 10 and 20 h of contact with parents. Behavioral and cognitive theories, particularly social learning theory, constitute the main theoretical framework of the programs. A few programs also used concepts from attachment theory and one program was based on the psychodynamic theory of development. The focal children in studies were mainly under 12 years of age.

Evaluations of Parenting Programs Offered Universally on Child Mental Health

General Mental Health

Study Populations and Interventions

We found 14 studies, based on 12 independent samples that reported the effectiveness of universal parenting programs on children's general mental health/well-being, the total level of emotional or behavioral problems or child maltreatment. At baseline, children's age ranged between 6 months (Teerikangas et al., 1998) and 10–16 years (Nitsch et al., 2015). A similar number of studies included children below 6 years (preschoolers) and above 6 years, of which three studies focused on families of adolescents (Burke et al., 2012; Chu et al., 2015; Nitsch et al., 2015).

The majority of the studies encompassed programs based on social learning theory. Some of these programs also included strategies based on acceptance-based theory (Parenting Young Adolescent Program [ABCD]; Burke et al., 2012), Maria Montessori's educational approach and client-centered therapy (MonteBaRo-Training; Graf et al., 2014), emotional coaching (e.g., Tuning in to Kids; Wilson et al., 2012, 2016), or attachment theory (e.g., Alla barn i centrum [ABC]; Ulfsdotter et al., 2014). Two programs had a different theoretical foundation. The International Child Development Programme (ICDP) was grounded in developmental psychology and humanistic theories (Sherr et al., 2014; Skar et al., 2015), whereas Teerikangas et al. (1998) evaluated a program based on the psychodynamic theory of child development. This was

[1]We thank Carl Gornitzki and Susanne Gustafsson, the librarians at Karolinska Institutet, for conducting the search and preparing the final reference lists, and Sophie Österberg for her help with screening the results, and extracting the necessary information.

Table 1 General characteristics of the included studies

Author and year[a]	Country	Design[b]	Child/parental mental health outcome(s)	Intervention (format/main theoretical base)	Comparator(s)	Baseline sample/ retention rate[c]	Child age /gender (male)	Assessment times
Bayer, Hiscock, Ukoumunne, Scalzo, and Wake (2010) (Hiscock et al. 2008)	Australia	RCT (maternal and child health center)	Child externalizing and internalizing; parental mental health	Toddlers Without Tears, one 15 min individual session at 8 mo plus two 2-h group sessions at 12 and 15 mo Informed by social learning and attachment theories	CAU	733 mothers 80%	6–7 mo 51%	Pre, 11 mo FU, 17 mo FU, 29 mo FU
Bodenmann, Cina, Ledermann, and Sanders (2008)	Switzerland	RCT (individual)	Child externalizing problems	Triple P, level 4 group, four weekly group sessions of 2 h each plus four 15–30 min weekly individual telephone consultations Social learning theory	(1) WLC; (2) a marital distress prevention program: Couples Coping Enhancement Training (CCET)	150 couples 87–89%	2–12 yr ≈54%	Pre, post, 6 mo FU, 12 mo FU
Burke et al. (2012)	Australia	RCT (individual)	Adolescent emotional and behavioral difficulties; parental stress and depression	ABCD Parenting Young Adolescent Program; 6 weekly 2-h group sessions Informed by social learning theory and acceptance-based strategies	WLC	144 mothers and fathers 79%	9–14 yr 54%	Pre, post
Chu, Bullen, Farruggia, Dittman, and Sanders (2015)	New Zealand	RCT (family)	Adolescent emotional and behavioral difficulties; parental mental health	Triple P, Group Teen, level 4 group, five 2 h group sessions plus three 15–30 min individual telephone consultations Social learning theory	CAU	72 mothers 81%	12–15 yr 59%	Pre, post, 6 mo FU
Eisner, Nagin, Ribeaud, and Malti (2012) (Malti, Ribeaud, and Eisner 2011)	Switzerland	RCT (school)	Child externalizing and internalizing	Triple P, level 4 group, four 2–2.5-h weekly group sessions plus up to four 15–30 min weekly individual telephone consultations Social learning theory	Do nothing	1240 families 83–92%	7 yr 52%	Pre, 1 yr FU, 2 yr FU, 4 yr FU

Farris, Bert, Nicholson, Glass, and Borkowski (2013)	US	RCT (individual)	Maternal mental health	Adventure in Parenting, face-to-face version, a 62 page, illustrated informational booklet plus 12 1-h weekly sessions Research on effective parenting practices and healthy child development	(1) CAU, booklet only; (2) Web-based, booklet plus 12 online sessions	133 mothers 77%	2–3 yr 47%	Pre, post
Giannotta, Ortega, and Stattin (2013)	Italy	Quasi-experimental	Child externalizing behavior	Connect, 10 1-h weekly group sessions Attachment theory	Families that declined the offer to participate in the intervention	147 mothers 75%	11–14 yr 50%	Pre, post
Graf, Grumm, Hein, and Fingerle (2014)	Germany	Quasi-experimental (training group)	Child behavioral and emotional difficulties	MonteBaRo-Training, five 3.5-h weekly group sessions Maria Montessori's educational approach, social-cognitive theory, client-centered therapy	WLC	205 parents NR	≈5–10 yr 59%	Pre, post
Hahlweg, Heinrichs, Kuschel, Bertram, and Naumann (2010) (Heinrichs, Kliem, & Hahlweg, 2014; Kuschel, Heinrichs, & Hahlweg, 2009)	Germany	RCT (preschool)	Child internalizing and externalizing problems	Triple P, level 4 group, four weekly 2-h group sessions plus four 15 min weekly individual telephone consultations Social learning theory	Do nothing	Mothers and fathers from 280 families 99% (63% for teachers)	2–6 yr 51%	Pre, post, 1 yr FU, 2 yr FU
Havighurst, Wilson, Harley, and Prior (2009)	Australia	RCT (preschool)	Child externalizing problems; parental mental health	Tuning in to Kids, six weekly 2-h group sessions Emotional coaching, plus some elements of social learning theory	WLC	218 mothers and fathers 85%	4–5 yr 52%	Pre, post
Havighurst, Kehoe, and Harley (2015)	Australia	RCT (school)	Adolescent externalizing behavior problems	Tuning in to Teens, six weekly 2-h group sessions Emotional coaching, plus some elements of social learning theory	Do nothing	225 mothers and fathers 93%	10–13 yr 49%	Pre, 11 mo FU

(continued)

Table 1 (continued)

Author and year[a]	Country	Design[b]	Child/parental mental health outcome(s)	Intervention (format/main theoretical base)	Comparator(s)	Baseline sample/ retention rate[c]	Child age /gender (male)	Assessment times
Heinrichs et al. (2014) (Hahlweg et al., 2010; Kuschel et al., 2009)	Germany	RCT (preschool)	Child behavior problems	Triple P, level 4 group, four weekly 2-h group sessions plus four 15 min weekly individual telephone consultations Social learning theory	Do nothing	Mothers and fathers from 280 families 90%	2–6 yr 51%	Pre, post, 1 yr FU, 2 yr FU, 4 yr FU
Hiscock et al. (2008) (Bayer et al., 2010)	Australia	RCT (maternal and child health center)	Child externalizing and internalizing; parental mental health	Toddlers Without Tears, one 15 min individual session at 8 mo plus two 2-h group sessions, one at 12 and one at 15 mo Informed by social learning and attachment theories	CAU	733 mothers 89%	6–7 mo 51%	Pre, 11 mo FU, 17 mo FU
Kuschel et al. (2009) (Hahlweg et al., 2010; Heinrichs et al., 2014)	Germany	RCT (preschool)	Child externalizing behaviors	Triple P, level 4 group, four weekly 2-h group sessions plus four 15 min weekly individual telephone consultations Social learning theory	Do nothing	280 mothers and fathers NR	2–6 yr 51%	Pre, post, 1 yr FU, 2 yr FU, 3 yr FU, 4 yr FU
Lösel, Stemmler, and Bender (2013)	Germany	RCT (preschool)	Child behavior problems	Effekt program, five 90–120 min weekly group sessions Partly based on social learning theory	(1) Do nothing; (2) child training; (3) combined parent and child training	Mothers and fathers of 675 children from 609 families 39–43%	≈3–5 yr 50%	Pre, 2–3 mo FU, 2–3 yr FU, 4–5 yr
Mallery (1999)	US	RCT (individual)	Child externalizing problems	Positive Parenting, five weekly group sessions Informed by communication and behavioral principles	WLC	125 children from 64 families NR	2–15 yr ≈50%	Pre, post, 4w FU

Malti et al. (2011) (Eisner et al., 2012)	Switzerland	RCT (schools)	Child externalizing behaviors	Triple P, level 4 group, four weekly 2-h group sessions plus four 15 min weekly individual telephone consultations Social learning theory	(1) Do nothing; (2) PATHS, a school-based social competence intervention (3) PATHS plus Triple P	Parents of 1361 children 83–92%	7 yr ≈52%	Pre, 1 yr FU, 2 yr FU, 4 yr FU
Niccols (2009)	Canada	RCT (individual)	Child externalizing problems; parental depression	COPEing with Toddler Behaviour (CWTB), eight 2-h weekly group sessions Coping-modelling, problem-solving approach	WLC	79 mothers 90%	12–36 mo 59%	Pre, post, 1 mo FU
Nitsch et al. (2015)	Ireland	RCT (individual)	Adolescent emotional and behavioral difficulties	Parents Plus Adolescents Programme (PPAP), eight 2 hr weekly group sessions Social learning theory, solution-focused systemic therapy	WLC	126 mothers and fathers 87%	10–16 yr 39%	Pre, post, 6 mo FU
Prinz, Sanders, Shapiro, Whitaker, and Lutzker (2009) (Prinz, Sanders, Shapiro, Whitaker, & Lutzker 2016)	US	RCT (county)	Child maltreatment	Triple P system, five levels of parenting programs of increasing intensity from mainly media and informational strategies in level 1 to about 20 h of direct contact with parents in level 5 Social learning theory	CAU	18 counties NR	0–8 yr NA	Pre, post
Prinz et al. (2016) (Prinz et al., 2009)	US	RCT (county)	Child maltreatment	Triple P system, five levels of parenting programs of increasing intensity from mainly media and informational strategies in level 1 to about 20 h of direct contact with parents in level 5 Social learning theory	CAU	18 counties NR	0–8 yr NA	Pre (5-yr average), post
Reedtz and Klest (2016) (Reedtz, Handegård, & Mørch 2011)	Norway	RCT (individual)	Child externalizing behaviors	Short Basic Incredible Years (S-YI), 6 weekly groups sessions each 2 h for parents Social learning theory	Do nothing	189 mothers and fathers 60%	2–8 yr 59%	Pre, post, 1 yr FU, 4 yr FU

(continued)

Table 1 (continued)

Author and year[a]	Country	Design[b]	Child/parental mental health outcome(s)	Intervention (format/main theoretical base)	Comparator(s)	Baseline sample/ retention rate[c]	Child age /gender (male)	Assessment times
Reedtz et al. (2011) (Reedtz & Klest 2016)	Norway	RCT (family)	Child externalizing behavior	Short Basic Incredible Years (S-YI), 6 weekly groups sessions each 2 h for parents Social learning theory	Do nothing	189 mothers and fathers 61%	2–8 yr 59%	Pre, post, 1 yr FU
Sampaio, Sarkadi, Salari, Zethraeus, and Feldman (2015)	Sweden	RCT (preschool)	Child externalizing behavior, parental mental health	Triple P, levels 2 and 3; level 2, three stand-alone 1.5-h group seminars; level 3, up to four 15–30 min individual sessions Social learning theory	WLC	759 mothers and fathers (child outcomes based on 355 children) 63–66%	2–5 yr NR	Pre, 6 mo FU, 12 mo FU, 18 mo FU
Sanders, Calam, Durand, Liversidge, and Carmont (2008)	UK	RCT (individual)	Child externalizing behavior; parental mental health	Driving Mum and Dad Mad (DMDM); a six-episode TV show following five families participating in Group Triple P which consists of five 2-h weekly group sessions plus three 15–30 min weekly individual telephone consultations. DMDM was aired in the UK. Parents in the enhanced condition received an additional self-help workbook and extra online support, and were offered access to a Triple P practitioner via email. Social learning theory	CAU (only watched the TV series)	454 mothers and fathers 38%	2–9 yr 65%	Pre, post, 6 mo FU
Sherr et al. (2014) (Skar, von Tetzchner, Clucas, & Sherr 2015)	Norway	Quasi-experimental (individual)	Child emotional and behavioral difficulties	International Child Development Programme (ICDP), eight 2-h weekly group sessions Developmental and humanistic psychology	A convenience sample of parents from the same areas not attending ICDP	426 parents 52%	0–16 yr (M = 4; based on 220 retained cases) 46%	Pre, post

Simkiss et al. (2013)	UK	RCT (individual)	Child externalizing and internalizing problems, child well-being; parental well-being	The Family Links Nurturing Program (FLNP), 10 2-h weekly group sessions Social learning theory	WLC	286 parents of 295 children 84%	2–4 yr NR	Pre, 3 mo FU, 9 mo FU
Skar et al. (2015) (Sherr et al., 2014)	Norway	Quasi-experimental (individual)	Child emotional and behavioral difficulties; parental mental health	International Child Development Programme (ICDP), eight 2-h weekly group sessions Developmental and humanistic psychology	A convenience sample of parents from the same areas not attending ICDP	220 parents with both pre and post data available 64%	0–12 yr (M = 3.4; based on 141 retained cases) 48%	Pre, post, 6–12 mo FU
Teerikangas, Aronen, Martin, and Huttunen (1998)	Finland	RCT (individual)	Adolescent emotional and behavioral difficulties	No specific name: structured family counselling during the first 5 yr of the child's life (10 times/yr) Psychodynamic theory of development	Do nothing	170 parents of 173 children 79–80%	6 mo ≈48%	Pre, 14 yr FU
Trudeau et al. (2016)	US	RCT (school)	Adolescent depression	Strengthening Families Program for Parents and Youth 10–14 (SFP 10–14), seven 2-h weekly group sessions including 1-h separate concurrent sessions for parents and children and 1-h joint session, plus four booster sessions the following year Social learning theory	(1) Do nothing; (2) Life Skills Training (LST), a school-based program; (3) LST plus SFP 10–14	670 families 86%	12 yr 54%	Pre, 10 yr FU
Ulfsdotter, Enebrink, and Lindberg (2014)	Sweden	RCT (individual)	Child general health and development	All Children in Focus (ABC), four 2.5-h biweekly group sessions plus one 2.5-h booster session 3 mo later Social learning theory and attachment theory	WLC	621 mothers and fathers 82%	3–12 yr 57%	Pre, post, 6 mo FU
Wilson, Havighurst, and Harley (2012)	Australia	RCT (preschool)	Child externalizing behavior, child social and emotional problems	Tuning in to Kids, six weekly 2-h group sessions plus two booster sessions Emotional coaching, plus some elements of social learning theory	WLC	128 mothers and fathers 98%	4–5 yr 52%	Pre, 7 mo FU

(continued)

Table 1 (continued)

Author and year[a]	Country	Design[b]	Child/parental mental health outcome(s)	Intervention (format/main theoretical base)	Comparator(s)	Baseline sample/ retention rate[c]	Child age /gender (male)	Assessment times
Wilson, Havighurst, Kehoe, and Harley (2016)	Australia	RCT (preschool)	Child emotional and behavioral difficulties	Dads Tuning in to Kids, seven 2-h weekly group sessions and one booster session 6–8 weeks later Emotional coaching, plus some elements of social learning theory	WLC	162 fathers 95%	3–6 yr 54%	Pre, post
Zubrick et al. (2005)	Australia	Quasi-experimental (metropolitan)	Child externalizing behavior; parental mental health	Triple P, level 4 group, four 2-h weekly group sessions plus four 15 min weekly telephone consultations. Each family also received a workbook and a video Social learning theory	CAU	1610 mothers and fathers 79%	2–5 yr 57%	Pre, post, 1 yr FU, 2 yr FU

RCT randomized controlled trial, *WLC* waitlist control, *CAU* care as usual, *mo* months, *yr* years; *w* weeks, *FU* follow-up, *NA* not applicable, *NR* not reported

[a]In several cases, the review included more than one study based on the same sample, when so, the other related studies are specified in parenthesis

[b]Unit of randomization is given in parenthesis

[c]Retention rate at the last assessment time

also the most extensive program, a structured family counselling and parenting program where during the first 5 years of children's life, counsellors met with the family 10 times a year (Teerikangas et al., 1998). The other programs had weekly sessions during shorter periods of time (4–10 weeks).

Summary of Results

Table 2 summarizes the results of the studies included in the review. Two studies reported on parental perceptions of their children's general well-being, operationalized as physical and mental health, emotional development and social competence (Ulfsdotter et al., 2014), or as child functioning in everyday life (Simkiss et al., 2013). Even though not completely similar in their constructs, both measures (Child Health and Development [CHD] and Pediatric Quality of Life Inventory [PedsQL], respectively) seem to capture the quality of everyday life for children and their family. It is interesting to note that while both programs are delivered for parents in a group and are based on social learning theory, the results are in the opposite directions. Ulfsdotter et al. (2014) reported positive results for a 4-session program targeting children aged 3–12 years in Sweden, indicating improvements in child general health at the post-measurement as well as the 6-month follow-up, whereas Simkiss et al. (2013), evaluating a 10-week course targeting families with children aged 2–4 years in the UK, did not find any effects on general well-being of children at post-measurement or at the 9-month follow-up.

The effects of a program on the total emotional and behavioral symptoms in children may vary from the specific effects on internalizing or externalizing problems, and therefore as a marker of general mental health, we also included studies that reported on the total child emotional and behavioral problems. The majority of the studies used the total difficulties score of the Strengths and Difficulties Questionnaire (SDQ; Burke et al., 2012; Chu et al., 2015; Graf et al., 2014; Nitsch et al., 2015; Sherr et al., 2014; Skar et al., 2015; Wilson et al., 2016) or the total problems score of the Child Behavior Checklist (CBCL; Heinrichs et al., 2014; Teerikangas et al., 1998). One study used the German adaptation of the Social Behavior Questionnaire (SBQ; Lösel et al., 2013). Due to the differences in the type of measures used, a wide definition of mental health is captured here.

Five of the ten studies that measured total child difficulties, reported positive effects, three reported mixed results and two reported no effects. Small positive effects in reducing child emotional and behavioral problems were reported in five studies (Chu et al., 2015; Graf et al., 2014; Nitsch et al., 2015; Teerikangas et al., 1998; Wilson et al., 2016). These studies were conducted in five different countries and evaluated five different programs based on different theoretical frameworks. The focal child's age also varied considerably from 6 months (Teerikangas et al., 1998) to 10–16 years (Nitsch et al., 2015). Four studies included no or only short term follow-up after post-assessment, while one study (Teerikangas et al., 1998) that had started when children were only 6 months old followed them up till they were 14–15 years old. All but one study (Graf et al., 2014) had an RCT design.

Three studies had mixed results (Burke et al., 2012; Heinrichs et al., 2014; Lösel et al., 2013). They all evaluated programs based on social learning theory using an RCT design. In the study by Burke et al. (2012) in Australia, participation in ABCD was associated with reduction in adolescents' emotional and behavioral problems when only cases with complete data were included in the analysis (retention rate = 79%), but with no change in intention-to-treat analyses. Heinrichs et al. (2014) evaluated Group Triple P offered in preschools in Germany. Significant reductions in child behavior problems were reported by mothers, but not fathers, of children in the Triple P preschools compared to the controls at post-measurement. The positive changes reported by mothers were no longer observable at the 4-year follow-up. The study by Lösel et al. (2013) was also conducted in preschools in Germany. They evaluated the parent training module of the Effekt program which was developed based on concepts in social learning theory, and adapted to the German context. Lösel et al.

Table 2 Results of the studies included

Author and year[a]	Instrument measuring child/parental mental health[b]	Results	Uptake of intervention	Type of analysis
Bayer et al., 2010 (Hiscock et al., 2008)	*Children*: CBCL (not measured at pre) *Parents*: DASS	No significant differences in child externalizing or internalizing behavior (not measured at pre) or parental mental health in the families attending Toddlers Without Tears compared to the controls, when children were 3 yr old	93% attended some, 49% all the sessions	Intention-to-treat
Bodenmann et al., 2008	*Children*: ECBI	Significant reduction in child behavior problems reported by mothers in the Triple P condition compared to the controls. No significant difference between mothers in Triple P and CCET. No significant difference for fathers	NR	Intention-to-treat
Burke et al., 2012	*Children*: SDQ *Parents*: SIPA, Depression sub-scale of DASS	No significant differences in adolescent behavior problems or parental depression between the two groups (intention-to-treat analysis; significant reduction in adolescent behavior problems in those with complete data). Significantly lower scores in general stress reported by parents in the ABCD compared to the controls	≈82% started, 73% attended more than two thirds of the sessions	Those with complete data/ intention-to-treat
Chu et al., 2015	*Children*: SDQ (reported by both parents and adolescents) *Parents*: DASS-21	Significant reduction in adolescent emotional and behavioral difficulties as reported by parents in families attending GTTP compared to the controls from pre to post. Positive change was maintained at 6 mo FU. Reduction in adolescent-reported emotional and behavioral difficulties was not significant from pre to post, but became significant at 6 mo FU. No significant differences in parental mental health (depression/stress)	NR	Intention-to-treat
Eisner et al., 2012 (Malti et al., 2011)	*Children*: SBQ (reported by parents, children and teachers; subscales completed differed by assessment time and rater)	Results based on propensity score matching, including only 144 families who attended all the four Triple P sessions and 649 of the controls who did not receive Triple P. No significant improvements in child outcomes reported by any raters at any FUs. Teachers reported significantly more child internalizing problems from pre to post and to 1 yr FU, but not to 2 yr FU, for children in Triple P schools compared to the controls	27% attended at least one session, 19% all	Propensity score matching

Farris et al., 2013	*Parents*: SCL-90-R	Significant reductions in depression and total psychological symptoms reported by mothers in face-to-face and web-based conditions compared to booklet only condition. No significant differences between face-to-face and web-based versions. No significant differences in anxiety between the three conditions	66–70% attended/viewed at least one session	Those with complete data and exposed to the interventions (n = 99)
Giannotta et al., 2013	*Children*: ECBI	No significant differences between the two groups in child externalizing behavior	68% attended at least 70% of the sessions	Those with complete data
Graf et al., 2014	*Children*: SDQ	Significant reduction in total child difficulties reported by parents attending MonteBaRo-Training compared to the controls	NR	Those with complete data
Hahlweg et al., 2010 (Heinrichs et al., 2014; Kuschel et al., 2009)	*Children*: CBCL; C-TRF (reported by teachers)	In two-parent families, significant reductions in both child internalizing and externalizing problems were reported by mothers in the Triple P condition compared to the controls. No significant effects were reported by single mothers, fathers or teachers	88% of mothers and 6% of fathers attended at least three of the four group sessions	Intention-to-treat
Havighurst et al., 2009	*Children*: ECBI *Parents*: GHQ-28	Significant reduction in child externalizing problems reported by parents in Tuning in to Kids compared to the controls. No significant difference in parental well-being	95% attended at least three, 78% five or six of the six sessions	Those with complete data
Havighurst et al., 2015	*Children*: Conduct Problems and Hyperactivity subscales of SDQ (reported by both parents and children)	Significant reductions in youth externalizing behavior (as reported by both parents and youth) in the families attending Tuning in to Teens compared to the controls	16% attended one to three of the six sessions, 84% attended four to six	Those with complete data/ intention-to-treat
Heinrichs et al., 2014 (Hahlweg et al., 2010; Kuschel et al., 2009)	*Children*: CBCL	Significant reductions in child behavior problems reported by mothers in Triple P compared to the controls from pre to post. Positive changes were not maintained at 4 yr FU. No significant changes reported by fathers	61% of mothers and 6% of fathers attended at least three group sessions (not consistent with Hahlweg et al., 2010)	Intention-to-treat
Hiscock et al., 2008 (Bayer et al., 2010)	*Children*: CBCL (not measured at pre) *Parents*: DASS	No significant differences in child internalizing or externalizing behavior (not measured at pre) or parental mental health in the families attending Toddlers Without Tears compared to the controls at 11 mo FU or 17 mo FU (when children were 18 or 24 mo old)	93% attended some, 49% all the sessions	Intention-to-treat

Table 2 (continued)

Author and year[a]	Instrument measuring child/ parental mental health[b]	Results	Uptake of intervention	Type of analysis
Kuschel et al., 2009 (Hahlweg et al., 2010; Heinrichs et al., 2014)	*Children*: German CD rating scale (FBB-SSV)	No significant differences in child externalizing behavior (as reported by mothers and fathers) in the families attending Triple P compared to the controls. Prevalence and incidence of ODD were calculated based on FBB-SVV and reported separately for the Triple P (5.2% reduction in prevalence rate from pre to 4 yr FU, incidence rate 3%) and control groups (0.1% reduction in prevalence rate from pre to 4 yr FU, incidence rate 3.6%). Differences were not examined using statistical tests	NR	NR (probably those with complete data)
Lösel et al., 2013	*Children*: SBQ (reported by teachers, mothers and children - child reports only available when children were older)	No significant differences in child externalizing behavior or total problems at 2–3 mo FU (as reported by mothers and teachers) or 2–3 yr FU (as reported by mothers) in the families attending the "parent training" compared to the controls. Significant reductions in both externalizing and total problems as reported by children and only on total problems as reported by teachers at 4–5 yr FU	75% attended more than half of the sessions	Those with complete data
Mallery, 1999	*Children*: PDR-R (telephone interview)	Significant reductions in behavioral and emotional problems reported for girls, but not boys in Positive Parenting condition compared to the controls	NR	NR
Malti et al., 2011 (Eisner et al., 2012)	*Children*: SBQ (reported by parents, children and teachers; subscales completed differed by assessment time and rater)	No significant differences in child externalizing reported for children in Triple P schools compared to the controls. Significant reductions in some aspects of child externalizing behavior for children in PATHS schools compared to the controls. No significant differences between children in PATHS and PATHS + Triple P schools	27% attended at least one session, 19% all	Those with complete data
Niccols, 2009	*Children*: ECBI *Parents*: CESD	Significant reductions in child externalizing problems and parental depression reported by mothers in the CWTB compared to the controls from pre to 4w FU	Attendance average: 5.3 of the 8 sessions	Those with complete data
Nitsch et al., 2015	*Children*: SDQ	Significant reductions in child behavioral and emotional problems reported by parents in PPAP compared to the controls from pre to post. Positive changes were maintained at 6 mo FU (based on PPAP scores only)	85% attended at least five of the eight sessions (and were included in the analyses)	Those with complete data at post (87%)
Prinz et al., 2009 (Prinz et al., 2016)	*Children*: official yearly reports of substantiated child maltreatment, child out of home placements, and child maltreatment injuries	Significant reductions in substantiated child maltreatment, child out of home placements, and child maltreatment injuries in Triple P counties compared to the controls	NR	NA

Prinz et al., 2016 (Prinz et al., 2009)	*Children*: official yearly reports of substantiated child maltreatment, child out of home placements, and child maltreatment injuries	Significant reductions in substantiated child maltreatment, child out of home placements, and child maltreatment injuries in Triple P counties compared to the controls	NR	NA
Reedtz & Klest, 2016 (Reedtz et al., 2011)	*Children*: ECBI	No significant difference in child externalizing behavior in the families attending S-IY compared to the controls from pre to 4 yr FU. Significant difference in trajectory of change with S-IY showing an immediate drop following the intervention that levelled off at FUs and WLC showing a slower and steady decline over time	NR	Intention-to-treat
Reedtz et al., 2011 (Reedtz & Klest, 2016)	*Children*: ECBI	Significant reduction in child behavior problems in S-IY compared to the controls from pre to post. Positive changes were not maintained at 1 yr FU	NR	Intention-to-treat
Sampaio et al., 2015	*Children*: ECBI *Parents*: DASS	No significant differences between the two groups on child externalizing behaviors or parental mental health (depression, anxiety, or stress) at any FUs	26–29% attended at least one session	Intention-to-treat
Sanders et al., 2008	*Children*: ECBI *Parents*: DASS	Significant reductions in child behavior problems in DMDM plus condition compared to the care as usual (DMDM only) from pre to post. Differences were not maintained at 6 mo FU because of further improvements reported by parents in CAU. Intention-to-treat analysis showed the opposite results (no differences from pre to post, significant differences from pre to 6 mo FU). No significant differences in parental mental health between the two groups	86% watched four or more of the six episodes, 50% all (no significant differences between DMDM plus and CAU)	Those with complete data/ intention-to-treat
Sherr et al., 2014 (Skar et al., 2015)	*Children*: SDQ	No significant differences in child emotional and behavioral difficulties reported by parents in ICDP compared to the controls	9% attended five or fewer of the eight sessions, 76% six or more (info missing for 15%)	Those with complete data
Simkiss et al., 2013	*Children*: PrePACS, PedsQL *Parents*: WEMWBS	No significant differences between the two groups on any of the outcomes from pre to 3 mo FU or from pre to 9 mo FU	19% attended one to three of the 10 sessions, 47% attended four or more	Those with complete data/per protocol
Skar et al., 2015 (Sherr et al., 2014)	*Children*: SDQ *Parents*: HADS	No significant differences in child emotional and behavioral difficulties or parental mental health (anxiety and depression) reported by parents in ICDP compared to the controls	11% attended five or fewer of the eight sessions, 89% six or more	Those with complete data

(continued)

Table 2 (continued)

Author and year[a]	Instrument measuring child/parental mental health[b]	Results	Uptake of intervention	Type of analysis
Teerikangas et al., 1998	*Children*: CBCL (only completed at FU); YSR (reported by adolescents, only completed at FU)	Based on combined parent and adolescent ratings, adolescents in the intervention group had significantly fewer difficulties compared to the controls	NR	Those with complete data
Trudeau et al., 2016	*Children*: DIS (administered by trained computer assisted telephone interviewers, focused on measuring depression symptoms, only conducted at FU)	Significantly lower depression in young adults in the intervention groups compared to the controls (the intervention groups were combined since the pattern of results was similar across them)	5% attended between one to three sessions, 15% four or five, 37% six or all the seven sessions	Intention-to-treat
Ulfsdotter et al., 2014	*Children*: CHD	Significantly better child health and development reported by parents in ABC compared to the controls from pre to 6 mo FU	10% attended only one or two sessions, 78% three or all the four sessions	Intention-to-treat
Wilson et al., 2012	*Children*: ECBI Anger-Aggression scale from SCBE-30 (reported by teachers)	No significant differences in child externalizing behavior or social emotional difficulties, reported by parents/teachers for children in Tuning in to Kids compared to the controls	97% attended at least four of the six sessions, 57% attended all	Intention-to-treat
Wilson et al., 2016	*Children*: SDQ	Significant reduction in child emotional and behavioral difficulties reported by fathers in Dad Tuning in to Kids compared to the controls	28% attended between three to five of the seven sessions, 71% attended six or more	Those with complete data
Zubrick et al., 2005	*Children*: ECBI *Parents*: DASS	Significant reductions in both child behavior problems and parental mental health reported by parents in Triple P compared to the controls from pre to post. Effects somehow attenuated, but remained significant at follow-ups	Average exposure: 7.8 h of 9 h	Intention-to-treat

mo months, *yr* years, *w* weeks, *NA* not applicable, *NR* not reported, *CBCL* Child Behaviour Checklist, *CESD* Centre for Epidemiological Studies Depression Scale, *CHD* Child Health and Development, *C-TRF* Caregiver Teacher Report Form, *DASS* Depression Anxiety Stress Scale, *DIS* The Diagnostic Interview Schedule, *ECBI* Eybery Child Behavior Inventory, *HADS* The Hospital Anxiety and Depression Scale, *GHQ-28* General Health Questionnaire-28, *PBC* Problem Behavior Checklist; *PedsQL* Pediatric Quality of Life Inventory, *PrePACS* Parent Account of Child Symptom, *PDR-R* Parent Daily Report Revised, *SCBE-30* Social Competence and Behavior Evaluation, *SBQ* Social Behavior Questionnaire, *SDQ* Strengths and Difficulties Questionnaire, *SCL-90-R* Symptoms Checklist 90-R, *SIPA* Stress Index for Parents of Adolescents, *WEMWBS* Warwick-Edinburgh Mental Well-being Scale, *YSR* Youth Self-Report

[a]In several cases, the review included more than one study based on the same sample, when so, the other related studies are specified in parenthesis

[b]All the measures are reported by parents unless specified otherwise

(2013) found no significant differences in total behavior problems in children from intervention preschools compared to the controls at 2- to 3-month follow-up (based on mother and teacher ratings), or at 2- to 3-year follow-up (based on mother ratings). However, at 4- to 5-year follow-up, both children and teachers reported significant reductions in child total problems.

Nonsignificant effects were found in two studies that were conducted on the same sample reporting on children's outcomes immediately after the intervention (Sherr et al., 2014) or at the 6- and 12-month follow-up (Skar et al., 2015). They evaluated ICDP, a program based on developmental and humanistic psychology, using a quasi-experimental design. Parents recruited from ongoing ICDP groups, which were offered as part of the usual services in child health centers, constituted the intervention group, while the control group included a convenience sample of parents that were recruited from those child health centers and preschools in the same areas that did not offer ICDP. The study retention rate was 52% from baseline to post-intervention, and 33% from baseline to the 12-month follow-up.

We also considered child maltreatment as a general indicator of children's mental health. In a large population-based study in the US, Prinz et al. (2009) randomized 18 counties to either the care as usual condition or the Triple P intervention system, which incorporates five levels of parenting programs with increasing intensity. Level 1 is a universal program including parenting information delivered via different channels, and level 5 targets families with more complex problems where parenting issues are coupled with problems in other areas (e.g., problems in parental relationship). The effects were measured using official yearly reports of substantiated child maltreatment, child out of home placements, and child maltreatment injuries. Reductions in child maltreatment in Triple P counties compared to the controls were observed, regardless of whether 1-year (Prinz et al., 2009) or 5-year (Prinz et al., 2016) baseline rates were used. It is important to highlight that this study differed from other studies mentioned earlier in that instead of a single intervention, a multilevel system of interventions was offered to families. Low intensity interventions alone may be unlikely to produce population level changes in complex problems such as child maltreatment.

Externalizing Behavior Problems

Study Populations and Interventions

Twenty studies, comprising 17 independent samples, reported the effectiveness of universal parenting programs on child externalizing problems. The focal children in these studies were often 10 years old or younger at the commencement of the programs. Only four studies (Bodenmann et al., 2008; Giannotta et al., 2013; Havighurst et al., 2015; Mallery, 1999) included children older than 10 years of age, and only two of the programs in these studies were exclusively targeted at parents of adolescents (Giannotta et al., 2013; Havighurst et al., 2015).

Most studies evaluated programs that were based on social learning theories, including variations of Triple P and Incredible Years. Exceptions were studies evaluating Connect which is based on attachment theory (Giannotta et al., 2013), Tuning in to Kids/Teens that includes some elements from social learning theory, but its main focus is more on emotion coaching than behavioral strategies (Havighurst et al., 2009, 2015), and COPEing with Toddlers Behaviour (CWTB) which employs a coping-modelling, problem-solving approach (Niccols, 2009).

Summary of Results

In total, eight studies reported no effect on child externalizing behavior, eight reported mixed results and only four reported positive effects. Of the eight studies that reported no effects, two studies (Bayer et al., 2010; Hiscock et al., 2008) evaluated Toddlers Without Tears which included one low intensity 15-min individual session when children were 8 months old and two 2-h group sessions, one when children were 12 months, and another when they were 18 months old. Children's externalizing behaviors were measured using CBCL when children were 2 (Hiscock et al., 2008) and 3 years old

(Bayer et al., 2010); no differences were found between children of mothers in the Toddlers Without Tears condition and those in the care as usual condition. In the study by Simkiss et al. (2013) which we described in the previous section, participation in The Family Links Nurturing Program (FLNP) was not associated with any marked improvement in 2- to 4-year-olds' conduct or hyperactivity symptoms as measured by the Parent Account of Child Symptom (PrePACS).

Sampaio et al. (2015) evaluated the effectiveness of level 2 and level 3 Triple P on child externalizing problems as measured by the Eyberg Child Behavior Inventory (ECBI). Triple P level 2 consists of three stand-alone seminars each about 90 min. Triple P level 3 includes up to four 15- to 30-min individual consultations. They reported no differences between 3- and 5-year-old children in the Triple P preschools compared to their counterparts in the waitlist control preschools 6–18 months after the introduction of Triple P in the intervention preschools. It should be noted that in this study, all parents in the intervention and control preschools were invited to participate in the study and were followed up regardless of whether they had or had not attended any Triple P sessions. Over the study period (18 months), only 29% of parents had attended at least one Triple P session; most often one of the Triple P seminars. This means rather low program exposure in the intervention preschools.

Another variant of Triple P, Group Triple P, which consists of four 2-h weekly group session plus four 15- to 30-min individual telephone consultations, was evaluated in two others studies reporting on the same sample (Eisner et al., 2012; Malti et al., 2011). In a large RCT in Switzerland, baseline data was collected from more than 1200 7-year-olds and they were followed up for 4 years. Parents, teachers and children participated in the trial by completing the SBQ. In one study (Malti et al., 2011), findings were based on intention-to-treat analyses. In the other study (Eisner et al., 2012), data was analyzed using a propensity score matching approach where 141 children whose parents had participated in all the four Triple P sessions were matched to 649 children in the control schools who had not been exposed to Triple P at all. The results were similar across the two analytical approaches: no improvement was observed based on parent, teacher or child ratings.

The other two studies that did not find universal parenting programs effective as measured by ECBI, had evaluated Connect, an attachment based program that consists of ten 1-h group sessions (Giannotta et al., 2013), and Tuning in to Kids, a program that focuses on improving emotion socialization practices in parents and comprises eight 2-h group sessions in total (Wilson et al., 2012). Connect was evaluated with children aged about 12 years old using a quasi-experimental design, and Tuning in to Kids on 4-year-olds in an RCT. Both studies had measured the outcome only at pre- and post-intervention.

Of the eight studies that had mixed results, two studies reported the results of short- (Reedtz et al., 2011) and long-term (Reedtz & Klest, 2016) follow-up of a short form of Incredible Years on the same sample using an RCT design. Short Basic Incredible Years (S-YI) is an adaptation of the well-known Incredible Years for the general population of parents and consists of six 2-h weekly group sessions (compared to the minimum of twelve sessions of 2- to 3-h length in the usual Incredible Years). These studies showed that immediately after the program, parents of 2- to 8-year-old children in the S-YI condition reported fewer externalizing problems compared to parents of children in the control condition. However, these differences were no longer evident in 1- or 4-year follow-up because while reduction in externalizing behavior levelled off in the children in the S-IY condition, children in the control condition continued to show a slow and steady decline over time.

Somewhat similar results were observed in two other studies with an RCT design reporting on the 2- (Hahlweg et al., 2010) and 4-year (Kuschel et al., 2009) follow-up of Group Triple P on the same sample. The first study (Hahlweg et al., 2010) reported that based on mothers' rating on CBCL Externalizing Problems, at the 2-year follow-up children in the Triple P pre-

schools showed fewer problems compared to the children in the control preschools. No difference was evident in teacher or father ratings of children on the same scale. The second study (Kuschel et al., 2009) focused on reporting the outcome based on another measure, the German conduct disorder (CD) rating scale (FBB-SSV) that assesses the diagnostic criteria for conduct problems. Mother and father ratings of children in the two conditions did not differ at the 4-year follow-up.

The setting in the study by Sanders et al. (2008) was different, but the results were fairly similar. When a six-episode TV series that followed five families participating in Group Triple P was aired in the UK, Sanders et al. used this opportunity to evaluate the impact of an enhanced version against care as usual in an RCT. Parents in the enhanced condition received an additional self-help workbook, and were also given extra online support and offered access to a Triple P practitioner via email. Significant reductions in child externalizing problems were reported by parents in the enhanced condition compared to those in the care as usual from pre- to post-intervention, however, the group differences were not maintained at 6-month follow-up because of improvements reported by the parents in the control condition.

The study by Lösel et al. (2013) presents a rather different picture. In contrast to the five studies mentioned above, mothers and teachers of young children in the preschools randomized to the intervention and control reported similar levels of externalizing problems up to 2–3 years post-intervention. However, at 4-year follow-up children themselves reported fewer externalizing problems when they had come from intervention preschools compared to those from control preschools. The focus intervention, partly based on social learning theory, was a parenting program called Effekt that consisted of five 90- to 120-min weekly sessions. The outcome was measured using the SBQ completed by mothers, teachers and children. Children completed the SBQ only when they were older. Bodenmann et al. (2008) also reported different results for different raters in an RCT conducted in Switzerland. Compared to the controls, mothers, but not fathers, of children aged 2- to 12-year-old in the Group Triple P condition reported fewer child externalizing problems as measured by ECBI.

Mallery (1999) reported discrepant findings for boys and girls. Compared to parents randomized to the control condition, parents with a female focal child who had attended a 5-week parenting program (with no defined name) reported decreased externalizing problems as measured by Parent Daily Report (PDR-R) at post-intervention and 4-week follow-up. No improvement was reported by parents of boys.

Only four studies reported that universal parenting programs were effective in reducing child externalizing problems. Three studies were conducted on young children showing that compared to parents in the control conditions, parents who participated in CWTB (Niccols, 2009), Group Triple P (Zubrick et al., 2005) or Tuning in to Kids (Havighurst et al., 2009, 2015) reported reduced externalizing problems post-intervention as measured by ECBI. The study by Zubrick et al. (2005) was the only study which included a 2-year follow-up and demonstrated that the effects were maintained over time. It was also the only study with a quasi-experimental design and a large sample of over 1600 parents. The only study that targeted parents of 10- to 13-year-old adolescents evaluated Tuning in to Teens in an RCT (Havighurst et al., 2015). Compared to their counterparts in the control condition, both parents and adolescents in the intervention condition reported lower levels of conduct and hyperactivity problems (measured using the two corresponding subscales from SDQ) 11 months after the intervention.

Internalizing Behavior Problems

Study Populations and Interventions

Only six of the 34 studies reported on child internalizing problems as a separate outcome. Parenting programs have traditionally been developed for and evaluated on children with various externalizing problems. However, many of the components in parenting programs such as

for example, promoting a positive parent–child relationship, establishing family rules, and setting consequences, are also considered important in preventing childhood internalizing problems, including depression and anxiety (Yap, Fowler, Reavley, & Jorm, 2015). Researchers are therefore encouraged to include measures of externalizing as well as internalizing problems when evaluating parenting programs.

Five of the studies included in our review reported on both externalizing and internalizing problems as measured by CBCL (Bayer et al., 2010; Hahlweg et al., 2010; Hiscock et al., 2008), SBQ (Eisner et al., 2012) or PrePACS (Simkiss et al., 2013). Two studies (Bayer et al., 2010; Hiscock et al., 2008) compared Toddlers Without Tears to care as usual, two studies (Eisner et al., 2012; Hahlweg et al., 2010) compared Group Triple P to *do nothing*, and one study (Simkiss et al., 2013) compared FLNP to a waitlist control. We have described all three programs in the previous section on child externalizing problems. The study populations were mothers of 7-month-old infants (Bayer et al., 2010; Hiscock et al., 2008), parents of 2- to 4-year-old (Simkiss et al., 2013), 2- to 6-year-old (Hahlweg et al., 2010) or 7-year-old children (Eisner et al., 2012).

The sixth study (Trudeau et al., 2016) focused on depression symptoms only. The parenting program in this study was the Strengthening Families Program for Parents and Youth 10–14 (SFP 10–14) which consists of seven 2-h weekly group sessions. During the first hour, parents and children attend concurrent separate sessions. In the second hour, children join their parents, giving the parents an opportunity to practice the skills they were taught during the first hour. There were two other intervention arms in the study too, a school based program targeting children directly and a combination of SFP 10–14 and the school based program. All the interventions were implemented when children were in seventh grade (i.e., between 12 and 13 years old).

Summary of Results

All the studies were RCTs. In the first five studies, the pattern of results for child internalizing problems was similar to that of externalizing problems. All of these studies, but one (Hahlweg et al., 2010) reported that participation in the intervention was not associated with any change in the level of internalizing problems in children. In the study by Hahlweg et al. (2010), significant reduction in child internalizing problems was reported by mothers in two-parent families in the Triple P condition compared to the controls. No significant effect was, however, reported by single mothers, fathers or teachers.

In the study by Trudeau et al. (2016), ten years post intervention, children who then were young adults of 22 years of age, completed the Diagnostic Interview Schedule (DIS) over the phone. The interview was focused on measuring depression. Since the pattern of results was similar for the three intervention arms, they were combined together and then compared to the *do nothing* control arm. Young adults from the intervention schools reported lower depression symptoms compared to those from the control schools.

Evaluations of Parenting Programs Offered Universally on Parental Mental Health

Study Populations and Interventions

Twelve studies, based on eleven independent samples, examined the impact of universal parenting programs on parental mental health. It should be noted that our focus was on general parental mental health such as parental depression, anxiety and stress, and not parenting related stress. It is reasonable to think that parental general well-being and mental health may improve after participation in a universal program. This could be established through group support, increased self-efficacy, improved knowledge of child development, or through the development of new parenting skills.

Most studies included in the review targeted parents of children under 5 years. Of four studies that included parents of older children, only two included programs targeted at parents of adolescents (Burke et al., 2012; Chu et al., 2015). The majority of the evaluated programs were based on social learning theory, although some were

also influenced by attachment theory (Bayer et al., 2010; Hiscock et al., 2008), emotional coaching (Havighurst et al., 2009), or acceptance-based strategies (Burke et al., 2012). Other programs under evaluation were described as informed by research on effective parenting practices and healthy child development (Farris et al., 2013), using a coping-modelling, problem-solving approach (Niccols, 2009), or as influenced by developmental and humanistic psychology (Skar et al., 2015). The programs also varied in terms of length and intensity. Most programs consisted of between four and eight 2-h group sessions on a weekly basis. Exceptions were the Toddlers without Tears (Bayer et al., 2010; Hiscock et al., 2008) which includes one 15-min and two 2-h long sessions, FLNP (Simkiss et al., 2013) which consists of ten 2-h sessions and Adventure Parenting (Farris et al., 2013) with twelve 1-h sessions.

Summary of Results

Again, the studies do not display a unified picture. Seven studies reported no effects, two studies reported mixed results and two positive effects. All these studies, except one (Farris et al., 2013) have been described in previous sections as they had reported on child outcomes as well. In the seven studies that reported no effects on parental mental health, the most common questionnaire for measuring parental mental health was the Depression Anxiety Stress Scale (DASS; Bayer et al., 2010; Chu et al., 2015; Hiscock et al., 2008; Sampaio et al., 2015; Sanders et al., 2008). Other questionnaires included the General Health Questionnaire (GHQ; Havighurst et al., 2009), Hospital Anxiety and Depression Scale (HADS; Skar et al., 2015) and Warwick-Edinburgh Mental Well-Being Scale (WEMWBS; Simkiss et al., 2013). Both child age and type of programs varied considerably among these studies.

Two studies reported mixed results. Burke et al. (2012) reported that parental stress, but not depression, decreased in parents participating in ABCD compared to parents in the control condition. Depression was measured using the Depression subscale of the DASS, and stress was measured using the Stress Index for Parents of Adolescents. On the contrary, Farris et al. (2013) reported that participation in Adventure in Parenting face-to-face or web-based version was associated with reduced parental depression and general psychological symptoms, but not with reduced anxiety as measured by the Symptoms Checklist 90-R. Adventure in Parenting is influenced by research on effective parenting practices and healthy child development. The main component of the program is an illustrated informational booklet of 62 pages. In the face-to-face version, which in this study was evaluated against a web-based and a booklet only version, parents are also offered twelve 1-h weekly group sessions. The web-based version including 12 lessons closely resembles the content in the face-to-face version.

Of the two studies with positive effects on parental mental health, Niccols (2009) measured depression using the Centre for Epidemiological Studies Depression Scale (CESD), and Zubrick et al. (2005) measured symptoms of depression, anxiety, and stress using the DASS. Both studies were conducted on young children. Niccols (2009) had followed up their sample only 1 month post-intervention, while Zubrick et al. (2005) had conducted two longer follow-ups of 1 and 2 years.

Strengths and Limitations of the Evidence Base

In our systematic review, we found 34 studies that examined the effectiveness of universally offered parenting programs in improving child or parental mental health. The sharp increase in the number of studies evaluating universal parenting programs since 2010 reflects the growing interest in the public health approach to parenting support. Most studies included in the current review employed a cluster RCT design, matching their unit of randomization to the unit of intervention which compared to individual randomization, is more likely to resemble real life settings (Komro, Flay, Biglan, & Wagenaar, 2016). Our review shows that universal programs are likely to have a positive, though small, impact on children's

general mental health. The findings on externalizing and internalizing problems in children and parental mental health were more mixed. Several methodological limitations make it difficult to draw a sound conclusion. Some of these limitations reflect the common problems in studies evaluating interventions aimed to improve children's mental health: most studies are conducted in Western countries, the results are mainly based on parental self-report, and fathers are generally underrepresented. There are a few other limitations that are of particular relevance in research on universal programs.

The first problem is small sample sizes. Universal parenting programs are offered to all parents of children in a population regardless of their risk status. Although parents who do participate in these programs compared to those who do not are likely to report higher levels of child emotional and behavioral problems (e.g., Wells, Sarkadi, & Salari, 2016), the majority of children score well below the clinical cutoffs in the questionnaires commonly used to measure emotional and behavioral problems in children. This means that children have less room for improvement, and therefore, intervention effect sizes associated with universal parenting programs are likely to be smaller compared to the programs offered to parents of children at higher risk for clinical problems. To detect a small effect size difference between two independent groups, a sample size greater than 393 is needed in each group (Cohen, 1992), more in the presence of clustering. Very few studies that were reviewed had sample sizes large enough to detect small differences associated with universal parenting programs (Eisner et al., 2012; Malti et al., 2011; Prinz et al., 2009, 2016; Zubrick et al., 2005).

Another limitation is that studies use instruments developed for clinical populations to measure changes in nonclinical populations. While many of these questionnaires (e.g., ECBI, CBCL, SDQ) are shown to be sensitive to change when used to measure treatment effects, it is not clear whether they are as good in measuring the effectiveness of universal programs to prevent problems in general populations of children. In addition, effectiveness of universal parenting programs may be better captured if measured in terms of more general and modifiable proximal risk factors or outcomes during childhood that are strongly related to distal risk factors for developing mental health problems. One such outcome can be self-regulation, including emotion regulation, that has been linked to many mental health issues in both children and adults such as attention hyperactivity disorder, conduct problems, depression, anxiety, and substance abuse (Aldao, Nolen-Hoeksema, & Schweizer, 2010).

Furthermore, studies often examine the effects on only those who were exposed to the intervention. The aim of universal programs is to reduce problems at the population level. These programs may impact the population both directly and indirectly. For example, it is expected that parents who participate in parenting programs will be equipped with more effective parenting strategies, and therefore have children who are better adjusted. These parents may also transfer their parenting skills to parents who have not participated in parenting programs. In fact, parents often share their experiences with each other and most parents turn to other parents for parenting advice. Therefore, we need more studies that offer parenting programs universally to all parents in a given population and evaluate the impact of the programs on the whole population and not only on those who actually attend the programs. Of course, collecting data from the whole population is not an easy task for researchers. It is not only very costly to collect data from large numbers of parents, but also impossible to convince all parents to participate in research projects and provide the necessary data. Researchers need to work closely with policy makers and community practitioners on developing effective procedures for collecting this information routinely. If teachers, parents or children routinely provide information about indicators of mental health in children, universal programs can be evaluated more easily and with less bias at the population level and loss to follow-up will be less of an issue. This is demonstrated in the study by Prinz et al. (2009). They randomized counties to the intervention and control conditions and evaluated the intervention using official reports on child

maltreatment. Unfortunately, other indicators of mental health such as feeling sad or hopeless are rarely collected routinely.

Future Directions for Research

Compared to the extensive evidence supporting the effectiveness of parenting programs in treating children with existing externalizing problems, our knowledge about the effectiveness of parenting programs when they are offered universally to all parents is quite limited. There is a need for large population trials of universal parenting programs with long-term follow-ups of all individuals within populations. We also need to know whether effectiveness of universal parenting programs depends on their dose, content, delivery mode, and availability over time. Another question that needs to be explored is whether coupling universal programs with selected and targeted programs improves programs' reach, uptake and impact. It is plausible that low doses of universal parenting programs may not directly lead to population-level changes in child or parental mental health in the short term, but they may destigmatize help seeking and work as a gateway to more intensive programs, particularly if all these programs are perceived to be part of the same continuum of interventions.

In addition, it should be noted that for parenting programs to have a population level impact, they need to reach enough parents. We do not yet know the critical level of program participation needed to produce population level impact; however, it is unlikely that lower than 20% exposure will be sufficient. Unfortunately, low parental participation presents a major challenge for both research and practice. It increases the cost of research trials because trials need to continue for a longer period to reach their target sample size (or exposure level). With regard to population trials, low parental participation means it is not possible to determine whether the null finding is due to low program participation or a true lack of effect, because even when an intervention is effective, a minimum level of intervention exposure is necessary to detect population-level impact (it is important to note that measures of intervention exposure in population trials should not be limited to in-person program involvement as parents may also be reached through other channels, such as social marketing campaigns and media interventions). With regard to practice, low participation rates result in dissemination of evidence-based programs being considered unsuccessful, because there is simply not enough demand for the programs that communities have invested in and that practitioners have been trained to deliver. Consequently, to avoid further loss, the dissemination may be discontinued prematurely. Research studies should explore how direct-to-consumer marketing strategies can be employed to increase program reach and uptake (Santucci, McHugh, & Barlow, 2012). Marketing of low intensity universal parenting programs can be an exceptionally valuable approach (Santucci et al., 2012). Unfortunately, our knowledge about how to involve parents in parenting programs including the type of marketing strategies that yield the best results is limited (Salari & Backman, 2017).

Implications for Policy and Practice

One of the common barriers in employing and implementing universal parenting programs is that parents may have very limited options to access the programs because of how, when and how often the programs are offered, and therefore may perceive participation in the programs as demanding (Nixon, 2002; Prinz & Sanders, 2007). These barriers may be addressed by offering briefer and more accessible programs available through a variety of channels (e.g., online, mobile apps, telephone coaching). However, these types of programs must be weighed against their effects.

It is indeed a challenging task to adapt a program to a whole population with various needs, motivations and expectations. When high attrition rates are reported, this may indicate that the fit between the program and population could be improved. Enhancing the fit may be achieved by using multichanneled information and a diverse

range of pedagogical approaches to inspire as many parents as possible, for instance through employing a combination of worksheets, therapist-modelled and parental role-plays, discussions, video vignettes, illustrations, and exercises in the outline of the program. For example, illustrations may complement a written worksheet, and enhance quick understanding of a theme and act as prompts for retention.

There is now a growing body of evidence showing that intervention effects can be successfully transferred across cultures (e.g., Gardner, Montgomery, & Knerr, 2016; Leijten, Melendez-Torres, Knerr, & Gardner, 2016). If a program developed in one country is to be implemented in another country it can be useful to take time to think through the need for cultural adaptations to minimize the risk of facing preventable barriers caused by the appearance of the program or the way it is presented (Kumpfer, Magalhães, & Xie, 2012; Sussman, Baezconde-Garbanati, Unger, Wipfli, & Palinkas, 2017). The adaptations can be on the surface level. For example, translating the specific terms used in the manual with care so they are appropriate to use in the context where the program is to be employed. The same applies to translating or producing new video footages. Other contextual adaptations could be whether to serve food or have coffee and cake during breaks. Cunningham and colleagues (Cunningham, Davis, Bremner, Dunn, & Rzasa, 1993) have also recommended a problem-solving approach, which may be a way to respectfully adapt a program to different contexts and to follow cultural norms. For therapists with limited experience of a specific culture, it may be valuable—for increasing adherence and preventing dropouts—to have parents themselves brainstorm solutions to a problematic situation instead of directly modelling how it may be solved.

Program adaptation can also be on a deeper level where program developers need to be involved, such as when one of the components of a program needs to be adjusted or adapted to fit into the way of living or parenting in another country. For example, when Triple P (Sanders, 2008) and Family Check-Up (Dishion & Stormshak, 2007) programs were first introduced in Sweden, the time out procedure was either changed by name and content, or kept in its original format in the manual but with a note that other elements of how to handle challenging situations (such as taking a pause from a conflict situation) should be emphasized. This was an adaptation to a long and intense discussion in Sweden about the possibility of children experiencing the time out procedure as negative, even though time out is one of the most common parenting strategies introduced in evidence-based parent training programs and no evidence supports the claim that it adversely impacts children (see Morawska & Sanders, 2011).

Moreover, to implement and disseminate a universal program successfully and widely, educating program facilitators (including training and supervision) should be both structured and easily accessible. The program also has to be easily accessible in various languages spoken by parents in the target population. These are sometimes accomplished within research trials, but making the program sustainable after research trials has shown to be more difficult (Fixsen, Blase, Metz, & Van Dyke, 2013). A prerequisite may be the existence of a purveyor organization that can be responsible for the further implementation, education and supervision. Novel technology has modernized the possibilities to be in contact with program developers and educators from another country. Perhaps more evidence-based programs may in the future be made available through online education (if this type of training is found to be as effective as existing methods of education) where program facilitators are certified after they have uploaded videos of themselves demonstrating the necessary skills on the program developer's secure homepage, and have received supervision through secure video conferences. However, there may also be a need for national prevention centers, where information about universal evidence-based programs are easily accessed, possible cultural adaptations are conducted in dialogue with the program developers, and education/supervision is offered to the program users (for an example of a national center for program implementation and research, see Ogden, Amlund Hagen, Askeland, & Christensen,

2009). It is an advantage if the program developers are specific in how much preparation time and resources are needed so that program facilitators and their managers know how to plan for implementation of universal parenting programs. There will always be competing tasks and demands in various organizations, and lack of resources or time to adequately prepare may be barriers for implementing a program and its continued use in the future.

Conclusions

In this chapter we reviewed the current evidence on the effectiveness of universal parenting programs on child and parental mental health, showing that they are not sufficiently conclusive. This review suggests that these programs are likely to have a positive, though generally small effect, on children's general mental health, while results on child externalizing and internalizing problems as well as parental mental health are more mixed. This may partly be because children in general populations do not have very high levels of problems, and therefore it might be easier to detect the positive impacts of universal parenting programs on children's overall mental health which comprises a wide range of problems rather than on more specific problems with lower rates. Nonetheless, as Glasgow, Vogt, and Boles (1999) argue, it is important to remember that a program that is associated with small effect sizes, but also is of low cost and easily accessible, is more likely to be maintained over time, and therefore produce longer-lasting impact at the population level.

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Parenting and Family Intervention in Treatment

Robert J. McMahon and Dave S. Pasalich

Introduction

The primary purpose of this chapter is to present and critically evaluate current family-based treatments (i.e., parent management training [PMT] and other evidence-based approaches) for conduct problems (CP) in children and adolescents (collectively, we will refer to them as *youth*).[1] Family-based approaches to intervention have been applied to a wide variety of child problems and populations [e.g., attention-deficit/hyperactivity disorder (ADHD; Abikoff et al., 2015); intellectual disability (Bagner & Eyberg, 2007); autism spectrum disorder (Bearss et al., 2015); anxiety (Cartwright-Hatton et al., 2011); depression (Eckshtain, Kuppens, & Weisz, 2017); child abuse (Vlahovicova, Melendez-Torres, Leijten, Knerr, & Gardner, 2017); and bullying (Healy & Sanders, 2014)], but it has the strongest and most extensive evidence base for children and adolescents with CP. Our focus is on the developmental period between ages 3 and 18 (i.e., preschool through high school age). CP can vary from annoying but relatively minor oppositional behaviors (e.g., yelling and temper tantrums) to more serious forms of aggressive behavior (e.g., fighting and physical destruction). In adolescence, youth may engage in certain types of CP that are illegal, and which are referred to as delinquent behaviors.

The first section of this chapter describes the theoretical underpinnings of CP and key family factors and processes in the development and maintenance of CP, as well as brief descriptions of selected family-based interventions for CP with children and adolescents. We then summarize the extensive evidence base for family-based interventions for child and adolescent CP, with discussion of both its strengths and limitations. The chapter concludes with suggestions for future research, policy, and practice.

[1]Note that we do not address family-based interventions that are focused primarily on prevention, which are covered in Salari and Enebrink (2018).

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Theoretical Background

In this section of the chapter, we will address the theoretical underpinnings of CP and family-based interventions for the treatment of CP.

Conduct Problems

Diagnostic Criteria, Epidemiology, and Developmental Pathways

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association [APA], 2013) specifies two different diagnostic categories pertaining to youth CP: oppositional defiant disorder (ODD) and conduct disorder (CD). ODD is defined as a persistent pattern of defiance and hostility against authority figures (e.g., parents and teachers). The DSM-5 distinguishes three separate—yet interrelated—affective and behavioral-based dimensions of ODD: (a) angry/irritable mood (e.g., temper tantrums); (b) argumentative/defiant behavior (e.g., refusing to comply with requests from authority figures); and (c) vindictiveness (e.g., showing spite; APA, 2013). While these ODD dimensions all share associations with later CP and disruptive behavior, there is also support for the idea that they differentially predict child outcomes. For example, some of the ODD symptoms pertaining to affective reactivity (i.e., temper outbursts, touchy or easily annoyed, anger and resentment) may be especially predictive of later risk for emotional disorders (e.g., Ezpeleta, Granero, de la Osa, Penelo, & Domenech, 2012; Herzhoff & Tackett, 2016; Stringaris & Goodman, 2009). By contrast, the vindictiveness (or hurtful) dimension of ODD seems to be largely predictive of aggressive CD symptoms (Stringaris & Goodman, 2009); however, vindictiveness may not manifest in young children until they are at least 4 years old (Ezpeleta et al., 2012).

CD is defined as a basic violation of other people's rights or the norms followed by society. Common CD symptoms include destruction of property, starting fights with other youth, stealing, and truancy. A distinction is made between childhood and adolescent onset, with the presence of one or more CD symptoms prior to age 10 indicative of the former. Based on a burgeoning body of empirical evidence demonstrating the heterogeneity of CP (e.g., see Kimonis, Frick, & McMahon, 2014), DSM-5 has incorporated a specifier of "with limited prosocial emotions" to incorporate an approach to subtyping youth with CD according to the presence or absence of callous-unemotional (CU) traits (APA, 2013). CU traits are characterized by a lack of regard for other people's feelings, deficient guilt associated with wrongdoing, restricted emotionality, and a lack of concern about poor performance at school, work, or in other significant activities. Youth with CD and clinically significant CU traits demonstrate more severe, chronic, and varied CP and antisocial behavior (Frick, Ray, Thornton, & Kahn, 2014).

Young children manifesting clinically severe levels of CP are more likely to meet criteria for ODD as opposed to CD. There is considerable evidence to suggest that ODD often precedes the development of CD in youth (e.g., Burke, Waldman, & Lahey, 2010; Rowe, Maughan, Pickles, Costello, & Angold, 2002); thus, many researchers consider ODD and CD to be age-related manifestations of a common syndrome (Lahey, Loeber, Quay, Frick, & Grimm, 1992), with CD representing a more severe developmental progression of CP (Loeber, Burke, & Pardini, 2009).

With respect to prevalence, the worldwide prevalence of ODD and CD among youth aged 6–18 years has been estimated to be 3.3% and 3.2% for ODD and CD, respectively (Canino, Polanczyk, Bauermeister, Rohde, & Frick, 2010). In general, boys are more likely than girls to display CP; however, this varies across different phases of development (Kimonis et al., 2014). For example, sex differences in ODD are minimal or nonexistent during preschool; however, during the school-age years, boys are 2–3 times more likely to be diagnosed with CP (ODD, CD) than girls. In adolescence, the rates increase for both boys and girls, and the sex gap diminishes somewhat.

In addition to early starters, longitudinal research sheds light on another distinct group of individuals who manifest high levels of CP in adolescence. The transition from childhood to adolescence is associated with increased engage-

ment in risky and antisocial behaviors (e.g., drug use, stealing, truancy). Based on data from the Dunedin Longitudinal Study, Moffitt (1993) originally conceptualized a developmental pathway of CP that begins in adolescence but tapers off by early adulthood (i.e., adolescence-limited CP), and reflects exaggerated levels of somewhat normative adolescent behavior. However, follow-up analysis of these individuals showed persistence of antisocial behavior into their mid-20s and early 30s (Odgers et al., 2008). That is, their CP trajectory extended beyond adolescence and restricted their employment and educational opportunities, which in turn, likely contributed to other poor adult outcomes (e.g., substance use, physical health problems). In summary, CP can first manifest in childhood or adolescence; however, the early starter/life course persistent trajectory of CP is linked with a greater number of, and more severe risk factors, as well as more adverse outcomes across the lifespan (Fairchild, van Goozen, Calder, & Goodyer, 2013; Jolliffe, Farrington, Piquero, Loeber, & Hill, 2017).

In terms of comorbidity, many youth with either ODD or CD also manifest clinically significant symptoms of ADHD (Maughan, Rowe, Messer, Goodman, & Meltzer, 2004). The presence of ADHD is predictive of more negative outcomes (Kimonis et al., 2014). Youth with ODD and/or CD, especially if comorbid with ADHD, are at risk not only for the later development of more serious CP, but also for anxiety, mood and/or substance use disorders (e.g., Capaldi, 1991; Molina & Pelham Jr., 2003; Nock, Kazdin, Hiripi, & Kessler, 2007).

Conceptualizing Conduct Problems: Focus on the Family

The most comprehensive family-based formulation for the development of early-onset CP in children has been the coercion model developed by Patterson (e.g., Patterson, Reid, & Dishion, 1992). The model describes *basic training* in CP that occurs in the context of an escalating cycle of coercive parent–child interactions beginning prior to school entry. The proximal cause for entry into the coercive cycle is thought to be ineffective parental management strategies, particularly in regard to child compliance with parental directives during the preschool period. Types of parenting practices that have been closely associated with the development of child CP include inconsistent discipline, irritable explosive discipline, low supervision and involvement, and inflexible rigid discipline (Chamberlain, Reid, Ray, Capaldi, & Fisher, 1997). Recently, parental emotion socialization behaviors (such as emotion coaching, discussion of emotions, reactions to child emotions) have been implicated as small but significant predictors of concurrent and later child CP (Johnson, Hawes, Eisenberg, Kohlhoff, & Dudeney, 2017). Other family risk factors that may impact parenting practices include maladaptive social cognitions, personal (e.g., antisocial behavior, substance use, depression) and interparental (e.g., marital problems) distress, and social isolation (e.g., insularity; McMahon, Wells, & Kotler, 2006). Coercive interactions with siblings can also play a role in the development and maintenance of CP (Feinberg, Solmeyer, & McHale, 2012). Various child characteristics, such as comorbid disorders (e.g., ADHD, mood and anxiety disorders) and developmental phenomena (e.g., temperament, executive functions, emotion regulation, language development, social cognition) can also play a role in the development and maintenance of the coercive cycle (Greene, Ablon, Goring, Fazio, & Morse, 2004; McMahon et al., 2006).

Ineffective parenting and poor quality of parent–child relationship are also significantly implicated in the development and maintenance of adolescent CP. Among the various ineffective parenting practices associated with CP, poor parental monitoring is the strongest predictor of CP in adolescence (Racz & McMahon, 2011). In childhood, parental monitoring is largely restricted to the context of the home and school; however, in adolescence, youths' increasing autonomy places more demands on parents to monitor the teenagers' unsupervised activities with peers (especially those engaged in antisocial activities) and in the broader neighborhood. Seminal work by Stattin and Kerr (2000) showed that parents' active efforts in monitoring their children, including their attempts to solicit information about, and control, their children's activities, were less effective means of acquir-

ing knowledge about their children's whereabouts, compared with their children's willingness to disclose this information. In other words, youth appear to be the gatekeepers of parents' knowledge about them. Moreover, higher youth disclosure and greater parental knowledge are robustly associated with lower adolescent CP, whereas, paradoxically, parents' increased attempts at soliciting information about their teens' activities may be met with higher levels of CP over time (e.g., Kerr, Stattin, & Burk, 2010). Not surprisingly, adolescents with CP tend to disclose less than their peers without CP, thereby greatly restricting opportunities for parents to track, supervise, and set limits regarding their teens' behavior and associations with deviant peers (Racz & McMahon, 2011). Importantly, youth may be more forthcoming about their behavior and peer associations when they share a warm and supportive relationship with their parents that facilitates open, spontaneous communication (e.g., Fletcher, Steinberg, & Williams-Wheeler, 2004). Taken together, these results suggest that when youth feel supported in the parent–child relationship, they show more willing disclosure, which, in turn, may increase parents' knowledge and reduce risk for CP.

There is support for a cumulative risk conceptualization of serious CP and adolescent violence. For example, with respect to ODD, an increasing number of risks in the domains of parenting practices, child characteristics, attachment, and family adversity increase the likelihood of the development of ODD (e.g., Greenberg, Speltz, DeKlyen, & Jones, 2001; Harvey, Metcalfe, Herbert, & Fanton, 2011; Lavigne, Gouze, Hopkins, Bryant, & LeBailly, 2012). Dodge, Greenberg, Malone, and the Conduct Problems Prevention Research Group (CPPRG, 2008) substantiated a *dynamic cascade* model of risk factors, from early disadvantaged social context, to harsh/inconsistent parenting, to social and cognitive deficits, to CP behavior, to elementary school social and academic failure, to parental withdrawal of supervision, to deviant peer associations, to adolescent violence.

Family-Based Interventions for Conduct Problems

Approaches to treating *children* with CP in the family have typically been based on a social learning-based *parent management training* (PMT) model of intervention (e.g., Miller & Prinz, 1990), whereas family-based interventions for *adolescents* have employed conceptually broader approaches (e.g., McCart & Sheidow, 2016).

PMT for Children with CP

The goal of PMT is to equip parents with behavior management techniques to improve the quality and consistency of their responding to both negative (e.g., defiance) and positive (e.g., compliance) child behavior. The envisaged outcome of PMT is a pattern of more positive parent–child interaction leading to an increased rate of child prosocial behavior and a reduction in CP. PMT is *best practice* for the treatment of CP in children (Kaminski & Claussen, 2017).

The underlying assumption of social learning-based PMT models is that some sort of parenting skills deficit has been at least partly responsible for the development and/or maintenance of CP. The core elements of the PMT approach include (a) intervention is conducted primarily with the parent or parent–child dyad, with relatively less therapist–child contact; (b) therapists refocus parents' attention from a preoccupation with CP to an emphasis on prosocial goals; (c) the content of these programs typically includes instruction in the social learning principles underlying the parenting techniques; training in defining, monitoring, and tracking child behavior; training in positive reinforcement procedures including praise and other forms of positive parent attention and token or point systems; training in extinction and mild punishment procedures such as ignoring, response cost, and time-out in lieu of physical punishment; training in giving clear instructions or commands; and training in problem-solving; and (d) therapists make extensive use of didactic instruction, modeling, role playing, behavioral rehearsal, and structured homework exercises to promote effective parenting (Dumas, 1989; Kazdin, 1995; Miller & Prinz,

1990). PMT interventions have been successfully utilized in the clinic and home settings, have been implemented with individual families or with groups of families, and have involved some, or all, of the instructional techniques listed above. Furthermore, there is now substantial evidence that various forms of self-administered PMT (i.e., books, videos, internet-based interventions, smartphone apps) may be efficacious for some families (e.g., O'Brien & Daley, 2011; Watson MacDonell & Prinz, 2017) (Box 1).

Box 1 Is Time-Out an Appropriate and Effective Discipline Strategy?

As a significant component of PMT, time-out is associated with stronger treatment effects for CP (Kaminski, Valle, Filene, & Boyle, 2008). From the perspective of operant conditioning theory, time-out increases compliance (Owen, Slep, & Heyman, 2012) because it removes a child from reinforcers, including parental attention and fun activities, for a brief period of time when the child has misbehaved (Kazdin, 1980). Time-out is acceptable to parents participating in PMT (Cross Calvert & McMahon, 1987) and is used by the majority of parents in the community (Riley, Wagner, Tudor, Zuckerman, & Freeman, 2017; Tully et al., 1999).

Despite the large body of evidence for time-out, there has been increasing debate in the media about whether parents should be using time-out in response to child misbehavior (e.g., Siegel & Bryson, 2014). A common criticism of time-out is that it is ineffective for some children (Morawska & Sanders, 2011). Recent research regarding the *real world* implementation of time-out helps shed light on this issue. The proliferation of material about time-out over the Internet and on TV shows (e.g., *Supernanny*) has facilitated many opportunities for parents to learn about this discipline strategy. Findings from recent studies, however, highlight the negative influence of the media's representation of time-out on parents' behavior. For instance, although most parents (77%) report using time-out, the majority of them (85%) appear to be implementing it in ways that deviate from evidence-based practice (Drayton et al., 2017; Riley et al., 2017). This is not surprising considering that the vast majority of websites educating parents about time-out inaccurately describe its implementation, fail to include all of the research-supported components of time-out, or simply state that time-out is ineffective (Drayton et al., 2014).

Another common criticism of time-out is that it encourages an authoritarian style of parenting that may reject or psychologically isolate the child (Morawska & Sanders, 2011; Quetsch, Wallace, Herschell, & McNeil, 2015). Inherent in most evidence-based PMT programs is the fundamental approach of promoting a warm and positive parent–child relationship prior to implementing time-out contingent on child noncompliance and aggression. Time-out is only effective if *time in*—that is, time spent interacting with the parent—is more rewarding to the child. Advocates of time-out also argue that it serves as an emotion-regulation strategy for parent–child relationships in conflict situations (Webster-Stratton & Reid, 2017). Specifically, time-out may help scaffold children's self-regulatory capacity and prevent parents from engaging in harsh discipline by interrupting the escalation of coercive parent–child interactions (Patterson et al., 1992). In this light, as a component of PMT, time-out may help prevent authoritarian parenting, including parental physical abuse (Chaffin, Funderburk, Bard, Valle, & Gurwitch, 2011).

In summary, claims that time-out is an ineffective and authoritarian response to child misbehavior are inconsistent with the conceptualization of appropriately implemented time-out and are not supported by empirical evidence. The widespread dissemination of time-out via social media may have both benefits and pitfalls; the majority of parents in Western cultures are now aware of this non-coercive form of discipline, but may lack understanding about its appropriate implementation.

We briefly describe several evidence-based PMT programs as examples of family-based treatments for children with CP. Descriptions of the clinical procedures utilized in these programs are widely available (e.g., therapist manuals, videotapes for therapist training, and/or books for parents), and each of the programs has been extensively evaluated.[2]

The first three PMT programs have their origins in the pioneering work of Constance Hanf (see Kaehler, Jacobs, & Jones, 2016; Reitman & McMahon, 2013). They are (a) *Helping the Noncompliant Child* (HNC; McMahon & Forehand, 2003); (b) *Parent-Child Interaction Therapy* (PCIT; e.g., Zisser-Nathenson, Herschell, & Eyberg, 2017); and (c) *The Incredible Years: BASIC Parenting Programs* (BASIC; Webster-Stratton & Reid, 2017).[3] These Hanf-based PMT programs share common features. In general, they focus on treating noncompliance and other CP in younger children (i.e., preschool and early school age). Each of these interventions is divided into two phases. The primary goal of the initial phase is to break the cycle of coercive interactions by establishing a positive, mutually reinforcing parent–child relationship. In the second phase, parents are trained in giving clear and effective instructions to their children, and in implementing a systematic time-out procedure to decrease noncompliant behavior. HNC and PCIT are typically administered via individual contact with a therapist or trainer, whereas BASIC is designed primarily to work with parents in a group setting. Characteristic of all Hanf-based PMT programs, therapists make extensive use of modeling and role play during sessions (in addition to didactic instruction and discussion) to teach parents the skills of attends, rewards, ignoring, clear instructions, and time-out, and the use of home practice assignments and exercises. BASIC also employs a video/modeling group discussion format in which videos of parents interacting with their children in both appropriate and inappropriate ways are used as the impetus for discussion about appropriate ways to deal with child CP behavior. HNC and PCIT both use in vivo parent–child interactions for the purpose of coaching parents while they practice new parenting skills during session, which has been shown to augment the effectiveness of PMT (Kaminski et al., 2008). Similar to Hanf's (1969) original program, two of the programs (HNC and PCIT) describe behavioral performance criteria that the parent must meet for each parenting skill.

The *Triple P-Positive Parenting Program* (Triple P; e.g., Sanders, 2012) has evolved over a 35-year period into a public health model for the promotion of healthy child and family functioning. Triple P comprises five levels of intervention, ranging from universal prevention strategies to an intensive and individualized treatment targeting children with severe CP symptoms. This model was designed for use with parents of children from birth to age 16, although the majority of outcome research has focused on families with young children (i.e., 2–8 years; Sanders, Kirby, Tellegen, & Day, 2014). Triple P interventions combine PMT strategies with a range of family support materials and services. Level 4 (Standard Triple P) is delivered in 8–10 sessions for parents of children with more severe CP symptoms. This level includes many components of traditional PMT programs such as a focus on parent–child interaction and training in parenting skills designed to be applicable to a range of problem behavior, and has been administered in individual, group, self-administered, and online formats. The Level 5 intervention (Enhanced Triple P) is appropriate when there is significant family dysfunction (e.g., parental depression, marital conflict) in addition to serious child CP. At this level, family-based intervention is individually tailored to families' needs, and treatment strategies often include home visits focused on parenting practices, training in coping skills, and management of mood problems, marital conflict, and/or family stress.

[2]Space limitations preclude a comprehensive listing of the dozens of PMT programs currently available.

[3]Two additional Hanf-based programs—*Defiant Children* (Barkley, 2013) and *COPE* (Cunningham, 2006) are not described in this chapter because their primary focus is on families of children with ADHD.

The *Generation Parent Management Training—Oregon* (GenerationPMTO) program for preadolescent children (4–12 years of age) is described by Forgatch and Gewirtz (2017). Although most typically offered to individual families, GenerationPMTO can be delivered in a group format. In the individual format, children are incorporated into the sessions "as relevant" (Dishion, Forgatch, Chamberlain, & Pelham III, 2016, p. 820). Five core parenting skills are taught in GenerationPMTO: (a) skill encouragement (scaffolding using positive attention, incentive charts, and tangible rewards); (b) limit setting and discipline (e.g., time-out, response cost, fines, chores); (c) monitoring and supervision; (d) problem-solving (at the family level); and (e) positive involvement. The skills are taught sequentially, although the order may vary in the individual format. As in other PMT programs, significant emphasis is placed on in-session roleplaying and at-home practice assignments.

Family-Based Interventions for Adolescents with CP

In comparison to best-practice treatments for child CP that primarily focus on enhancing parents' behavior management techniques (i.e., PMT), well-established interventions for adolescent CP target multiple risk factors in the family and other systems in which youth are embedded (McCart & Sheidow, 2016). This approach is based on a social-ecological model of the development of CP that posits interactional influences between youth and various family, peer, school, neighborhood, and community factors (Heilbrun, DeMatteo, & Goldstein, 2016). For instance, adolescents with serious and complex presentations of CP are more likely to have CU traits, a history of significant family disruption, gang affiliation, low school involvement, and involvement with juvenile justice (e.g., Frick et al., 2014; Kazdin, 1995; Kimonis et al., 2014). Although various environmental systems influence youths' behavior, improving the quality of parent–child interaction continues to be a major goal in multimodal interventions for CP in adolescents. Below, we describe three different evidence-based psychosocial treatments for adolescent CP that have been evaluated in community settings, while focusing our discussion on the key family-based factors targeted by the programs. In the following section, we use the term *family* to refer to families headed by biological and foster parents.

Multisystemic Therapy (MST; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 2009) was developed as a treatment for adolescents aged 11–17 years with severe antisocial and delinquent behavior, and addresses risk factors (e.g., maladaptive parenting, deviant peer affiliation, poor school achievement) in multiple systems—including familial and extrafamilial—in which the adolescent is embedded. Intervention plans are tailored to individual cases, and designed in consultation with family members, based on a conceptualization of how risk and protective factors may be maintaining the adolescent's CP. MST is delivered in the youth's natural environment, such as during home and school visits, and leverages individual, family, and community resources to create support mechanisms that will maintain lasting behavioral change in the youth's milieu. Parents are regarded as the linchpin of the intervention (Henggeler & Schaeffer, 2017), and the positive impact of MST on family relations is considered a key mechanism of change underlying improvements in youth CP (Huey, Henggeler, Brondino, & Pickrel, 2000). Treatment goals in the family domain include strengthening family structure and cohesion and parents' behavior management practices. These objectives are achieved through implementing empirically proven strategies from various cognitive-behavioral (e.g., effective parental discipline and monitoring) and family (e.g., positive parent–teen communication, greater parental involvement in teens' activities) therapies (Henggeler et al., 2009). Practitioners are available 24 h/7 days a week to provide immediate support for crises, and families typically receive 40–60 h of inter-

vention over 3–5 months. Thus, MST is most cost-effective for youth referred by the juvenile justice system with serious CP.

Treatment Foster Care Oregon Model for Adolescents (TFCO-A; Chamberlain, 2003) is a therapeutic model of foster care that provides intensive family- and community-based support for adolescents (12–17 years) with severe CP who may not receive appropriate services in typical foster care. As an alternative to group care, the therapeutic cornerstone of TFCO-A is the youth's placement with specially trained foster parents who consult with members of a comprehensive treatment team (e.g., program supervisor, behavior support specialist, family therapist) regarding specific parenting strategies to manage the adolescent's problematic behavior (Buchanan, Chamberlain, & Smith, 2017). These strategies are informed by social learning theory and include an individualized behavior modification system involving positive reinforcement and daily feedback, to promote youth adaptive behaviors (e.g., compliance with parents' requests). The treatment team also provides individual therapy to adolescents, school- and community-based support, and crisis services, as needed. Adolescents' biological parents are simultaneously involved in the intervention; they receive coaching in parenting strategies based on the PMT model (e.g., effective monitoring and consistent limit setting), which they begin to implement during home visits. Both foster and biological parents are considered significant agents of change in improving youths' behavioral functioning (Buchanan et al., 2017). TFCO-A continues to support adolescents and their parents up to 3 months after family reunification, to prevent reentry into out-of-home-care.

Most empirically supported interventions for adolescent CP are based on cognitive-behavioral and family therapies (e.g., MST and TFCO-A). Considering that many adolescents with delinquent behavior have a history of adverse relational experiences (Stormo, Ortiz-Barreda, & Hollekim, 2017), and that attachment security can buffer risk for CP in adolescents with a maltreatment history (e.g., Joseph, O'Connor, Briskman, Maughan, & Scott, 2014), there is a need for trauma-sensitive interventions that largely focus on improving teens' emotional bond with their parents. The *Connect* program (Moretti & Braber, 2013) was designed to strengthen attachment security in preteens and teens with serious CP, by shifting how parents understand, reflect on, and sensitively respond to the attachment meaning of their teens' behavior (Moretti, Pasalich, & O'Donnell, 2015). Connect is delivered by two trained leaders who guide groups of 8–14 parents through ten 90-min sessions, each focused on an attachment principle that captures a key aspect of the parent–teen relationship and common parenting challenges (e.g., empathy, conflict, growth, and change). Experiential activities, including role plays and reflection exercises, are used to illustrate each principle and build parenting knowledge and skills. Specifically, the program enhances parents' skills to promote secure attachment; sensitivity towards teens' attachment needs (e.g., connection and independence); shared partnership with teens to strengthen collaborative problem-solving; and dyadic affect regulation to support teens' management of difficult emotions. Although Connect may be suitable as a stand-alone intervention for adolescents with moderate levels of CP, it should be delivered in the context of a comprehensive treatment program targeting the various needs of adolescents with more severe cases of CP (Moretti & Braber, 2013).

Strengths and Limitations of the Evidence Base

The evidence base for family-based treatments is one of the largest and most impressive for any form of psychosocial intervention. Recent comprehensive reviews utilizing APA criteria for evidence-based treatments have identified PMT for children (Kaminski & Claussen, 2017) and certain family-based treatments for adolescents (McCart & Sheidow, 2016) as *well-established* (the highest level; i.e., MST and TFCO-A for the treatment of justice-involved youth) and *probably efficacious* (the second-highest level; e.g.,

MST for the treatment of CP in non-justice-involved youth).[4] A reflection of the extensive research base for family-based treatments can be seen in the large number of meta-analytic studies that not only address basic issues, such as treatment efficacy and effectiveness, but which have also assessed the evidence base for topics such as effective components (Kaminski et al., 2008; Lipsey, 2009), maintenance of treatment effects (van Aar, Leijten, Orobio de Castro, & Overbeek, 2017), implementation (Leijten, Melendez-Torres, Knerr, & Gardner, 2016; Michelson, Davenport, Dretzke, Barlow, & Day, 2013), moderators (e.g., Lundahl, Risser, & Lovejoy, 2006), and specific programs [e.g., Incredible Years (Menting, Orobio de Castro, & Matthys, 2013), PCIT (Ward, Theule, & Cheung, 2016), Triple P (Sanders et al., 2014); MST (van der Stouwe, Asscher, Stams, Deković, & van der Laan, 2014)]. Where possible, the following discussion of the status of the evidence base for family-based treatments will focus on findings from these meta-analytic studies.

Generalization and Social Validity

The short-term efficacy of PMT in producing changes in both parent and child behaviors has been demonstrated repeatedly (e.g., Comer, Chow, Chan, Cooper-Vince, & Wilson, 2013; Piquero et al., 2016; Sanders et al., 2014; Serketich & Dumas, 1996), but generalization of these effects is also important to demonstrate. Forehand and Atkeson (1977) described four types of generalization of PMT intervention effects: setting, temporal, sibling, and behavioral. There have been a number of investigations assessing the various types of generalization that have, for the most part, supported the efficacy of behavioral PMT programs.

Each of the PMT programs described earlier in the chapter has documented *setting generalization* from the clinic to the home for parent and child behavior and for parents' perception of child adjustment (e.g., Fleischman, 1981; Peed, Roberts, & Forehand, 1977; Sanders, Markie-Dadds, Tully, & Bor, 2000; Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998; Webster-Stratton, 1984). Recent meta-analyses (Sawyer, Borduin, & Dopp, 2015; van Aar et al., 2017) have documented the *temporal generalization* of intervention effects for both PMT and other family-based interventions for at least 1 year post-treatment. In their meta-analytic review of PMT, van Aar and colleagues noted evidence for occasional sleeper and fade-out effects (i.e., increased improvement or deterioration following treatment, respectively). Individual studies conducted 4.5–14 years after completion of the HNC program suggest that the youth were functioning well compared to peers in a community comparison group (selected at the time of follow-up) in terms of parent-, teacher-, and self-reported adjustment (Forehand & Long, 1988; Long, Forehand, Wierson, & Morgan, 1994). Similar findings have been reported for the BASIC program at follow-ups ranging from 7 to 12 years (Scott, Briskman, & O'Connor, 2014; Webster-Stratton, Rinaldi, & Reid, 2011). Long-term follow-ups of Triple P at 10 years (aged 3–13 years; Hahlweg & Schulz, 2018) and 15 years (Smith, 2015) have also recently been reported. Positive long-term outcomes on reducing serious criminal outcomes have been reported for MST compared to individual therapy up to 21.9 years after treatment initiation (Sawyer & Borduin, 2011).

Several investigators have now assessed setting generalization from the clinic or home setting to the school. In their meta-analytic study, Serketich and Dumas (1996) reported an effect size of 0.73 for PMT when the outcome was based on teacher report, and McNeil, Eyberg, Eisenstadt, Newcomb, and Funderburk (1991) demonstrated generalization of PCIT to the classroom using both observational data and teacher ratings of CP behavior. However, other investigators have failed to find evidence of generalization

[4]Although Connect was designated as an *experimental* (Level 4) treatment of CP in non-justice involved youth, positive findings from a 2-year follow-up of an RCT of Connect (Högström, Olofsson, Özdemir, Enebrink, & Stattin, 2017) were not available at the time when McCart and Sheidow (2016) conducted their review.

to school or a failure to maintain this generalization (e.g., Breiner & Forehand, 1981; Taylor, Schmidt, Pepler, & Hodgins, 1998).[5]

Several PMT programs (HNC, PCIT, GenerationPMTO, BASIC) have demonstrated *sibling generalization* (e.g., Brestan, Eyberg, Boggs, & Algina, 1997; Gardner, Burton, & Klimes, 2006; Horne & Van Dyke, 1983; Humphreys, Forehand, McMahon, & Roberts, 1978), and this generalization has been maintained up to a 1 year follow-up for GenerationPMTO (Horne & Van Dyke, 1983). *Behavioral generalization* from the treatment of child noncompliance to other behaviors (e.g., aggression, temper tantrums) has been demonstrated for HNC (Wells, Forehand, & Griest, 1980), BASIC (Webster-Stratton, 1984), and GenerationPMTO (e.g., Fleischman, 1981). Similarly, family-based treatment effects on comorbid disorders (e.g., ADHD, depression, anxiety) may be considered to be a type of behavioral generalization. For example, children who displayed comorbid ADHD/ODD and who participated in HNC improved in both domains (Forehand et al., 2016). In a recent review, Gonzalez and Jones (2016) reported on the cascading effects of PMT for comorbid child internalizing problems. Meta-analytic results from randomized controlled trials (RCTs) comparing MST against usual community care suggest that MST has small but significant effects not only on reducing adolescent CP but on comorbid psychopathology and substance use (van der Stouwe et al., 2014).

The *social validity* of PMT interventions with children with CP has been assessed by various methods, including measures of consumer satisfaction completed by parents (e.g., McMahon & Forehand, 1983), treatment acceptability (e.g., Cross Calvert & McMahon, 1987), and by determining the clinical significance of improvements (e.g., Sheldrick, Kendall, & Heimberg, 2001). PMT programs have provided strong evidence of consumer satisfaction at post-treatment and/or follow-up periods of a year or more (e.g., Brestan, Jacobs, Rayfield, & Eyberg, 1999; Leung, Sanders, Leung, Mak, & Lau, 2003; McMahon, Tiedemann, Forehand, & Griest, 1984; Patterson, Chamberlain, & Reid, 1982; Taylor et al., 1998). They have also provided normative comparisons indicating that, by the end of treatment, child and/or parent behavior more closely resembles that in non-referred families (e.g., Forehand, Wells, & Griest, 1980; Sanders & Christensen, 1985; Sheldrick et al., 2001). In their meta-analytic review of PMT, Serketich and Dumas (1996) reported that 17 of 19 intervention groups dropped below the clinical range after treatment on at least one measure, and 14 groups did so on all measures. Similarly, in a qualitative review of PCIT, Gallagher (2003) found clinically significant improvements (i.e., drop below clinical cutoff) in 14 of 17 studies.

There is also research to suggest that PMT can be acceptable and effective in culturally diverse families (e.g., Reid, Webster-Stratton, & Beauchaine, 2001). However, the extent to which interventions need to be systematically modified to be culturally relevant is unclear (Baumann et al., 2015; Gardner, Montgomery, & Knerr, 2016; Mejia, Leijten, Lachman, & Parra-Cardona, 2017).

It is apparent that evidence for the generalization and social validity of family-based interventions with children with CP is extensive and, for the most part, positive. Furthermore, such interventions have also resulted in positive changes in parenting stress and increases in perceived parenting competence following treatment (see Colalillo & Johnston, 2016, for a review). However, systematic changes in parental adjustment that were more distal from parenting (e.g., parental depression, marital functioning) were less clear.

[5]Given the inconsistency in which PMT interventions have been found to generalize to the school setting, it behooves practitioners to monitor the child's behavior in the school setting and intervene as necessary (McMahon & Forehand, 2003).

Comparison Studies

Each of the family-based programs described above (and many others) have been positively evaluated compared with no treatment, waiting-list, or attention-placebo control conditions (e.g., Lundahl et al., 2006; Medlow, Klineberg, Jarrett, & Steinbeck, 2016; Piquero et al., 2016; Serketich & Dumas, 1996; van der Stouwe et al., 2014). Furthermore, comparisons with groups of non-referred typically developing samples have indicated greater similarity in parent/child behaviors and/or parental perceptions of children after PMT (e.g., Forehand et al., 1980; Patterson, 1974).

As evidence for the efficacy of various interventions with children with CP has accumulated, increased attention has been focused on the relative efficacy of these interventions compared to other forms of treatment. Several family-based treatment programs have been shown to be more efficacious than family systems therapies (e.g., Patterson & Chamberlain, 1988; Wells & Egan, 1988), the STEP program (Baum, Reyna McGlone, & Ollendick, 1986), couples coping enhancement training (Bodenmann, Cina, Ledermann, & Sanders, 2008), and available community mental health services (e.g., Patterson et al., 1982; Stattin, Enebrink, Ozdemir, & Giannotta, 2015; Taylor et al., 1998; van der Stouwe et al., 2014; Westermark, Hansson, & Olsson, 2010). Compared with group care, TFCO-A significantly reduced delinquency and deviant peer affiliations for boys and girls, and improved parenting outcomes and placement stability for boys (Dishion et al., 2016). Similar findings were demonstrated in a Swedish RCT of TFCO-A versus treatment as usual (Bergström & Höjman, 2015; Westermark et al., 2010).

Meta-analytic studies have demonstrated that PMT has stronger effect sizes than home visiting interventions (ES = 0.39 and 0.28, respectively) with young children (5 years old and younger; Piquero et al., 2016), and youth cognitive behavior therapy in decreasing CP (ES = 0.45 and 0.23, respectively) with 6- to 12-year-olds (McCart, Priester, Davies, & Azen, 2006). Recently, some researchers have reported comparable effects of other family-based interventions to PMT. For example, Duncombe et al. (2016) reported equivalent effects for the *Tuning in to Kids* program (which is an emotion-focused parenting program; Havighurst & Harley, 2007) to an 8-session version of Group Triple P with elementary school-aged children. Similarly, Ollendick et al. (2016) found comparable effects for Barkley's (1997) *Defiant Children* (a Hanf-based program) and *Collaborative and Proactive Solutions* (Greene, 1998), which employs a problem-solving model with parents to address child ODD. Head-to-head empirical comparisons of different PMT programs have been conducted (e.g., Abikoff et al., 2015; Högström et al., 2017; Stattin et al., 2015). Two meta-analytic studies comparing PMT programs reported that, while all of the PMTs had positive effects, the effect sizes were larger for PCIT on some outcomes (e.g., child behavior change) than Triple P (Piquero et al., 2016; Thomas & Zimmer-Gembeck, 2007) and for BASIC (Piquero et al., 2016). Thomas and Zimmer-Gembeck suggested that providing opportunities for parent–child interaction within the session may have accounted for this difference, consistent with the findings of Kaminski et al. (2008) in their meta-analysis of PMT. In an RCT (N = 908 Swedish families) comparing Connect against three established PMT programs (including BASIC), Connect had treatment effects of a similar magnitude as the PMT programs at 2-year follow-up (Högström et al., 2017). However, CP outcomes immediately post-treatment slightly favored the PMT programs over Connect (Stattin et al., 2015).

Mechanisms and Moderation

Given that a core premise of PMT (and some other family-based treatments for adolescents such as MST and MTFC) is that change in parenting behavior is the active mechanism for producing child behavior change, it is surprising that this issue has only been addressed empirically fairly recently (Fagan & Benedini, 2016; Forehand, Lafko, Parent, & Burt, 2014). Forehand and colleagues identified 25 studies (all of them

conducted since 2000) that examined one or more parenting behaviors as potential mediators of child and adolescent outcomes in family-based treatments. Less than half (45%) of the analyses supported mediation. This was most likely to occur for composite measures of parenting (90% supported mediation), discipline (55%), and positive parenting (45%), and least common for negative parenting (26%) and monitoring (10%). Mediation was more common in prevention as opposed to treatment studies (72% vs. 32%) and in samples of younger children (i.e., less than 10 years old; 61% vs. 29% for older children). Reasons for these findings are not known, but the authors speculate that mediation may be more likely with younger children whose behaviors are less entrenched, making the child's behavior more amenable to parental influences. Other potential mediators have been examined even less frequently. Parenting sense of competence has been shown to mediate the effects of MST (Dekovic, Asscher, Manders, Prins, & Van der Laan, 2012). Reducing engagement with deviant peers is one candidate that has received support in both MST (Huey et al., 2000) and TFCO-A (Eddy & Chamberlain, 2000). Connect appears to decrease youth CP by way of reducing attachment avoidance and enhancing affect regulation in teens (Moretti, Obsuth, Craig, & Bartolo, 2015).

In general, there has been a relative dearth of attention paid to the extent to which family-based treatments may be differentially efficacious with different subgroups of children, parents, and families, or as a function of different aspects of PMT (e.g., treatment delivery mode). An early meta-analytic study that examined moderators of PMT found that more severe child CP, single-parent status, economic disadvantage (i.e., low socioeconomic status), and group-administered (as opposed to individually administered) PMT resulted in poorer child behavior outcomes (Lundahl et al., 2006). In addition, economic disadvantage and PMT alone (as opposed to multicomponent interventions that included PMT) were also associated with poorer parent behavior and parental perception outcomes. Child age was not a significant moderator, which has also been reported by others (e.g., McCart et al., 2006). Lundahl and colleagues found that among disadvantaged families, individual PMT was associated with more positive child and parent behavioral outcomes than group PMT. A qualitative review of 19 studies by Shelleby and Shaw (2014) concluded that the effects of PMT were quite robust across a variety of sociodemographic and family risk factors; however, in contrast to Lundahl et al.'s findings, higher levels of baseline child CP were associated with more positive outcomes from PMT. Family-based treatments appear to be comparably effective for boys and girls (Kaminski & Claussen, 2017; Leve, Chamberlain, & Kim, 2015).

Meta-analytic studies have examined potential moderators for Triple P, BASIC, PCIT, and MST. In a comprehensive meta-analysis of 101 studies focused specifically on moderators of Triple P, greater severity of child behavior problems (for the parental relationship outcome variable), study approach (targeted and treatment approaches had stronger effects on child behavior outcomes than universal approaches), and Triple P level (i.e., Triple P Levels 3, 4 and 5 vs. Level 1 moderated effects on treatment satisfaction and efficacy) were factors associated with larger treatment effects when controlling for other significant moderators (Sanders et al., 2014). A meta-analysis of 50 studies of BASIC found that initial severity of child CP was the most powerful moderator of post-treatment effects, with more severe CP behavior associated with more positive outcomes (Menting et al., 2013). Parental attendance at more sessions and receipt of BASIC alone (without other treatment components of the Incredible Years intervention package) were also associated with larger effect sizes. However, it is important to note that a recent trial of BASIC in the Netherlands, which employed a large sample (N = 387), both parent-report and observational outcome measures, and multivariate analyses, found minimal evidence of moderation, with only 3 of 40 tested moderation effects being significant (one of which was parental attendance;

Weeland et al., 2017). A small meta-analysis (12 studies) of PCIT reported no moderation of intervention effect by child sex or diagnosis (ODD, CD, ADHD; Ward et al., 2016). Meta-analytic analyses suggest that larger MST effects have been obtained for adolescents younger than 15 years, Caucasian youth, and in US samples (van der Stouwe et al., 2014). The latter finding may be linked with challenges in implementing MST in countries outside of the US (e.g., poor treatment adherence), and to lower base rates and severity of offending behavior and higher quality *usual care* services than in the US (Asscher, Dekovic, Manders, van der Laan, & Prins, 2013; Henggeler & Schaeffer, 2017).

One area of current research interest is the extent to which family-based treatments are efficacious with a subgroup of children and youth with CP who also display CU traits. Children with CP and elevated levels of CU traits do not respond as well to traditional PMT interventions as do other children with CP. In a recent review, CU traits were associated with poorer outcomes from family-based treatments in 81% (9 of 11) of the studies (Hawes, Price, & Dadds, 2014). However, it is also the case that these children do respond to family-based intervention, but to a lesser degree than other children. Interestingly, this appears to be more likely to occur with children with an ODD diagnosis than with a diagnosis of CD (Hawes et al., 2014). Furthermore, four studies have documented decreases in CU traits (in addition to decreases in CP) as a function of family-based interventions (Butler, Baruch, Hickey, & Fonagy, 2011; Kjøbli, Zachrisson, & Bjørnebekk, 2018; McDonald, Dodson, Rosenfield, & Jouriles, 2011; Somech & Elizur, 2012). It has been suggested that additional emphasis be placed on the promotion of parental warmth and positive reinforcement in family-based interventions with these children (Hawes et al., 2014). Supporting such a recommendation are recent findings that changes in positive (but not negative) parenting mediated the effects of intervention on CU traits (Kjøbli et al., 2018; Pasalich, Witkiewitz, McMahon, Pinderhughes, & CPPRG, 2016).

Implementation

Large-scale effectiveness trials of PMT and other family-based treatments as well as cross-cultural dissemination studies have become common. These research efforts provide essential information on the feasibility of transporting interventions for CP to real-world settings and utilizing such interventions with diverse populations of children and families across the globe.

With respect to effectiveness, a meta-analysis demonstrated that PMT was more effective than waitlist control conditions when conducted in *real-world* settings, as indicated by: (a) clinic-referred samples; (b) non-specialist therapists; (c) routine settings; and (d) as part of a routine service (Michelson et al., 2013). Well-established family-based programs have been implemented in local community mental health centers (e.g., Henggeler, Melton, Brondino, Scherer, & Hanley, 1997; Scott, Spender, Doolan, Jacobs, & Aspland, 2001; Stattin et al., 2015; Taylor et al., 1998), volunteer organizations (Gardner et al., 2006), and in the child welfare/protection system (e.g., Chaffin et al., 2011; Chamberlain et al., 2008; Letarte, Normandeau, & Allard, 2010; Marcynyszyn, Maher, & Corwin, 2011).

Furthermore, many of these interventions have now been evaluated in international settings. Two recent meta-analytic reviews have demonstrated the transportability of PMT programs from their country of origin to other countries, both Western and otherwise (Gardner et al., 2016; Leijten et al., 2016). Gardner and colleagues reported effects of PMT in the destination countries comparable to those obtained in the program's country of origin. Interestingly, effects were somewhat stronger in regions that were culturally more distant (e.g., Asia, Latin America, Middle East) as opposed to countries with Anglo/European roots (e.g., Canada, the UK, Ireland, Norway, Sweden). Leijten and colleagues compared the effectiveness of transported and homegrown PMT programs in four geographic regions (North America, Australia, English-speaking European countries, and other European countries). They found

comparable effectiveness between homegrown and transported programs, regardless of the geographical region or the particular brand of PMT program (i.e., BASIC, PCIT, Triple P, GenerationPMTO). The authors suggest that these findings support both the dissemination of PMT programs to different countries, and the utility of locally developed programs that are based on similar principles (e.g., social learning) and that have been carefully evaluated. A potential limit to the generalization of these findings is that the regions included in these studies were, for the most part, high-income countries. Efforts to establish and evaluate PMT in low- and middle-income countries are just beginning (e.g., Knerr, Gardner, & Cluver, 2013; Mejia, Calam, & Sanders, 2012).

Evaluations of family-based treatments for adolescents have also been conducted in international settings, including MST [Canada (Cunningham, 2002), the Netherlands (Asscher et al., 2013), Norway (Ogden & Amlund-Hagen, 2006), Sweden (Sundell et al., 2008)], TFCO-A [Sweden (Bergström & Höjman, 2015; Westermark et al., 2010); the UK (Sinclair et al., 2016)], and Connect (Sweden; Högström et al., 2017; Stattin et al., 2015). Whereas findings for TFCO and Connect have generally been positive, this is less so for MST. As noted above, this may be at least partially due to less severe offending patterns and higher levels of usual treatment services for offending adolescents in the destination countries (Henggeler & Schaeffer, 2017).

Economic Analyses

It is well-established that children with CP, especially those who follow the early-starter developmental pathway, have the potential to incur substantial societal and economic consequences. For example, it has been estimated that the potential value of saving a single high-risk youth from a criminal career ranges from US$3.2 to $5.5 million (Cohen & Piquero, 2009). Given these figures, PMT and other family-based interventions have great potential to provide a cost-effective means of preventing future delinquency and perhaps even adult criminal activity. To date, there have been relatively few empirical examinations of cost-effectiveness (for reviews, see Charles, Bywater, & Edwards, 2011; Christenson, Crane, Malloy, & Parker, 2016). Some of the most thorough and methodologically sophisticated analyses have been conducted by the Washington State Institute for Public Policy (WSIPP, 2017). These analyses suggest benefit-to-cost ratios ranging from US$1.79 to US$3.36 for IY, PCIT, HNC, GenerationPMTO, and Triple P, and US$2.42 for MST and US$2.08 for TFCO-A (dollar values greater than 1 indicate that the benefits of a program exceed its costs). In addition, cost savings may be even greater when coordinated, multilevel systems of intervention are implemented. For example, WSIPP estimated that implementation of the Triple P system at a population level was associated with a benefit-to-cost ratio of US$9.17.

Future Directions for Research

It is apparent that the evidence base for family-based interventions for the treatment of youth CP is extensive and growing. Future research should continue to focus on extending this research base in the areas covered in the previous section of this chapter (i.e., generalization and social validity, comparisons with other treatments, mechanisms and moderation, implementation in real-world settings with diverse populations of children and families, and economic analyses).

With respect to mediation, as noted above, the research base has been primarily limited to a relatively small number of studies that have examined parenting practices as potential mediators. Future research should include parallel testing of multiple mediators (Patel, Fairchild, & Prinz, 2017) and more complicated mediational pathways, for instance, involving sequential or cascading effects (e.g., Forehand et al., 2014; Sandler, Schoenfelder, Wolchik, & MacKinnon, 2011). Analyses of moderated mediation and mediated moderation can also be employed to modify existing interventions or to

develop new ones (Fagan & Benedini, 2016). Moreover, these more complex models have potential for informing developmental theory on the interplay of risk and protective factors, by examining whether a developmental cascade of risk factors associated with poor child outcomes (mediation pathway) may be mitigated by assignment to a family-based intervention versus control (moderator; e.g., Pasalich, Fleming, Oxford, Zheng, & Spieker, 2016).

Several important areas for future research on family-based interventions for children with CP can be subsumed under the label of personalized mental health interventions (Ng & Weisz, 2016, 2017), which are "evidence-based methods for matching and tailoring treatments to individuals to optimize their outcome" (Ng & Weisz, 2017, p., 503). One approach is to modify treatments based on particular characteristics of children (e.g., CU traits, comorbid anxiety) and/or families (e.g., foster families, military families). Initial explorations of the roles of neuroendocrine functioning (e.g., Shenk et al., 2012) and gene by treatment interactions (e.g., Chhangur et al., 2017) in predicting or moderating treatment outcome represent exciting avenues for potentially improving family-based treatments for youth with CP. For example, Chhangur and colleagues recently documented that boys (but not girls) carrying high numbers of dopaminergic plasticity genes demonstrated greater decreases in parent-reported CP behavior as a function of parental participation in the BASIC PMT program.

Another approach to personalizing intervention that has received increased attention is the embedding of *common elements* of evidence-based interventions into modular treatment protocols (e.g., MATCH; Weisz et al., 2012). In essence, therapists select various intervention components that have empirical support in the treatment of different child disorders (e.g., time-out, response prevention, exposure to anxiety-eliciting stimuli), rather than relying on a set package of intervention techniques from a named program for a single child disorder. This approach has particular promise for therapists working with clinic-referred children, who typically present with multiple disorders, and enhances therapist flexibility in terms of offering a menu of evidence-based components and a sequence of decision rules for implementing them. On another front, common elements for PMT programs have been identified as well (Barth & Liggett-Creel, 2014; Kaehler et al., 2016). Recent findings suggest that modular treatment for youth mental health may be more effective than community-implementation of evidence-based treatments (Chorpita et al., 2017).

A third approach to personalization is a focus on the processes of parental engagement with family-based interventions, which typically includes attendance, adherence (e.g., in-session participation, homework completion), and cognitions (e.g., agreement with treatment rationale, therapeutic alliance, treatment satisfaction; for reviews, see Chacko et al., 2016; Nock & Ferriter, 2005; Piotrowska et al., 2017). A recent review of 262 PMT studies by Chacko and colleagues found a combined attrition rate of 51% (failure to enroll in or to complete treatment). Lower socioeconomic status was associated with higher attrition. There was a paucity of data concerning the other elements of engagement. The authors note the need for uniformity in reporting the different forms of engagement, including strategies designed to facilitate engagement. While there has been increasing attention to developing and evaluating such strategies (e.g., Chacko et al., 2016; Ingoldsby, 2010; Nock & Kazdin, 2005), additional research in this area is sorely needed. The recent presentation of a comprehensive process model of engagement (CAPE; Piotrowska et al., 2017) provides an excellent heuristic framework for future research in this area. The elements include *C*onnect and *A*ttend (i.e., enrolment and attendance), *P*articipate (which includes in-session discussion and homework completion), and *E*nact (implementation of the newly learned parenting strategies). Relatedly, others have called for the need for research focused on skill acquisition and utilization in the treatment of youth CP (Lindhiem, Higa, Trentacosta, Herschell, & Kolko, 2014).

Personalizing intervention can also relate to how family-based treatments are delivered. Prior

research described in this chapter has indicated some of the relative advantages and disadvantages of individual versus group administration of family-based interventions and the value of self-administered treatments (using a variety of formats) for certain families. For example, group-based PMT can be a cost-effective alternative to individual family treatment in some instances, and may ultimately have a greater impact at the community level, given the ability to reach larger numbers of families. However, PMT conducted with individual families may be more efficacious with economically disadvantaged families (Lundahl et al., 2006). In addition, there is some evidence that child participation in PMT sessions is associated with more positive outcomes (Kaminski et al., 2008; Kaminski & Claussen, 2017). A recent review concluded that brief PMT interventions (i.e., eight or fewer sessions) may be sufficient for reducing child CP in some families (Tully & Hunt, 2016), and Bagner and colleagues (Bagner et al., 2016; Bagner, Garcia, & Hill, 2016) have shown that an adapted version of PCIT [primarily the initial phase of treatment (Child-Directed Interaction)] can enhance parent–child relationships, reduce CP, and improve language production in 12- to 15-month-old infants. It is worth noting that one advantage of the Triple P multilevel system of intervention is that it allows for customization of program and titration of dose based on problem severity, mode of delivery, and parental preference.

Space limitations preclude a thorough discussion of the burgeoning research on the development and evaluation of technology-based interventions, which include both stand-alone and technology-enhanced interventions. The former refers to those technology-based interventions that do not involve any clinician contact (e.g., self-guided mobile apps, Internet-based treatments), whereas the latter involves some level of therapist involvement (e.g., video teleconferencing, telephone support; Anton & Jones, 2017). Suffice to say that there is emerging evidence that family-based interventions delivered via the Internet, either as stand-alone programs (e.g., Sanders, Baker, & Turner, 2012), via videoconferencing to remotely deliver PMT (Comer et al., 2017), or as adjuncts to clinic-delivered interventions (e.g., Jones, Forehand, Cuellar, Parent, & Honeycutt, 2014) are effective with a variety of families of children with CP (see reviews by Breitenstein, Gross, & Christophersen, 2014; McGoron & Ondersma, 2015; Watson MacDonell & Prinz, 2017). In one study, an Internet version of PCIT (I-PCIT) provided stronger effects on some outcomes than therapist-delivered PCIT (Comer et al., 2017). Jones et al. (2014) presented preliminary evidence that a technology-enhanced version of HNC utilizing a smart phone app that included an HNC skills video series, brief daily surveys, text message reminders, video recording of home practice, and midweek video calls enhanced engagement and outcome, compared to HNC alone, for a sample of economically disadvantaged families. Researchers are now drawing attention to various challenges and issues involved in the uptake and implementation of technology-based interventions (e.g., Anton & Jones, 2017; Chou, Bry, & Comer, 2017), and Anton and Jones have provided a conceptual framework for facilitating uptake and implementation of technology-enhanced treatments by individual therapists as well as provider organizations. These novel approaches to the delivery of family-based interventions for youth CP hold promise for increasing the reach of such interventions to families (e.g., those in rural or under-resourced communities) who may not typically receive them.

Fidelity to treatment (i.e., the extent to which therapists adhere to the core components of a particular intervention) has a strong base of support showing that high fidelity to various evidence-based treatments, many of them described in this chapter, results in better outcomes than when therapists demonstrate poor fidelity to the treatment model (for reviews, see Garbacz, Brown, Spee, Polo, & Budd, 2014; Goense, Assink, Stams, Boendermaker, & Hoeve, 2016). GenerationPMTO and MST have been vanguards of this approach (e.g., Forgatch, Patterson, & DeGarmo, 2005; Henggeler & Schaeffer, 2017; Hukkelberg & Ogden, 2013). However, there is a pressing need for a

standardized and comprehensive definition of fidelity that includes therapist adherence to the model, therapist competence (both with respect to the technical components of treatment as well as soft clinical skills), and treatment differentiation (Goense et al., 2016; Schoenwald et al., 2011). This then must be translated into reliable and valid measures of fidelity, and subsequent widespread adoption of fidelity assessment into clinical practice. The efforts by Forgatch and colleagues have been exemplary in this regard (e.g., Forgatch et al., 2005; Knutson, Forgatch, Rains, & Sigmarsdóttir, 2009).

A final direction for future research concerns recent developments in the translation of competing, or perhaps complementary, theoretical conceptualizations on the development of youth CP into novel family-based interventions. Historically, much of the empirical support on family-based treatments for child CP has been from interventions based on a social learning (or behavioral) model. This has been especially the case for PMT. There is some, but not uniform, support for the contention that social learning-based interventions are more effective than non-behavioral family-based interventions (for reviews, see Comer et al., 2013; Kaminski & Claussen, 2017), although as noted above, several recent individual studies have found comparable effects to social learning-based interventions for interventions based primarily on attachment theory (Högström et al., 2017), emotion coaching (Duncombe et al., 2016), and problem-solving (Ollendick et al., 2016). In addition, some evaluations of social learning-based treatments have documented improvements in attachment-related outcomes (e.g., maternal warmth, sensitivity) in addition to changes in parenting behaviors, such as praise and instruction giving (e.g., Blizzard, Barroso, Ramos, Graziano, & Bagner, 2017; O'Connor, Matias, Futh, Tantam, & Scott, 2013). Fisher and Skowron (2017) have recently suggested the compatibility of social learning and attachment perspectives for family-based interventions for a variety of child and family issues, and have noted that the field seems to be moving in the direction of "relational interventions" (p. 169). Such an approach might also incorporate more emotion-focused elements as well (e.g., Kaminski et al., 2008). In our own research, we are currently examining the feasibility of a combined intervention (HNC plus emotion coaching; McMahon et al., 2017) for clinic-referred children with ODD and CU traits.

Future Directions for Policy and Practice

In this section, we highlight four specific areas relevant to policy and practice: (a) the need to select evidence-based interventions; (b) family-based treatment as a core intervention for the treatment of youth CP; (c) family-based treatment as prevention; and (d) implementation in real-world settings.

Select Evidence-Based Interventions

Despite the available wealth of data pertaining to the outcomes of family-based interventions for youth CP, there is still a divide between clinical research and practice with respect to the implementation of empirically supported family-based programs. Considering the scarcity of resources in clinical care settings, along with clinicians' ethical obligation to service clients according to *best practice* guidelines, it is critical that clinicians (and the policy-makers that fund such decisions) choose family-based treatment programs that have an adequate empirical base. There are many interventions (family-based and otherwise) that are available commercially that have anecdotal or *practice-based evidence*, but little or no empirical support. Yet these non-evidence-based programs are extensively used (Petrosino, MacDougall, Hollis-Peel, Fronius, & Guckenberg, 2015). Although these programs may prove to be effective in robust research trials, until these data are available, clinicians and policymakers should be encouraged to seriously consider this caveat. Reference to key reviews and meta-analyses (Kaminski & Claussen, 2017; McCart & Sheidow, 2016) and lists of evidence-based practices (e.g., California Evidence-based Clearinghouse for Child Welfare, 2017;

Substance Abuse and Mental Health Services Administration, 2017) can be useful starting points for the identification of potential interventions.

Family-Based Treatment is a Core Intervention Component

There is overwhelming support for family-based treatment as an essential core intervention for reducing CP in youth. In fact, PMT may be sufficient as a stand-alone intervention for children with CP between the ages of 3–6 years. For older children and adolescents, multicomponent treatments that involve therapeutic work with the youth and his/her parents in the contexts of both the family and the broader community (e.g., school, peer group), are more often indicated. Nonetheless, family-based treatment should always be a core component in these multicomponent interventions.

Family-Based Treatment as Prevention

Traditionally, family-based interventions for youth CP have been considered to represent a form of treatment, rather than prevention. However, it is important to keep in mind that the boundaries between prevention and treatment are often very fluid. PMT *treatment* interventions for young children's CP may have significant *preventive* effects (on the occurrence of later CP and delinquent behavior), especially if applied during the preschool years (e.g., Reid, 1993). An integrative review of 26 reviews and meta-analyses (1075 studies) of preventive interventions published between 1990 and 2008 found that PMT interventions had a larger effect size than either child-focused or school/community-based interventions (*d*s = 0.56, 0.41, and 0.28, respectively; Beelmann & Raabe, 2009). It can also be argued that family-based treatments for adolescents with CP also serve a preventative function, if they decrease the probability of entry into the justice system, or reduce the likelihood of future offending (see Salari and Enebrink (2018) for a detailed discussion of family-based preventive interventions).

Implementation in Real-World Settings

As noted above, there is a current emphasis on implementing family-based treatments in real-world settings (e.g., Gardner et al., 2016; Michelson et al., 2013). Thus, it is important to recognize the potential challenges faced by community stakeholders and intervention researchers in this collaborative endeavor. For example, referrals to community settings, such as child and family mental health centers, are often characterized by high rates of diagnostic comorbidity and case complexity, and difficult-to-engage families; furthermore, some isolated populations (e.g., rural families) cannot frequently access these services. Such obstacles call for creativity and innovation in remodeling the format and delivery of current family-based intervention approaches, while retaining the science underlying the intervention. In this light, some potential solutions to these challenges include those described in the previous section, including personalization of treatment, increased focus on the process of engagement, and the use of innovative adaptations of existing family-based treatments and/or delivery systems.

In addition to child- and family-informed barriers in implementation, other obstacles occur at the levels of individual providers or practitioners, and collaborating agencies (Southam-Gerow, Rodríguez, Chorpita, & Daleiden, 2012). For example, practitioners in community mental health services often differ in their levels of prior experience, education, and training in clinical work with families, which may facilitate or hinder the effectiveness of implementation efforts. Moreover, the organizational climate of an agency may involve high staff turnover, thereby reducing the number of available trained leaders and champions of an intervention to ensure successful implementation. Train-the-trainer models have been developed to help combat this obstacle

by allowing agencies to adopt the necessary training resources to be self-sustaining in the ongoing implementation of family-based interventions (Dishion et al., 2016).

Conclusions

Family-based treatments are clearly the interventions of choice in treating child and adolescent CP. Research on these approaches has provided substantial empirical support for their efficacy, generalization, social validity, and effectiveness in a wide variety of settings and with various populations in the real world. Furthermore, there is increasing evidence for the benefits of family-based interventions from an economic perspective.

The evidence base for PMT interventions with younger children is relatively stronger than it is for family-based interventions with adolescents. This likely speaks to the entrenchment and increased variety and severity of CP behaviors in youth on the early-starter developmental pathway, as well as the broader set of contextual influences on the CP behavior (e.g., school, peer, and neighborhood) by the time that these youth become adolescents. However, it may also be partly due to the relative maturity of the empirical bases for these two types of intervention.

This relative difference in efficacy also speaks to the importance of viewing PMT with younger children as playing a key role not only in the treatment of children with CP, but as central to the prevention of later more serious antisocial behavior and criminal activity (see above).

Although family-based interventions have much to contribute to the treatment of children and adolescents with CP, they are clearly not a panacea. Too many children and families fail to respond sufficiently to these interventions—this must be a major focus of research and clinical practice moving forward. As noted above, there is much research activity focused on various aspects of this issue, and there is reason to be optimistic that the field will continue to advance. We owe this continued pursuit to the children and families who allow us (as clinicians, researchers, and policymakers) to enter their lives.

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Part VI

Implications for Policy and Practice

Towards a Comprehensive, Evidence-Based System of Parenting Support over the Lifespan

Matthew R. Sanders and Kylie Burke

ter promote child well-being and development. This chapter makes the case for the adoption and implementation of a population-based, multilevel system of support for parenting that is integrated, accessible, and supported across all levels of a society. We discuss the evolution of a suite of evidence-based parenting programs that show greatest promise in assisting parents to undertake their role. We review evidence showing the application of parenting programs to a diverse range of social and emotional difficulties in children and adolescents.

Introduction

There is widespread agreement among developmental and clinical researchers, and prevention scientists from diverse disciplines (psychology, education, pediatrics, psychiatry, public health, and economics), agencies and practitioners who serve families, parents themselves and increasingly, policy makers, that raising children is an important, challenging, stressful, and expensive job.

The United Nations Rights of the Child (United Nations General Assembly, 1989) states that every child has the right to life, their own identity, to be raised within a family or cultural grouping (and to have a relationship with both parents), to be protected from abuse and exploitation. and the right to an education. This task is not the responsibility of parents alone. Rather it is a community responsibility which involves carers, extended family members, the neighborhoods in which families live, the broader community (including business, support services, local government and infrastructure), as well as state and federal government policy makers. It also includes researchers who investigate the mechanisms by which we can bet-

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Evidence–Based Parenting Support

We use the term *Evidence-based Parenting Support* (EBPS) here as a generic term denoting a process of change that aims to positively influence the prosocial development of children and youth, including social, emotional, and physical well-being, through corresponding changes in those aspects of the family environment implicated in the development, maintenance and alteration of children's behavior and capabilities. EBPS involves the systematic application of data-based principles and techniques derived from social learning theory, public health, and relevant behavioral, affective, and cognitive change strategies, with an emphasis on reciprocity of change and relationship building among family members.

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Why a System of Evidence-Based Parenting Support

A rich theoretical and empirical literature documents the importance of parents and parenting in the lives of children. Multiple theoretical perspectives from attachment theory (Maccoby & Martin, 1983), social learning theory (Bandura, 1961, 2000; Patterson, 1982) and more recently acceptance and mindfulness approaches (Coyne, McHugh, & Martinez, 2011; Greco & Eifert, 2004) all recognize that parents play a critical role in promoting children's development and well-being. That parenting interventions are an effective way of providing parenting support is also clear, with decades of research involving multiple randomized controlled trials (RCTs) that have documented the efficacy of group and individual programs particularly those based on social learning theory and cognitive behavioral approaches to family intervention such as Incredible Years (Reid & Webster-Stratton, 2001), Parent–Child Interaction Therapy (Eyberg, 1988), and the Triple P—Positive Parenting Program (Sanders, 2012).

Much of the literature, along with policy and service priorities, have focused on the most vulnerable families and direct intervention at the individual family level via development of parenting programs, child protection policies and laws and funding of services to support parents and children experiencing multiple and complex needs (e.g., Child and Adolescent Mental Health Services, Family Support Services). While important, targeted interventions focusing only on individual vulnerable children and families are not sufficient to achieve the ultimate goal of ensuring that all children have access to nurturing, competent parenting, nor are they sufficient for ensuring well-functioning communities.

This type of problem-focused approach that views parenting within a pathological framework of family dysfunction is very limited in its capacity to achieve change on a wide scale. An ecological approach to understanding the determinants of parenting that recognizes the crucial role of parents in creating a nurturing environment throughout the lives of children (Biglan, Flay, Embry, & Sandler, 2012) is required.

Although parenting has a profound impact on children's social, emotional, cognitive, and physical development and success in life, there is less agreement about how best to support parents in the task of raising their children. In this chapter, we make the case for an approach to parenting support that draws upon key research findings on how parenting practices influence child development, an understanding of the determinants of parenting, and the role of the wider community context in supporting effective parenting.

We contend that access to high-quality, evidence-based parenting support programs for all parents is required throughout their lives (including middle age and the later years of life) so that family relationships are strengthened across the lifespan. This is not only critical for reducing stigma associated with seeking help for parenting issues, and to increase the participation rates of mothers, fathers, and other relevant carers from diverse cultural and socioeconomic circumstances, but is also critical for ensuring that all parents have an opportunity to enhance their confidence and competence in raising their children. Achievement of this goal requires a systematic and coordinated blend of universal and targeted programs.

Parenting and Child Outcomes

Parents are charged with the task of providing children with a safe, loving, secure, and supportive environment that enables them to develop the values, morals, knowledge and skills they will need to fit in and contribute to society as adults (Lerner, 1995, 2002). A close parent–child relationship and experiencing effective parenting lay the foundations for later development through the promotion of healthy early brain development, executive function and self-regulation, language, communication and social skills, peer relationships, educational attainment, and children's mental and physical health, and overall well-being (Sanders & Mazzucchelli, 2018).

There is no one right way for parents to perform this critical task of "parenting." Different approaches are needed to effectively parent in different contexts and with different children, however, the Australian Federal Government's "Parenting Information Project" has defined effective parenting practices as "actions that best achieve the goals of parenting a particular child in a particular context" (Centre for Community Child Health, 2004, p. 56). According to this definition, parents are being effective if they are able to adapt and respond flexibility to the changes that occur as their children develop and as the environment they live in changes. In their seminal work on child maltreatment, Azar and Cote (2002) described effective parents as those individuals who approach interactions with their children with sensitivity and accuracy regarding their child's capabilities and their own role in how to assist the child to meet developmental challenges. Further, effective parents have a broad repertoire of parenting strategies and are able to flexibly apply these strategies according to the specific demands of the varied developmental and parenting situations they face with each of their children (Azar & Cote, 2002).

Parenting practices have been shown to be highly likely to be transferred from one generation of parents to the next (Capaldi, Pears, Kerr, & Owen, 2008; Chung et al., 2009). Hence, the factors that enhance the context and strategies parents use to raise their children warrants careful consideration. A range of factors influence the approach a parent takes to raising their children, including their own temperament and cognitive ability, learning history and their own family history (see Part III of this book).

While parents may vary in the way they parent their children, there are some clear strategies and practices (e.g., positive reinforcement, discipline, monitoring, involvement, and acceptance; Pelegrina, Garcia-Linares, & Casanova, 2003; Reid, Patterson, & Synder, 2002; Sanders, 2012) that have been shown to create a rich, stimulating, warm, positive parenting environment for children, and effective parents predominantly adopt these strategies in context relevant ways to promote their child's development and well-being. Factors such as chronic poverty, high mortality, marital instability, and social isolation act to reduce the quality of parent–child relationships and the use of effective parenting practices (Bradley & Vandell, 2007). These can be exacerbated in communities in which there is a lack of coordinated services and resources, and where intergenerational transmission of problems such as unemployment, poverty, crime, and alcohol and other drug addictions occur, and place children at increased risk for negative outcomes and vulnerability to the effects of ineffective parenting practices and poor relationships with their parents (Farrington, Coid, & Murray, 2009).

The Changing Context of Parenthood

The social context for parenthood is changing. Many parents are raising children in very difficult circumstances, affected by factors such as extreme poverty, homelessness, intergenerational violence, mental illness, and substance addictions (Azar & Cote, 2002; Centre for Community Child Health, 2004). While these factors clearly impact on parents' resources (both internal and external) and are risk factors for poor child outcomes, they do not in themselves prevent parents from being effective in their parenting role (Azar & Cote, 2002). For other parents, shifting social and community mores have resulted in challenges to parental confidence and access to traditional forms of support and guidance (e.g., family).

As noted in Burke, Haslam, and Butler (2018), across the world the composition and nature of family is changing. Families are now more likely to have fewer children and older parents at the time of first birth than just three decades ago. More women are participating in the workforce, frequently with both parents engaged in employment and the educational attainment of women has also increased significantly (OECD, 2011). There is now much variation in family structure, with an increase in nontraditional relationships between parents (e.g., cohabitation rather than marriage) and the number of sole parent households.

Greater social mobility and globalization means that many families may live in communities isolated from their extended families (Weldon-Johns, 2013) and the advice and practical support that they can offer. These changes can result in erosion of the traditional sources of practical and emotional support for parents and increases the relevance of access to formal parenting support programs and services. Yet very few parents participate in formalized parenting programs (Baker, Arnold, & Meagher, 2011), with reports that only about one in ten Australian parents participate in parenting support (Sanders, 2008), and as few as 30–35% of families invited to participate in prevention projects for child behavior problems actually enrol (Baker et al., 2011).

For many families, the already challenging task of parenthood is complicated by community contexts, such as poverty (characterized by low-income, high unemployment, high crime, high incidence of single-parent homes and greater household crowding) and neighborhood disorder (crowding and high-density living, vandalism, abandoned or deteriorating housing, unsupervised teenagers, high residential mobility, and poor access to resources and facilities such as healthcare, leisure, and educational facilities). These factors make the parenting role more stressful, demanding, and challenging than it needs to be, and are linked to adverse outcomes for children and young people (Brooks-Gunn, Johnson, & Leventhal, 2010; Ceballo & McLoyd, 2002).

While it is difficult to completely estimate the effects of the community and socioeconomic impacts on parents due to the cumulative and complex interactions across multiple factors, the role of unsupportive and dangerous community contexts is likely to increase parental distress and reduce the amount of attention parents have available to focus on interactions with their children (Sanders, Burke, Prinz, & Morawska, 2017). This results in less nurturance and higher levels of aversive and inconsistent discipline towards children.

Child maltreatment has also been disproportionally higher in families living in poverty (Eckenrode, Smith, McCarthy, & Dineen, 2014). Considerable focus in Australia and many other countries has been on children's exposure to sexual abuse in organizations (e.g., Royal Commission—Case Study #57; https://www.childabuseroyalcommission.gov.au/case-studies/case-study-57-nature-cause-and-impact-child-sexual-abuse). However, international evidence shows the greatest safety risks children face are at home in the form of abuse or neglect by parents. According to epidemiological surveys, approximately 5–10% of children experience physical abuse; around one in ten are emotionally maltreated; 12–23% witness family violence; and 4–8% experience serious (i.e., penetrative) sexual abuse (Price-Robertson, Bromfield, & Vassallo, 2010). Compromised conditions of safety within the family coupled with variable parenting capacity and skill is the common denominator. When families struggle to provide consistently warm, nurturing and safe environments, children sometimes require protection. Statutory systems provide the safety nets for responding to children (Mullan & Higgins, 2014); however, such systems come into contact with only a small proportion of the children who surveys show experience maltreatment (Mathews et al., 2016).

According to Higgins and Katz (2008) reviews of family law, child protection services, and the juvenile justice system point to a common set of family problems that lead to contact with these service systems—that is, family violence, mental health issues, and addictions to alcohol, tobacco, other drugs and gambling. The common feature of parental behaviors or circumstances is that they adversely affect a family's capacity to provide positive parenting and ensure that children are protected from harm. Further, as neighborhood conditions worsen, the protective role of social support for parents also declines, thus potentially increasing parental social isolation (Ceballo & McLoyd, 2002) and placing families further at risk. Combined with the intergenerational transmission of factors such as employment and educational attainment, crime and parenting practices (Farrington et al., 2009; Raudino, Fergusson, Woodward, & Horwood, 2013), it is clear that the context in which parenting occurs is a critical influence on the parenting that a child receives.

Taken together, this indicates that alternative forms of support are needed and a more system-

atic and population-based approach to parenting support that moves beyond the aim of child maltreatment prevention or the exclusive targeting of at risk families is needed. It achieves this by carefully and systematically making evidence-based parenting support available at multiple levels of a community and by combining health promotion, early intervention and tertiary level support for families. This approach will be better able to reduce the stigma associated with seeking parenting support, increase the spread of positive parenting strategies across a community, and increase the likelihood that those in need will have greater access to formal and informal support.

The Impact of Childhood Adversity

The experience of adversity during childhood has been shown to have a significant impact on development and health outcomes across the lifespan. Anda et al. (2006) outline ten forms of adversity that are prevalent in childhood and have negative effects well into adulthood: emotional abuse, physical abuse, sexual abuse, family substance abuse, family mental illness, witnessing domestic violence, having an incarcerated household member, parental separation or divorce, emotional neglect, and physical neglect. The number of children exposed to the harmful and cumulative risks of childhood adversity such as those described by Anda et al. (2006) are considerable. As an example, in a retrospective study of a representative sample of 7432 Australian adults, 60% reported experiencing some form of adversity during childhood and 37% reported experiencing multiple adversities (Rosenman & Rodgers, 2004).

While all children are susceptible to adversity, some are more at risk than others (Schilling & Christian, 2014). Risk factors include social factors such as minority status (Finkelhor, Ormrod, & Turner, 2007) and economic disadvantage (Williams Shanks & Robinson, 2013); family environment factors such as unemployment, and poor health and education (Social Exclusion Unit, 2001); and parental factors such as unrealistic expectations, harsh parenting styles, young parenthood, and poor adjustment (Schilling & Christian, 2014). One of the biggest risk factors for experiencing adversity is having already experienced adversity (Bromfield & Higgins, 2005).

Parent mental illness (Gershon et al., 2011; Goodman & Gotlib, 2002; Pilowsky, Wickramaratne, Nomura, & Weissman, 2006) and substance addiction (Goldman Fraser, Harris-Britt, Leone Thakkallapalli, Kurtz-Costes, & Martin, 2010) have been consistently linked to the development and persistence of problem behaviors in children (Nomura, Wickramaratne, Warner, Mufson, & Weissman, 2002) and adolescents (Smart, Sanson, & Toumbourou, 2008). For example, children of parents diagnosed with clinical depression have been shown to be at higher risk for the development of depression and anxiety over time than parents of non-depressed parents (Nomura et al., 2002) and emotional and behavioral dysregulation was associated with parental mental health difficulties for preterm-born children (Treyvaud et al., 2010). Parental mental health and/or substance misuse are also frequently linked to child maltreatment across the world (Bromfield et al., 2010; Coates, 2017). These impacts are further exacerbated when the parent's difficulties occur in the context of poverty (Fitzsimons, Goodman, Kelly, & Smith, 2017) and other adverse family environmental factors (e.g., family conflict).

Children who experience adversity often belong to families with high levels of conflict (Milner, 2008), and hostile or ineffective parenting, such as overreactivity (Chan, Yan, Brownridge, Tiwari, & Fong, 2011), and harsh and aggressive parenting (Russa & Rodriguez, 2010), thus placing children at risk of poor social, emotional, and behavioral adjustment across their lifetime (Odgers et al., 2008). Children who experience ongoing adversity may develop chronic stress, impeded development (Johnson, Riley, Granger, & Riis, 2013) and adjustment difficulties (Cicchetti, Rogosch, Sturge-Apple, & Toth, 2010), such as aggressive and antisocial behaviors (Kitzmann, Gaylord, Holt, & Kenny, 2003), emotional regulation (Cowling, 2004), suicidal ideation (Cicchetti et al., 2010), and increased risk of suicide attempts in adolescence (Johnson, Brook, Gould, Johnson, & Kasen,

2002). Social adjustment can also be affected by adversity, with children more likely to become a bully or be bullied themselves, and be excluded by their peers (Mohapatra et al., 2010).

Adverse experiences during childhood are also associated with an array of negative outcomes in adulthood such as increased risk for aggression, involvement in illegal activity (Schilling, Aseltine Jr, & Gore, 2007), inter-partner violence, risky sexual activity with multiple partners and sexually transmitted infections (Anda et al., 2006), unemployment, and homelessness (Kendall-Tackett, 2002).

Parents who experienced adversity as a child, have a heightened risk for adopting ineffective parenting practices with their own children, such as hostility (Bailey, Hill, Oesterle, & Hawkins, 2009), harsh discipline (Rijlaarsdam et al., 2014), intrusiveness (Moehler, Biringen, & Poustka, 2007), inconsistency (Raudino et al., 2013), permissiveness (Jaffe, Cranston, & Shadlow, 2012), and psychological unavailability (McCullough, Harding, Shaffer, Han, & Bright, 2014). Parents who experienced adversity during childhood have also been shown to be at risk of having low levels of emotion regulation (Smith, Cross, Winkler, Jovanovic, & Bradley, 2014), self-efficacy (Jaffe et al., 2012), warmth (Barrett, 2009), and responsiveness with their children (Bert, Guner, & Lanzi, 2009).

Positive parenting practices have been shown to positively impact the relationship between adversity and negative outcomes for children. Effective parental monitoring reduces the risk that adolescents and emerging adults will experience many of the poor outcomes associated with adversity, such as conduct problems (Racz & McMahon, 2011) and drug use (Shillington et al., 2005). Similarly, having a positive relationship with a parent that is high in warmth (Haskett, Allaire, Kreig, & Hart, 2008), involvement (Mehring, 2014), connectedness (Amato & Sobolewski, 2001) and support, and low in hostility (Manning, Davies, & Cicchetti, 2014) and control (Lima et al., 2014) is linked to reduced risk of behavioral, social, and emotional problems, such as aggression, antisocial behavior (Haskett et al., 2008), depression and PTSD (Houshyar & Kaufman, 2005) for children even in the context of adversity.

It is also important to note that many of the parenting factors that influence the effects of adversity can themselves be transmitted from one generation to the next. High levels of positive parenting in one generation have been shown to not only lessen the impact of adversity, but to increase the likelihood that the next generation will also use high levels of positive parenting with their children (Bailey et al., 2009), thus protecting their own children from the harm associated with adversity and resulting in better outcomes for each generation (Neppl, Conger, Scaramella, & Ontai, 2009). Conversely, parenting that is characterized by harsh physical punishment and control, has been linked to poor social, emotional, and behavioral well-being across generations (Conger, Neppl, Kim, & Scaramella, 2003; Shelton & Harold, 2008).

Improving Social, Emotional, and Academic Outcomes through Parenting Programs

The relationship between parents and children influences a diverse range of developmental outcomes in children and young people, and as noted above, there is clear evidence demonstrating that parenting and child behavioral difficulties are intergenerationally linked (Conger et al., 2003; Shelton & Harold, 2008). Substantial evidence from high-quality RCTs and meta-analyses show that changing parenting practices improves many diverse developmental outcomes (Rowan-Robinson, 2017; Sanders, Kirby, Tellegen, & Day, 2014; Woolfenden, Williams, & Peat, 2001). Participation in parenting programs based on social learning theory (Bandura, 2000) and cognitive and behavior change principles (Biglan, 2015) such as Parent–Child Interaction Therapy (Thomas & Zimmer-Gembeck, 2007), the Incredible Years (Jones, Daley, Hutchings, Bywater, & Eames, 2007) and the Triple P—Positive Parenting Program (Sanders et al., 2014) has been shown (across studies, different countries and in both home and community settings)

to be associated with sustained reductions in externalizing and internalizing child behavior problems, improvements in parental well-being (parental confidence and effectiveness, anxiety, depression, and self-esteem) and improved parenting practices that enhance the quality of parent–child relationships. Recent studies have also demonstrated effects within socially disadvantaged communities (Mejia, Calam, & Sanders, 2015; Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009).

Social learning-based parenting interventions such as Triple P, PCIT, and Incredible Years have been shown to be effective with parents of children with oppositional defiant disorders (ODD), conduct disorders, ADHD, feeding problems, language delay in young children, challenging behavior in children with developmental disabilities and autism, brain injuries, and anxiety disorders, and across early childhood and adolescence (Sanders & Mazzucchelli, 2018). Although the evidence is stronger in some areas where more studies have been conducted (e.g., ODD) than other areas such as anxiety disorders, there is still a consistent pattern of findings across types of problems, that shows that when parents use relevant positive parenting skills effectively, children benefit regardless of specific diagnosis, type of problem, or child age.

Further, as outlined by Sanders, Higgins, and Prinz (2018) parenting support programs delivered in the context of child maltreatment prevention can be used to address a wide range of issues. These include (a) managing challenging behaviors of children; (b) acquiring basic information about parenting skills and children's developmental needs; (c) understanding changing contexts as children grow, in terms of changing developmental needs and the parenting skills required for adaptation; and (d) responding to particular challenges such as developmental transitions (e.g., puberty) or different life contexts (e.g., during family separation/divorce; a bereavement; illness or other loss/trauma in the family). Parenting can be demanding for everyone, at different times, such that many families can benefit from support in one way or another for the task of parenting.

Much of the evidence for parenting programs has focused on parents of young children, however, parenting programs can also make a difference for parents of adolescents. While the evidence is lagging behind that of outcomes for younger children, parenting programs delivered to parents of adolescents have also been shown to result in reductions in adolescent behavior problems and parent stress, as well as improvements in parent competence and confidence (Burrus et al., 2012; Dretzke et al., 2009).

Making a Multilevel System of Parenting Support Work

Applying the Minimal Sufficiency Principle

The principle of *minimal sufficiency* refers to the process whereby parents receive the minimally sufficient or "just enough" level of intervention support needed to resolve the problem and to enable the parent to parent their children confidently, competently and independently. For some parents a tip sheet, or large group seminar may be sufficient to enable the parent to reflect on how they are currently dealing with a situation and decide what changes, if any, are needed to completely resolve the problem. For other parents who have a child with a chronic problem, such as learning difficulties in the context of ADHD, the parent might benefit from continuing support from time to time as new problems arise or old difficulties resurface or an acute exacerbation of symptoms arises following disruptive events (e.g., change of class or teacher, becoming physically unwell).

Avoiding a "One Size Fits All" Approach

Just as children's social, emotional, and behavioral needs change over time, so do the demands and stressors associated with parenting. Among other things, during early childhood, parents' focus is on ensuring their child's immediate environment is safe, and that the child is provided

with plenty of social interaction, language, and developmentally appropriate play and educational opportunities to stimulate their curiosity and learning. As children move into adolescence, many of the social and educational opportunities are taken over by peers and school, with parents now needing to ensure that their child has the skills and limits to handle increased autonomy and the potential risky situations (e.g., drugs, unsafe sex, parties) that they will be exposed to, while also continuing to promote their engagement in learning and maintaining close connections with their parent/s and family. The role of parents shifts again in emerging adulthood, the period between 18 years and approximately 25 years, as described in Ralph (2018). During this developmental period, the parent–child relationship often needs to be renegotiated as parents and their child adjust to their new adult status. For some parents, day-to-day parenting tasks, such as meals and laundry, continue as their young adult continues to live in the parental home. For others, the time demands of parenting reduce to that of providing emotional and practical support on a needs basis. This can be a time of confusion and conflict for parents. Finally, becoming a grandparent represents another shift in the parental role (Kirby & Hoang, 2018), with grandparents often now providing day-to-day childcare to their grandchildren and/or negotiating the often tricky balance between being supportive and helpful to their own children versus being perceived as interfering (Mason, May, & Clarke, 2007).

While most parents adjust to the ever-shifting role of parenting across their lifetime, many do so with support and advice from others. As already noted in this chapter, support comes in many forms, formal and informal, with EBPS an effective component. However, as illustrated here, the advice or support needed by a parent changes based on the context in which the parent is raising their children and the phase of the life cycle they and their children are negotiating. Additionally, the intensity of support needed by a family will vary according to factors such as the child's temperament, the level of adversity experienced, the parent's own well-being and the social and economic stressors facing the family. Some parents will require longer-term, intensive, and one-to-one support from a qualified health professional to address the multiple and complex issues facing their child and family. For others, access to brief, evidence-based information will be sufficient to activate the parent's self-regulatory capacity to address any parenting concerns. Of course, across the lifespan the same parent may find themselves requiring information or support at differing intensities. For example, during early childhood parental participation in an 8-week sequential, broad-based parenting program may help the parent to address and plan for a range of challenging situations. This same parent may then find benefit in attending a brief 2-h session of dealing with conflict during their child's adolescent years. As such, it would be naïve to expect that one type and intensity of parenting program can address all the needs for parents within a community or indeed for the same parent across their parenting lifespan.

Using Knowledge about Parents' Preferences as Consumers

Understanding the issues and drivers that impact the targets of an intervention, including their preferences for program format and the intensity of intervention that is appropriate for specific subgroups of parents is essential in planning a multilevel model of parenting support. Consultations with the target group enable program developers to adapt the program content and processes to the context under investigation. Consultation approaches can include review of the literature regarding perceived needs of the target group and the direct collection of views from the target group via focus groups, interviews, or surveys.

Epidemiological surveys of parents from diverse socioeconomic backgrounds have been used to help plan population based parenting interventions (Sanders, 2008). Such surveys can establish for a given population the modes of

delivery parents are seeking. For example, Metzler, Sanders, Rusby, and Crowley (2012) found, using an online survey, that both parents of children with conduct problems and parents without conduct problems preferred television programs and online programs to access parenting advice which had higher preference ratings than home visiting or participating in group parenting programs.

Enhancing Parental Self–Regulation

The development of an individual's capacity for self-regulation should be a central goal of parenting interventions (Sanders, 2008). Self-regulation is a process whereby individuals acquire the skills they need to change their own behavior and become independent problem-solvers and controllers of their own destiny. Capacity for self-regulation occurs in a broader social environment that supports parenting and family relationships (Karoly, 1993). Drawing on Bandura's cognitive social learning theory (e.g., Bandura, 1991) self-regulation describes both the processes by which individuals can change their behavior and the social interactional contexts that promote the capacity to change. In the case of parents learning to change their parenting practices, the self-regulatory process is operationalized as a multicomponent process involving five key elements that are essential for enhancing parental confidence and competence: (1) *Self-management tools*—tools and skills to change their parenting practices (e.g., self-determination of parenting goals, self-monitoring of specific parent and child behaviors, self-selection of change strategies, self-evaluation of achievement of performance criterion, and self-reward for goal attainment); (2) *Parental self-efficacy*—increasing parents' confidence in their capacity to solve personally relevant problems; (3) *Personal agency*—encouraging parents to attribute changes or improvements in their family situation to their own or their child's efforts rather than to chance, age, maturational factors, the practitioner's skills, or other uncontrollable events (e.g., a spouse's poor parenting or genes); (4) *Self-sufficiency*—encouraging the parent to become an independent problem-solver who has the personal resources, knowledge, and skills to maintain any gains achieved and to tackle future problems with the same child or other children in the family; and (5) *Problem-solving*—parents are equipped to define problems more clearly, formulate options, develop a parenting plan, execute the plan, and evaluate the outcomes achieved, and to revise the plan as required for current and future problems.

We argue that a population-based, multilevel system of parenting support has the potential to improve the self-regulation of a considerable proportion of parents across a community and in doing so result in significant reductions in a range of risk indices that compromise children's development. It is possible that by achieving an increase in the levels of self-efficacy and personal agency relating to parenting in enough individuals across a community we may activate wider community processes that can benefit children and families. For example, the involvement of local government through public libraries in delivering positive parenting programs can bring parents with low literacy skills into a learning environment that concurrently encourages positive parenting (e.g., reading to children) and participation in adult education classes to address their own literacy challenges.

A multilevel system of parenting support implemented at the whole of community level has the potential to not just improve parenting but to also create a critical mass (threshold) and activate social ties, thus providing a potential mechanism by which parents may begin to view others in their community as having shared values and skills for improving their community's ability to protect and promote the well-being of their children. A multilevel system (e.g., Triple P; Sanders, 2012), commences with a population-level campaign designed to disseminate and normalize key principles for protecting and supporting children's health, safety, development, and learning. Such an approach combined with targeted group based and individual support for families across the community has the potential to result in improved self-efficacy and confi-

dence to parent children, along with the development of a set of shared beliefs regarding the needs of children within the community. This in turn may influence the quality and number of ties parents feel to their community. In this way, a multilevel system may operate as an agent to facilitate activation of the community to achieve goals of benefit to their children. Sampson (2004) also notes the role of organizations in promoting collective efficacy and supporting the capacity of communities to sustain social action, thus a multilevel system of parenting support should also engage multiple agencies and government stakeholders to support and disseminate the key messages of positive parenting.

Targeting Other Phases of the Life Cycle

As already noted, much of the evidence to date has targeted early childhood as a critical point in time for which parenting interventions can make significant shifts in parenting and developmental and health outcomes for children. Some evidence also exists for the role of parenting interventions in adolescence, albeit this literature is marred by challenges associated with engagement of parents during this busy and challenging developmental stage (Burrus et al., 2012; Dretzke et al., 2009). There is considerable evidence to suggest that ineffective parenting and/or poor quality relationships between parents and children are important precursors for conduct problems in children and adolescents (Odgers et al., 2008), with difficulties in childhood and adolescence translating into more serious problems in adulthood. Adolescents who have poor quality relationships with their parents are more likely to become socially and academically disengaged, engage in criminal behavior (Farrington et al., 2009), and have ongoing relationship and employment challenges in adulthood. Conversely, a close parent–adolescent relationship and parenting characterized by praise and encouragement, effective conflict management, clear communication of expectations and rules, and appropriate limit setting and monitoring, are associated with important social and academic competencies in adolescence, including academic engagement and achievement (Kelly, Toumbourou, Homel, Patton, & Williams, 2012), capacity to manage behavior and emotions, and better social and community connectedness (Smart et al., 2008). Furthermore, effective parenting has been shown to be a key factor protecting against a range of negative adolescent outcomes including alcohol and other drug misuse, mental health problems, truancy, and oppositional behavior difficulties (Wang, Dishion, Stormshak, & Willett, 2011), and early sexual experience (Kelly et al., 2011). Given the importance of parents and effective parenting in adolescence and the challenges that have been identified in research on parenting interventions to date, it is clear there is still much to be done to understand and improve the ways in which we engage and support parents of adolescents.

Other life stages also warrant further exploration in regard to the relevance and effectiveness of parenting interventions. For example, children are now living at home for longer and thus parents are required to maintain a more active parenting role with their emerging adult children. The role of parents in the lives of emerging adults (young people aged 18–25 years) has recently begun to receive attention by researchers, with studies exploring the ways in which parents and emerging adults redefine and communicate the shifting status to adulthood. Emerging adulthood is characterized by an increase in making independent decisions, taking responsibility and achieving financial independence from their parents (Arnett, 2000). The limited studies to date show that parents and emerging adults view the transition to adulthood differently (Nelson et al., 2007), but that overall the developmental phase represents a relatively stable continuation of the parent–adolescent relationship. However, life transitions such as full-time employment, getting married, and even cohabitating with a romantic partner have been related to closeness, more support, and less conflict in the parent–emerging adult relationship (Aquilino, 1997). Other studies have suggested the importance of a positive parent–emerging adult relationship in reducing risk

for depression, anxiety, and loneliness in emerging adults (Turner, Sarason, & Sarason, 2001) and for academic engagement (Waterman & Lefkowitz, 2017). To date, no research has explored the role of EBPS in assisting parents to traverse the emerging adulthood development phase.

Grandparenting is another life stage that has undergone shifts with the changes in family structure and dynamics over the past few decades. Many grandparents are in caring roles for their grandchildren, either as fulltime custodial carers or as informal carers, in place of formal childcare services (Kirby & Sanders, 2012). The challenges associated with these different types of involvement in the care of grandchildren are both unique and overlapping. Custodial grandparents are the primary caregivers of their grandchildren, often because their own child is unable to take on the primary role of parenting, due to difficulties such as substance misuse, child maltreatment, incarceration or death. Custodial grandparents therefore must deal with many of the same issues that other primary carers face (e.g., day-to-day care, educational decisions), often with children who are experiencing significant emotional and behavioral difficulties (Smith, Palmieri, Hancock, & Richardson, 2008). By contrast, grandparents who provide informal care of their grandchildren are secondary carers and this type of care makes up a significant amount of the childcare burden with rates estimated as greater than 20% in countries such as Australia (ABS, 2012) and the US (Laughlin, 2013), and as high as 40% in Europe (Glaser, Price, Di Gessa, Montserrat, & Tinker, 2013). Grandparents in these circumstances face the challenge of balancing provision of support and respect for their own child's parenting with the need to make moment by moment parenting decisions for the grandchild under their care. Involvement of grandparents in childcare can result in or worsen conflict between grandparents and their children (Mason et al., 2007). The research exploring the role of EBPS has primarily focused on supporting custodial grandparents (Hayslip, 2003; Kelley, Yorker, Whitley, & Sipe, 2001). Evidence for EBPS focused on grandparents providing childcare is also beginning to emerge. For example, Kirby and Sanders (2014) found significant improvements on grandparent reported child behavior problems, and their own confidence and well-being 6 months following participation in a grandparent variant of the Triple P—Positive Parenting Program.

Clearly, parenting is a role that continues well beyond the birth of a child and combined with the changing social and work structures of communities parenting support necessarily is provided by both informal and formal sources. Yet much of the current evidence focuses on parenting of young children. Further research, development, and dissemination of EBPS is required to ensure that appropriate and relevant support is available across the lifespan, including adolescence, emerging adulthood, and grandparenting.

Activating Community Change Processes

The adoption of a population-based approach to parenting support has the potential to facilitate the creation of caring communities that are "parent and family friendly" places to live and raise children (Sanders et al., 2017). A population approach requires interagency cooperation, collaboration, and involvement of existing agencies in a community (Prinz et al., 2009) and requires a convergence between policy, practice, and evaluation.

Stakeholders can include local government, agencies serving families (including state and not-for-profit organizations), schools, childcare centers, local libraries, law enforcement agencies, local businesses, the media, and parent consumers. The goal is to increase a sense of collective efficacy; a belief that a community has the capacity and resources to solve problems and promote a positive and nurturing community and neighborhood environment for raising children and youth (Sampson, Morenoff, & Earls, 1999). When community processes are mobilized, the number of vulnerable families participating in parenting programs is likely to increase, particularly when different variants of a program based on need are available. This means a population roll out can avoid a "one size fits all" approach.

Essential Features of a Population Approach

EBPS programs are sound investments with respect to economic and social benefits to a community, as characterized by the Early Intervention Foundation and the National Institute for Health and Care Excellence (NICE) in the UK and the Washington State Institute of Public Policy (WSIPP) in the US.

In addition, major international organizations, such as the World Health Organisation, through its global violence prevention initiative (World Health Organisation, 2010), the United Nations Office on Drugs and Crime (2009) and the United Nations Children's Fund (2012), have all advocated for EBPS programs to be made available in low- and middle-income countries. Further, they suggest that reductions in family violence and harsh corporal punishment of children require the building of local capacity in implementation of culturally adapted EBPS.

Blending of Universal and Targeted Interventions

Major government investments in parenting programs to date have focused on delivery of relatively high intensity (8- to 14-session) home visiting, group and individual programs targeting vulnerable children. However, while targeted EBPS programs in child and adolescent mental health services and family services are needed, the families seen by these services represent the "tip of the iceberg" (Sanders et al., 2017), while the vast majority of parents whose children are at risk and are likely to benefit from parenting programs do not participate, and of parents who do, as many as 51% fail to complete the full program (Chacko et al., 2016). Many factors converge to explain the relatively low parent participation and completion rates, and much can be done to improve program engagement and completion rates; however, a different approach is needed to create population-level changes in parenting that result in healthier children and adults.

Sanders et al. (2017) provided a basic rationale for adopting a population health approach to EBPS and argued that an integrated, multilevel population-based system is needed. Such a system would aim to normalize and destigmatize parental participation in EBPS by providing parents with a range of delivery options for program participation that range from "light touch," low intensity interventions such as public seminars and topic specific discussion groups, to more intensive multisession group and individual programs, thus allowing differences in the needs of parents to be accommodated.

Flexible Delivery

There is increasing interest of both consumers and funders in using the internet to deliver a wide range of health interventions (Baker, Sanders, & Morawska, 2017). A recent large-scale survey in Victoria, Australia showed that 80% of respondents had accessed parenting advice via the web (Parenting Research Centre, 2017). This is consistent with other consumer surveys showing that parents of young children with conduct problems prefer to access parenting support via television programming and online programs (Metzler et al., 2012). From the perspective of implementing a multilevel system of parenting support, having alternative delivery modalities such as in-person individual, group delivery, and online options makes it easier for parents to participate in a format that best meets their needs and interests.

Cultural Adaptations of Evidence-Based Programs

Although there is considerable diversity across cultures in how children are raised by their parents, the fundamental tasks of parenthood remain the same. In a multicultural community, it is important that cultural differences are acknowledged and accommodated within a population roll out of a parenting intervention. Keown, Sanders, Franke, and Shepherd (2018) demonstrated the positive effects on child and parent outcomes, of a

culturally adapted version of a brief parenting intervention (Triple P Discussion Groups) with parents of preschool aged children. The Collaborative Partnership Adaption model (CPAM; Turner, Sanders, Keown & Shepherd, 2018) was used to adapt the intervention. This involved blending core indigenous parenting values in Maori culture (Tikanga) with core principles and techniques of positive parenting. Additional materials were developed to complement existing resources following focus groups with Maori parents, practitioners, and elders. None of the actual parenting techniques were changed.

Use of Administrative Data

Outcome data collected directly from families is one important method for developing an understanding of the impact of parenting programs, and indeed evidence from large scale research programs has demonstrated that parenting interventions have a role to play in addressing risk and protective factors associated with social disadvantage (Olds, 2006; Patterson, Forgatch, & DeGarmo, 2010). In recent years, there has also been an increasing push to improve the monitoring of outcomes associated with health and educational services and initiatives. Such a push, long sought after by researchers, has been driven by the need to improve quality of care for consumers and the need to demonstrate economic value for money at the individual agency and government levels. The result has been the introduction of "routine" outcome measurement in Mental Health services across countries such as the UK and other European nations and Australia. More recently, there has also been an increase in the ability to measure other indicators of community well-being beyond those captured in tertiary health and educational settings. The term *community indicator* can be taken to reflect a range of economic, social, environmental, cultural, and governance goals and priorities as they relate to specific communities, population groups, or societies (Cox, Frere, West, & Wiseman, 2010). The aim of community indicators is to provide citizens and governments with tools to establish and measure goals of interest (e.g., reductions in youth unemployment, higher high school completion rates) and to track community trends and outcomes over time.

Population indicators have the potential to contribute to ensuring that high quality, shared, and accessible information about the health of communities is established and available for use in planning policy and service outcomes and priorities at local and broader societal levels (Sanders et al., 2017). This can lead to better informed and more comprehensive reporting of activities and outcomes, thus promoting accountability and transparency (Cox et al., 2010). Population-level indicators also provide valuable information for monitoring the effects and costs associated with the intervention programs they fund and/or implement.

Indicators of community well-being are typically derived from data that is collected by governments and services on citizens and consumers (Blanke & Walzer, 2013), and tend to stem from concerns with monitoring overall conditions, and finding ways to integrate decisions about health care, jobs, environmental issues, and other characteristics important in healthy communities. To date, few if any population-level indicators have been developed that include parenting (e.g., views on parenting practices; challenges faced) that can be used to routinely track the challenges and priorities of parents over time (Sanders et al., 2017). Yet access to this information is clearly necessary if we are to measure population-level shifts in child and family outcomes, and the effectiveness of government policy and interventions aimed at shifting family and child well-being for whole communities.

Challenges Ahead

Strengthening the Evidence

The evidence base supporting population based implementation of parenting programs is supported by only a small number of trials. It needs to be strengthened further by conducting additional large-scale place-based RCTs. This evolving

evidence base needs to ensure that contemporary standards of scientific reporting are observed, including the pretrial registration of all trials, and that trials are adequately statistically powered. Inevitable and unavoidable conflicts of interest (COI) that stem from program developers being involved in trials need to be consistently declared in grants, scientific papers, reports and conference presentations (see Sanders, 2015). Once declared, COIs need to be properly managed by individual academics, universities, and research institutions undertaking the research. Independent-of-developer evaluations (e.g., Fives, Pursell, Heary, Gabhainn, & Canavan, 2014) are useful once programs have been disseminated, provided that they are conducted competently.

There is a need to develop a series of brief, reliable, valid, and change-sensitive measures of parenting that can be used widely as a population indicator of parenting practices with different age groups. Such measures that can be linked to administrative data collected by health, education and welfare authorities would allow for linkage of individual data with aggregate data at a population level. As population-level effects are likely to be influenced by parent-to-parent advocacy (a social contagion effect), geographical mapping of the spread of parent-to-parent sharing of advice and support across a geographical catchment area would be particularly useful to explore how program participation spreads through parent social networks across communities, including digital ones. Finally, trials of population-level interventions need to develop or use measures of the favorability of the policy environment and funding of services. For example, in Australia, during a 3-year rollout of Stepping Stones Triple P as a population-level intervention in three states, the Federal Government introduced a National Disability Insurance Scheme (NDIS) that changed the funding of services for families of children with a disability, favorably impacting access to services. One consequence of the funding decision was that many trained providers reported being unable to continue to deliver group programs because of the restriction in funding as a consequence of NDIS.

Ensuring Sufficient Population Reach

The greatest threat to achieving population level change in parenting, is lack of parental participation. Low participation rates are a frustratingly common problem for many service providers who end up cancelling or rescheduling programs offered because insufficient numbers of parents enrol. Low participation rates can be a reflection of lack of consumer demand, inadequate program promotion and marketing, poor or inflexible timing of program offers, or stigma associated with participation. Low participation rates of particular groups need to be understood in the broader context of the lives and competing demands and priorities of disadvantaged, vulnerable families. However, much can be done to increase consumer demand for parenting programs as part of a comprehensive engagement strategy. These include having a strong social marketing campaign, peer advocacy, professional testimonials, media stories, and social media (Wilkinson, 2018). If parents are unaware of the existence of a program low participation is likely. Delivering programs in venues with convenient parking, transportation assistance, and provision of childcare, all serve to reduce barriers to attendance, and provision of incentives for attendance can increase attendance rates (Morawska & Sanders, 2006).

Monitoring and Enhancing Program Fidelity

Program developers argue that the best results are achieved when practitioners implement programs competently with a high degree of program fidelity. Poorly implemented programs can actually be harmful to parents and children (Scott & Dadds, 2009). Hence, it is important that practitioners delivering parenting programs receive adequate supervision, particularly during the early stages of learning an evidence-based practice, and that program fidelity is monitored continuously. A form of clinical supervision known PASS or Peer Assisted Supervision and Support (McPherson, Sanders, Schroeter, Troy, &

Wiseman, 2016) has the advantage of concurrently promoting reflective practice, and tracking program fidelity for both content and process. The process involves a structured series of activities including reviewing videotapes or audiotapes of intervention sessions (Sanders & Murphy-Brennan, 2010). A rotational peer moderator is used to encourage participants whose case is being reviewed to self-reflect on strengths, areas for improvement and goals for changes, followed by constructive peer feedback. This approach has the advantage that it can be used with any psychological intervention.

Encouraging Father Participation

A persisting concern in the parenting field has been the under representation of fathers in both research studies on parenting and in parenting intervention trials (Tully et al., 2017). In a survey of 1001 fathers of children aged 2–16 years the topics fathers would like included in a parenting program were "bully-proofing your child," "teaching your child social skills," and "encouraging child development through quality time and play." Keown (2018) argued that there is compelling evidence that fathers can contribute to children's well-being and that father inclusive parenting programs enhance outcomes for children (Keown, Franke, & Kaur, 2018). Frank, Keown, and Sanders (2015) included additional father relevant content to the delivery of Group Triple P. They found that following program completion, intervention group fathers and mothers both reported significantly fewer child behavior problems, dysfunctional parenting practices, and inter-parental conflict about child rearing than waitlist parents. Intervention group mothers also reported increased parenting confidence and rated their partners as showing significantly fewer dysfunctional parenting practices. Intervention effects were maintained at 6-month follow-up. The inclusion of father-relevant examples derived from consumer surveys of fathers and focus group materials helped ensure that the program was more directly tailored to the interests of fathers (Frank, Keown, Dittman, & Sanders, 2015).

Conclusions

This chapter has made the case for adopting a population-based approach to the provision of parenting support. The model proposed has been a blending of universal and targeted programs with an emphasis on normalizing and destigmatizing participation in parenting programs. A major challenge for population approaches is to ensure that there is sufficient "pull demand" from parents. Unless parents associate participation with benefits to their children and themselves, other priorities will get in the road of parents making the necessary commitment to complete a program and apply their learning to their everyday interactions with their children.

The adoption of a systems-contextual approach to parenting support is a great advantage as it enables many diverse settings, delivery modalities and disciplines to be involved in the task of supporting parents in their parenting role. It also highlights the potential role of local governments and businesses supporting the creation of family friendly environments at a local level. Environmental hazards beyond the control of parents such as inadequate housing, insufficient play spaces and recreational facilities for children and young people, unsafe neighborhoods, and lack of quality childcare, early childhood education and schools complicate the task of raising children. Parenting programs provide an important opportunity for parents to socially connect with other parents and their broader community. For new arrivals to a community, particularly refugee and immigrant parents from other countries and cultures, parenting programs may afford a safe, supportive context to learn about socially normative parenting in a new environment as part of a resettlement process.

Finally, although literally hundreds of studies demonstrate the value of parenting interventions, particularly those based on social learning and cognitive behavioral principles, there is a great need for additional large-scale population level evaluations of parenting programs using place randomized experimental designs. These designs are needed to not only document population level effects but to also examine moderators of intervention effects. An analysis of moderators might

reveal subpopulations or locations that are harder or easier to engage or who have poorer or better outcomes. Such data can be used to mobilize additional efforts and resources to ensure positive outcomes can be achieved for all families (Box 1).

Box 1 The Every Family Australian Triple P System Population Trial

The Every Family Australian Triple P System Population trial funded by the Australian Research Council examines the effects of a community wide implementation of the Triple P system funded by the Queensland State Government on rates of child maltreatment and educational outcomes in children aged 3–8 years in the most socioeconomically disadvantaged areas in Queensland. The full multilevel Triple P system comprising a media and communications strategy, large group seminars, small group topic specific discussion groups, more intensive Group Triple P, and Enhanced Triple P for more complex cases, plus Triple P online was made available to all families with children up to the age of 17. In an effort to boost participation rates of parents across the State, a number of social marketing and engagement strategies were used, including conducting regular parenting surveys to solicit parents' views on the issues they experience with their children. This parenting survey was jointly promoted by a commercial television network (Channel 7) and the Sunday Mail newspaper. The survey resulted in stories for the media outlets while encouraging parents to take part. A specially dedicated website was established to promote the delivery of the program, to allow parents to register online for specific programs, and to receive tips and advice through a regular feature column from the first author. A well-known sports star who is a father of four was used to encourage participation and to be an ambassador for the program. Schools, family service agencies, local government, and local businesses hosted Triple P events and encouraged parents to participate. In the first 2 years of the rollout, 161,000 parents participated in an in-person or online intervention, drawn from a broad cross section of the community. The program has received strong government support, and many local members of parliament have hosted Triple P seminars in local schools in their electorates. The evaluation of the rollout will use linked administrative data on rates of child maltreatment, school readiness, and academic outcomes in 33 sociodemographically matched catchment areas in Queensland and other parts of Australia that are not exposed to the full multilevel population model.

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Economic Benefits of Sustained Investments in Parenting

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Introduction

The understanding that parents and parenting play an important role in the health and development of their children is behind the development of parenting interventions. There is currently a range of parenting interventions available in different countries, with varying delivery formats and theoretical approaches, targeting different problems and population groups. A large body of research exists investigating the effectiveness of parenting programs on multiple parental and child outcomes, as well as their differential effectiveness across various risk factors and target populations (much of this is covered in this book). This information is needed to know whether interventions that are available or already implemented in our communities are actually improving parent and child health. Information on effectiveness is, nevertheless, not sufficient to make decisions on whether the outcomes produced by parenting interventions are *value-for-money*, or whether decision-makers should allocate existing resources to the financing of such interventions among other available competing interventions. The need to investigate the economic benefits of parenting interventions, and to determine whether they are *value-for-money* has increased the demand for the economic evaluation of these interventions. This chapter introduces, first, the discipline of economics and the economic way of thinking, touching upon important concepts in the field, such as the concepts of opportunity cost and benefits. Second, the chapter discusses economic evaluation as a tool for decision-making, exploring the different forms of economic evaluation and analytical frameworks. The rest of the chapter provides a narrative review of the existing literature on the cost-effectiveness credentials of parenting interventions. This type of review is useful to provide readers with up-to-date knowledge of the general extent of the research completed to date.

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What is the Economic Way of Thinking?

The discipline of economics is generally concerned with how societies allocate scarce resources, that is, it is about the production and consumption of goods and services within the context of scarcity. Opportunity cost is a simple yet powerful concept, whereby the true cost of a decision to use resources in a particular way is the value of the next best use of those resources.

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Using a highly simplified example, if a person only has $5 to spend and chooses to spend this on a bar of chocolate at the supermarket, then the opportunity cost of this decision is all the other goods and services which could have been purchased with this $5. A central concept in the economic way of thinking is the idea of *value-for-money*. Opportunity cost relies on consumers weighing alternative uses of resources in terms of the *value* or *benefit* or *utility* each of these alternative uses of resources will have. Therefore, economics is not about cost-cutting, but rather the best use of scarce societal resources, which may mean producing more of one good, and perhaps less of another, if greater overall benefit can be gained by changing the mix of goods and services being produced.

Markets are an elegant way to achieve this greater overall benefit, whereby these decisions of how to best allocate goods and services can be easily determined via the interaction of producers and sellers, subject to certain underlying assumptions holding.[1] One of the main assumptions is consumer sovereignty, whereby consumers are assumed to know and understand the impacts of alternative courses of action. The main attraction of the market paradigm is that it can result in an efficient allocation of societal resources where the *right* mix of goods and services are being produced for society. Unfortunately, market failures can happen (where the assumptions of the market model do not hold), and governments may need to intervene to produce goods and services. Healthcare markets are a good example where there are many potential market failures. In healthcare, for example, the assumption of consumer sovereignty is very difficult to adhere to, since most people may not be fully aware of what their health needs are, let alone the treatment requirements (thus relying on healthcare professionals to provide this expertise, who may also not be fully informed of all alternatives, etc.).

Governments often intervene in many markets (e.g., health, education, and defense) for reasons of both market failure and equity (Rice & Unruh, 2009). In health, in particular, equity considerations are important regardless of whether the role of the government is in terms of regulation, finance, or provision. However, governments also require information regarding whether and how to invest in alternative healthcare services or interventions, often spanning the continuum of prevention, treatment, and finally palliation. Therefore, the question of should we invest in parenting interventions (as opposed to alternative uses of the resources which might go into parenting interventions), and if so, which ones, becomes important.

Economists tend to undertake research activities in four separate but interrelated areas, namely description, prediction, evaluation, and explanation (Carter, 2012). Classic examples of description studies include both burden of disease studies, which describe the mortality and morbidity impacts of various diseases and disorders, and cost of illness studies, which tend to describe the economic impacts in terms of costs (including lost productivity) of various diseases and disorders. For example, The Global Burden of Disease Pediatrics Collaboration (2016) has estimated the leading causes of disease burden in children and adolescents. This study found that the leading causes of both fatal and nonfatal health burden can differ substantially between countries, with large differences found between developing and developed countries. There are also numerous cost of illness studies within the academic literature, which invariably highlight the high economic costs associated with various illnesses in both children and adults. For example, in a review of cost of illness studies in children with disabilities, Stabile and Allin (2012) found that overall costs to families of having a child with a disability (including direct costs to families, indirect costs through reduced productivity, and ongoing direct costs to the child into adulthood) average US$30,500 a year per family. The authors highlight that costs are often elevated for children with mental health problems. These authors also conclude that many studies do not include the full costs associated with such children, and therefore may be an underestimate of the total economic costs. Another study by Scott, Knapp, Henderson, and Maughan (2001) estimated the cumulative costs for individuals from age 10 to 28 years with

[1]It is beyond the scope of this chapter to delve into the economic theory underlying the market paradigm.

conduct disorder (CD), to be ten times higher than those of children with no problems, and 3.5 times higher than those of children with conduct problems, which do not meet criteria for CD, in terms of excess health service use, educational and justice system costs. Many such burden of disease studies also include a predictive component, which can help determine which diseases/disorders are likely to become burdensome into the future.

While such burden of disease studies are useful in terms of highlighting diseases/disorders with large economic and disease burden, they do not in and of themselves provide any evidence as to whether further investment either in prevention or treatment is warranted. Economic evaluation is the only tool available, which can answer the question of *value-for-money*, and whether investment is likely to be *worth it*. Lastly, the task of explanation is largely one of trying to determine causality, thereby making economics sometimes complementary to epidemiology (Mihalopoulos, 2015).

What Do We Mean by Economic Evaluation?

Economic evaluation is a tool developed to help decision-makers answer the question of which interventions they should consider funding. Economic evaluation is formally defined as the comparative analysis of two or more interventions both in terms of their costs and their consequences (or outcomes/benefits; Drummond, Sculpher, Claxton, Stoddart, & Torrance, 2015). The results of such evaluations are usually expressed as incremental cost-effectiveness ratios (ICERs), where the incremental costs of *intervention A* versus *intervention B* are divided by the incremental benefits of *intervention A* versus *intervention B*. The advantage of economic evaluation is that it is an explicit framework for decision-making of healthcare financing options, which is based on the discipline of economics, and offers a theoretical paradigm of resource allocation. Economic evaluation as a useful tool for healthcare funding decisions is now quite accepted with many national decision-making organizations, such as the National Institute of Health and Care Excellence (NICE) in the UK and the Pharmaceutical Benefits Advisory Committee (PBAC) in Australia, requiring formal evidence of cost-effectiveness to inform funding decisions.

There are, however, different forms of economic evaluation, which are sometimes confused in the academic (and nonacademic) literature. Box 1 contains a brief summary of the key defining features of the various forms of economic evaluation.

Box 1 Commonly Used Forms of Economic Evaluation

The five forms of economic evaluation described below all measure the costs of the interventions in monetary units; however, differ in how the outcomes (or the benefits) of interventions are measured.

1. Cost-effectiveness analysis (CEA): Outcomes are measured in clinically meaningful units, such as score reductions in depression or anxiety symptom scales, or even proportion of people no longer meeting criteria for a diagnosis after intervention completion.
2. Cost-utility analysis (CUA): Outcomes are measured in generic outcome indices, which combine both mortality and morbidity impacts. The most commonly used generic outcome index is the quality-adjusted life-year (QALY). QALYs are calculated by multiplying the length of time spent in a particular health state by a "weight," which designates the "preference" society has for that particular health state. Weights are usually bounded by 0, denoting death, and 1, denoting full health. Weights in between these values denote less than perfectly healthy health states, with lower values denoting less preferred health states (i.e., more impaired) than higher weights.

Box 1 (continued)

3. Cost-benefit analysis (CBA): Outcomes are measured in monetary units. The challenge for healthcare interventions is attaching a monetary value to outcomes that do not have a market-based monetary value, such as improvements in quality of life of children or parents.
4. Cost-minimization analysis (CMA): Is not really a full economic evaluation technique, but is employed when two interventions have the same demonstrated outcomes. The evaluation then reduces to a cost analysis, whereby the cheaper intervention is logically preferred.
5. Cost-consequences analysis (CCA): May incorporate elements of all the above analytical techniques, whereby multiple outcomes associated with two or more interventions are presented to decision-makers separately.

A note on the measurement of costs: Costs of health interventions tend to include the costs of actually delivering the intervention as well as other costs which might be impacted by the intervention. For example, a new treatment for depression might impact the degree to which the person will use other services, such as general practitioners, medications, and other mental health practitioners. Services outside the formal healthcare system may also be impacted, for example community welfare services, judicial services, and accommodation services. Which costs are included in the economic evaluation are largely dictated by the economic perspective of the study. The broadest economic perspective (and the most preferred from a theoretical viewpoint) is the societal perspective, whereby all costs and consequences, no matter to whom they accrue, are included. Commonly, however, more limited perspectives, such as the healthcare perspective, are adopted in economic evaluation. Interested readers are referred to excellent texts, such as that by (Drummond et al., 2015).

Cost-Utility Analysis (CUA) is now probably one of the most widely used forms of economic evaluation, since it allows practical *value-for-money* judgments to be made, and also allows the cost-effectiveness credentials of interventions across different disorders/diseases (including mental and physical health) to be made. For example, in Australia there is a widely used *rule of thumb* criterion of $50,000AUD/quality-adjusted life-year (QALY) or below, which denotes an intervention is good *value-for-money* (Carter et al., 2008). In the UK, this criterion is around £30,000/QALY (McCabe, Claxton, & Culyer, 2008). Of course, cost-effectiveness is not the only criterion upon which interventions may be financed. For example, equity, acceptability, and feasibility are also important dimensions to the funding and priority-setting process for decision-makers.

Economic evaluations can also be either *within trial* evaluations, whereby an economic evaluation *piggy-backs* onto a clinical trial, usually a randomized controlled type of trial. Alternatively, computer-based modelling studies are also widely used to synthesize results from multiple sources and try to account for important impacts, which are sometimes missed in limited-time-horizon controlled trials. In order to try to incorporate all sources of evidence, as well as estimate any longer term impacts of health interventions, which simply cannot be captured in time-limited trials, computer models are the main form of evaluation used in the decision-making agencies cited above (e.g., NICE in the UK and PBAC in Australia). Therefore, *economic* benefits of interventions are not only cost savings or employment outcomes, but are much broader than that.

The rest of this chapter provides a narrative review of recent economic evaluation evidence regarding the cost-effectiveness credentials of key parenting interventions (including preventive interventions) targeting child health issues. While a literature review was carried out for the purposes of this chapter, the review was not *systematic*, however we are confident that the majority, if not all, peer-reviewed economic evaluations of parenting interventions published to date, have been sourced for this chapter. A formal critical

evaluation of the included studies using published criteria, such as those developed by (Drummond et al., 2015) is beyond the scope of this chapter.

What Do We Know about the Economics of Parenting Interventions for Improving Child Health?

The literature on the economics of parenting interventions for improving child health is quite extensive and dates back to the 1980s. Considerable research has been undertaken, which has looked at outcomes and/or costs of parenting interventions and at different levels and patterns of resource use. Although somewhat informative, such partial economic evaluations, which investigate either outcomes or costs separately, only consider one of two important dimensions of economic evaluation, and cannot, thus, guide decision-makers on which programs provide the best *value-for-money*. This chapter focuses solely on studies that met the criteria for a full economic evaluation, which have considered both costs and outcomes of two or more interventions over time. Studies with a randomized or quasi-randomized controlled design with at least one parenting intervention arm aiming to improve child health were included. In addition, only studies using a validated instrument to measure child outcomes were considered. Modelling studies based on multiple data inputs were also included. A parenting intervention was defined as a structured intervention with well-documented key components that can be reliably applied by practitioners with appropriate training. This review was limited to peer-reviewed published studies and studies in manuscript format submitted for review to the authors' knowledge. Reports on the subject which were not peer-reviewed, although informative, were not included.

After a review of the literature,[2] 22 studies were found examining both outcomes and costs of two or more interventions, where one was a parenting intervention with the aim of improving child health. Table 1 contains a summary of the general characteristics of the economic evaluation studies retrieved for the purposes of the current narrative review. The earliest study dated back to 1995 and the latest to August 2016. Studies varied considerably with regard to design, type of evaluation, cost analysis perspective, setting, problem targeted, sample size, and instruments used. Most of the studies (n = 18) targeted child mental health: two studies aimed at improving child general mental health, 13 studies targeted externalizing behavior problems (such as attention deficit/hyperactivity disorder and conduct disorder), and three studies targeted internalizing problems (i.e., anxiety). The remaining four studies targeted diverse child health problems (including autism, child abuse and expressive language delay). Most interventions (n = 15) targeted the prevention of various child health problems, whereas six studies evaluated treatment strategies. This classification is not always unambiguous, given that many interventions that are classified as treatment could very well be seen as indicated prevention and vice versa. This is because children are often identified based on a score on a symptom-based rating scale, rather than given a diagnosis based on a psychiatric structured interview evaluation. Nevertheless, many commonly used symptom-rating scales for measuring diverse child health problems, such as conduct problems and inattention/hyperactivity problems, have shown good predictive validity credentials, and have good ability to identify clinical cases based on predetermined cutoff values.

Most studies were conducted in Western Europe (n = 15) including the UK, Ireland, Sweden, and the Netherlands, followed by Australia (n = 4) and North America (n = 3). Of the 22 studies found, 14 were cost-effectiveness analyses undertaken with various outcomes,

[2]The literature search was undertaken in Econlit, Eric, Global Health, Medline, and Psychinfo using the terms child, parent, economic evaluation, cost benefit, cost effectiveness, cost utility. Additionally, the reference lists of all included studies and systematic reviews located through a search of the Cochrane database of systematic reviews were checked for other relevant papers.

Table 1 General characteristics of the studies included

Author, year	Setting	Problem targeted	Population	Intervention	Comparator	Follow-up
General health						
Ulfsdotter, Lindberg, and Mansdotter (2015)	Sweden	General health	General population	All children in focus parenting program—4 group sessions and 1 booster session of 2.5 h after 3 months. Parents also given reading materials	Waitlist control (WC)	6 months
Dalziel, Dawe, Harnett, and Segal (2015)	Australia	Child abuse	Methadone-maintained parents	Parents under pressure program (PUP)—Up to 20 weeks (mean 10.5) of in-home individual sessions of 1–2 h and a workbook	Combined treatment as usual (TAU) and brief intervention. *TAU*—Appointment with a doctor every three months and access to a caseworker. *Brief Intervention*—Two standard parenting sessions delivered in the clinic by the same pool of therapists who delivered the PUP program	6 months
Byford et al. (2015)	UK	Autism	Parents of preschool children	Communication-focused therapy (preschool autism communication trial–PACT) + TAU. The intervention consisted of an assessment session followed by 12 individual sessions of 2.5 h. Extra monthly booster sessions offered up to a maximum of 19 sessions including the assessment session	TAU—Locally provided services (e.g., pediatricians, speech and language therapists, and other health, social care, and education-based services)	13 months
Gibbard, Coglan, and MacDonald (2004)	UK	Expressive language delay	Parents of children <3 years old	Group-based parenting intervention—11 individual sessions of 1.5 h	TAU—Defined based on treatment information from speech and language therapists	6 months
Mental health						
General						
Herman et al. (2015)	US	Mental health	Divorced mothers of 9- to 12-year-olds	New beginnings program—Mother program and mother-plus-child program. *Mother Program*—Parenting-focused program including 11 group sessions and two individual sessions. *Mother-Plus-Child Program*—Mother program plus 11 sessions for children	Bibliotherapy—Mothers and children received three books on children's post-divorce adjustment	15 years

Sharac, McCrone, Rushton, and Monck (2011)	UK	Mental health	Adoptive parents of 3- to 8-year-olds	Home-based parenting interventions combined: (1) *Cognitive behavioral approach adapted from Incredible Years*—10 sessions of 1 h; (2) *Educational approach*—10 sessions of 1 h (parents given a training manual)	TAU	6 months
Externalizing behavior problems						
Sayal et al. (2016)	UK	ADHD	Parents of 4- to 8-year-olds	1-2-3 magic parenting program (parent-only arm and parent+teacher arm). *Parent-only arm*—Three group sessions of 2 h. *Parent + teacher arm*—Parent-only arm plus an additional 1.5 h group session delivered to teachers	Do-nothing	6 months
Sampaio, Enebrink, Mihalopoulos, and Feldman (2016)	Sweden	Conduct problems	Parents of 3- to 12-year-olds	*Comet* (ten group sessions and one individual session of 2.5 h), *Cope* (ten group sessions of 2 h), *Connect* (ten sessions of 1 h), *Incredible Years* (12 group sessions of 2.5 h) and *bibliotherapy* (book on parent management techniques)	WC	3 months
Sampaio, Sarkadi, Salari, Zethraeus, and Feldman (2015)	Sweden	Externalizing behavior	Parents of 2- to 5-year-olds	Triple P levels 2 and 3. *Level 2*—Three stand-alone 1.5 h-group seminars. *Level 3*—Up to four individual sessions of 15–20 min	WC	18 months
O'Neill, McGilloway, Donnelly, Bywater, and Kelly (2013)	Ireland	Conduct problems	Parents of 3- to 7-year-olds	Incredible years—12–14 group sessions of 2 h	WC	6 months
Bonin, Stevens, Beecham, Byford, and Parsonage (2011)	UK	Conduct disorder	Parents of 5-year-olds	Evidence-based parenting program from literature (tested different delivery options): Group only, individual only, 80% group+20% individual	Do-nothing	5-year olds followed up to age 30
Scott et al. (2010)	UK	Antisocial behavior	Parents of 6-year-olds	28 sessions of 2.5 h: 12 sessions child behavioral program (Incredible Years), ten sessions child literacy program (Spokes program) and six sessions revision	Help call line on how best to access regular services	6 months

(continued)

Table 1 (continued)

Author, year	Setting	Problem targeted	Population	Intervention	Comparator	Follow-up
Edwards, Ceilleachair, Bywater, Hughes, and Hutchings (2007)	UK	Conduct problems	Parents of 3- to 4-year-olds	Incredible years—12 group sessions of 2 h	WC	6 months
Mihalopoulos, Sanders, Turner, Murphy-Brennan, and Carter (2007)	Australia	Conduct disorder	Parents of 6- to 12-year-olds	Triple P levels 1–5 (five levels of parenting support of differing intensity, where level 1 is a universal parent information strategy and level 5 is an enhanced behavioral family intervention program)	Do-nothing	2-year-olds followed up to age 28
Foster, Olchowski, and Webster-Stratton (2007)	US	Conduct problems	Parents of 3- to 8-year-olds	Incredible years (different combinations of parent (PT), child (CT) or teacher training (TT))—Number and length of sessions differed	WC	20 years of data
Muntz, Hutchings, Edwards, Hounsome, and O'Ceilleachair (2004)	UK	Severe behavior problems	Parents of 2- to 10-year-olds	Intensive practice-based parenting program—Delivered by child and adolescent mental health services (CAMHS) staff undertaken by two consultant clinical child psychologists. A 5 h session with a child psychologist was added to the intensive treatment condition	TAU—Standard treatment provided by CAMHS, comprising child psychiatrists, clinical child psychologists, specialist social workers and child therapists	4 years
Harrington et al. (2000)	UK	Behavioral disorders	Parents of 3- to 10-year-olds	Community-based group therapy—Each service used their routine interventions for behavioral disorder. In one of the two included districts, the videotape modelling parental group education program of Incredible Years was used. The other district used a program of parental education groups with parallel child groups	Hospital-based group therapy	1 year
Cunningham, Bremner, and Boyle (1995)	Canada	Behavior problems	Parents of kindergarten aged children	Community-based group therapy, clinic-based individual therapy (12 weeks)	WC	6 months

Sampaio et al. (2017)	Australia	Conduct disorder	Parents of 5- to 9-year-olds	Group and individual Triple P level 4. *Group*—Four group sessions of 2 h + four telephone consultations of 30 min + workbook. *Individual*—Ten sessions of 1 h	Do-nothing	5- to 9-year-olds followed up to age 18
Internalizing behavior problems						
Mihalopoulos et al. (2015)	Australia	Anxiety	Parents of 3- to 5-year-olds at screening	Group-based parenting intervention—Up to six sessions of 1.5 h	Do-nothing	3 years and 11 years
Simon, Dirksen, and Bögels (2013)	Netherlands	Anxiety	Parents of 8- to 12-year-olds	Screening + combination of parent or child-focused intervention. *Parent-focused*—Three group sessions of 90 min + five telephone sessions with each parental couple (15 min each). *Child-focused*—8 group sessions of 90 min	Do-nothing	2 years
Simon, Dirksen, Bögels, and Bodden (2012)	Netherlands	Anxiety	Parents of 8- to 12-year-olds	Parent-focused arm and child-focused arm. *Parent-focused*—Three group sessions of 90 min + five telephone sessions with each parental couple (15 min each). *Child-focused*—8 group sessions of 90 min	Do-nothing	2 years

ADHD attention deficit/hypertactivity disorder, CAMHS child and adolescent mental health services, *TAU* treatment-as-usual, *UK* United Kingdom, *US* United States of America, *WC* waitlist control

often measured on disorder-specific symptom-based rating scales. There were two cost-utility analyses with outcomes expressed as QALYs or disability-adjusted life-years (DALYs), two cost-consequence analyses, and one cost-minimization. One cost-effectiveness study also conducted a cost-utility analysis with outcomes expressed as QALYs (Sayal et al., 2016). Two studies conducted cost-offsets evaluations (which referred to themselves as cost-benefit analysis). These studies compared costs incurred with costs saved due to reduction in resources used. These evaluations are not normally classified as full economic evaluations as they do not include health outcomes, such as changes in clinical measures or health-related quality of life measures. Nevertheless, these analyses were included in this review since reductions in service use are likely to result from improvements in health outcomes. No full cost-benefit analyses were found. We classified the studies not necessarily according to the form of economic evaluation described by the authors of the studies. Most evaluations were conducted within clinical trials, six were modelling exercises, and one amalgamated results from a number of clinical trials. The studies have been grouped into two broad categories for ease of reference: (a) evaluations of parenting interventions targeting child mental health, and (b) evaluations of parenting interventions targeting diverse child health problems.

Evaluations of Parenting Interventions Targeting Child Mental Health

General Mental Health

Two studies evaluated parenting interventions for improving child general mental health. Both studies were trial evaluations of preventive interventions. Herman et al. (2015) used a cost-offsets framework to investigate monetary benefits over a 15-year time horizon of implementing a preventive parenting intervention for divorced mothers of 9 to 12-year-olds compared to a bibliotherapy control (mothers received books on children's post-divorce adjustment). The stated economic perspective of the analysis was societal, albeit limited, adding individual and societal mental health services, medication costs, and future adult justice system costs to intervention costs. The study reported that the parenting intervention could be expected to generate large long-term societal monetary benefits that pay for the costs of implementation of the program. Sharac et al. (2011) investigated the cost-effectiveness of delivering a home-based parenting intervention (one group received a cognitive behavioral approach adapted from the Incredible Years parenting program and another group an educational approach where parents were given a manual) to adoptive parents of 3- to 8-year-olds compared to usual care. Costs were collected from the perspective of the health-care sector over a period of 6 months. Child mental health was measured with the Strengths and Difficulties Questionnaire, a validated symptom-based rating scale used to measure child mental health (Goodman, Ford, Simmons, Gatward, & Meltzer, 2000). The study showed no significant improvements in child mental health over time between the intervention and usual care, nor differences in costs, suggesting the intervention was not cost-effective (Box 2).

Box 2 Challenges in Measuring Health Outcomes in Children for Economic Evaluation

Applying the standard methods of economic evaluation to child health, and in particular to parenting interventions, can be challenging. An important limitation is the scarcity of validated child-specific outcome measures. Most economic evaluations of parenting interventions to date have used disease-specific symptom-rating scales to measure outcomes, such as the Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999), or the Strengths and Difficulties Questionnaire (SDQ; Goodman et al., 2000). These are clinical measures, meaning that they miss improve-

Box 2 (continued)

ments in different dimensions of the child's well-being, i.e., improvements in quality of life. Importantly, while there are established willingness-to-pay threshold values for a QALY gained or a DALY averted, no such threshold values exist for disease-specific symptom-rating scales, which makes it impossible to draw conclusions regarding the *value-for-money* of such interventions. Further, these measures are not directly comparable, since they measure different constructs, thus the comparison of cost-effectiveness results is limited to studies with the same outcome measures, and not across the broad spectrum of interventions targeting child health.

To tackle these limitations, the use of indirect preference-based utility measures, i.e., multi-attribute utility instruments (MAUIs) is advocated (Ungar, 2010). MAUIs can capture health-related quality of life based on individuals' preferences, and make it possible to obtain quality of life weights for different health states (Drummond et al., 2015), thus generating QALYs, and allowing for pragmatic *value-for-money* estimations to be made. A few MAUIs are currently available, which can be used in children (Chen & Ratcliffe, 2015), however, these are limited to children older than seven years of age (unless proxies are used). Furthermore, many of these measures have not been properly validated in children with various health problems to ensure that they are sensitive to change. Assessing quality of life of preschool aged children remains a challenge.

Externalizing Behavior Problems

Study Populations

Thirteen studies evaluated the cost-effectiveness of interventions targeting externalizing behavior problems in children. Most studies targeted children with clinical levels of problems scoring over a cutoff on a symptom-based rating scale at baseline or, in some cases, on a diagnostic interview tool. The terminology of the type of problems targeted was varied and, at times, ambiguous, with the terms behavior problems, conduct problems, behavior disorders, externalizing behavior problems, and antisocial behavior, being used interchangeably. For ease of reference, we have grouped together all studies targeting conduct disorder/behavior disorders. Most studies targeted children at risk of conduct disorder/behavior disorders (Cunningham et al., 1995; Edwards et al., 2007; Foster et al., 2007; Harrington et al., 2000; Muntz et al., 2004; O'Neill et al., 2013; Scott et al., 2010), children with conduct disorder (Bonin et al., 2011; Mihalopoulos et al., 2007; Sampaio et al., 2017), and children at risk of attention deficit/hyperactivity disorder (Sayal et al., 2016). One study targeted children of parents who expressed concern for their behavior, thus not a full clinical sample (Sampaio et al., 2016), and one study evaluated a universally delivered parenting intervention to parents of preschoolers to prevent externalizing behavior problems (Sampaio et al., 2016).

Interventions and Comparators

There was a wide variety of parenting interventions evaluated, including group-based therapy (Edwards et al., 2007; Harrington et al., 2000; O'Neill et al., 2013; Scott et al., 2010) and individual-based therapy (Muntz et al., 2004). Some studies evaluated different levels of intensity and/or delivery modes of a parenting intervention (Bonin et al., 2011; Mihalopoulos et al., 2007; Sampaio et al., 2015, 2017), one evaluated four group-based programs and self-help written materials (bibliotherapy) within the same randomized controlled trial (RCT; Sampaio et al., 2016), one evaluated different settings of intervention delivery, community- versus clinic-based (Cunningham et al., 1995), and two studies evaluated the combination of different intervention components, such as parent-only or parent plus teacher therapy (Sayal et al., 2016), and different combinations of parent, child, and teacher therapy (Foster et al., 2007).

Most studies evaluated well-established and disseminated parenting interventions previously described in the literature, such as the Incredible Years (Edwards et al., 2007; Foster et al., 2007; Harrington et al., 2000; O'Neill et al., 2013; Sampaio et al., 2016; Scott et al., 2010), the Triple P—Positive Parenting Program (Mihalopoulos et al., 2007; Sampaio et al., 2017, 2015), the 1-2-3 Magic parenting program (Sayal et al., 2016), and Cope, Comet, and Connect (Sampaio et al., 2016). Bonin et al. (2011) modelled a generic parenting intervention drawing on data from a variety of evidence-based parenting programs that were likely to be implemented in the UK. The remaining studies evaluated interventions with no defined name (Cunningham et al., 1995; Muntz et al., 2004).

The comparator condition in the evaluations conducted within trials were, mostly, a waitlist control (Cunningham et al., 1995; Edwards et al., 2007; Foster et al., 2007; O'Neill et al., 2013; Sampaio et al., 2015, 2016), where parents in the control group were offered the intervention upon the completion of the final outcome assessment at follow-up. Exceptions to this were Muntz et al. (2004) that used treatment-as-usual (TAU), Scott et al. (2010) that used a help-call line, Harrington et al. (2000) that compared hospital-based to community-based group therapy, and Sayal et al. (2016) that used a do-nothing condition. All three modelling studies used a do-nothing condition as the comparator (Bonin et al., 2011; Mihalopoulos et al., 2007; Sampaio et al., 2017).

Economic Evaluation Methods

Table 2 includes a summary of the economic evaluation methods used in the studies included along with their results[3]. Most studies were cost-effectiveness evaluations, except for one cost-utility analysis (Sampaio et al., 2017), one cost-offset analysis (Bonin et al., 2011), one cost-consequence (Cunningham et al., 1995) and one cost-minimization (Sampaio et al., 2015). One study conducted both a cost-effectiveness and a cost-utility evaluation (Sayal et al., 2016). Most studies reported evaluations of trials except for three modelling studies (Bonin et al., 2011; Mihalopoulos et al., 2007; Sampaio et al., 2017). A variety of economic perspectives were employed in the costing analyses, ranging from societal perspectives to narrower third-party payer perspectives often limited to intervention only costs. Most trial evaluations had relatively short time horizons (rarely extending beyond 18 months post intervention). The longest time horizons were found in the studies that modelled the costs and outcomes of parenting interventions until children reached adulthood (Bonin et al., 2011; Mihalopoulos et al., 2007; Sampaio et al., 2017). A wide range of outcome measures were used, reliant mainly on symptom-based rating scales, including, for instance, number of recovered cases of conduct problems (Sampaio et al., 2016), number of cases averted (based on a symptom scale; Mihalopoulos et al., 2007), point reduction on a specific symptom rating scale (Edwards et al., 2007; Muntz et al., 2004; O'Neill et al., 2013), and standard deviation improvement (Scott et al., 2010). These outcomes make it impossible to determine whether an intervention is good value-for-money due to the lack of established willingness-to-pay (WTP) thresholds for these outcomes. One study reported cost per DALY averted as the main outcome (Sampaio et al., 2017), and one study reported cost per QALY gained (values reported in the appendix and not in the main manuscript; Sayal et al., 2016). The most commonly used outcome instrument was the Eyberg Child Behavior Inventory (ECBI), a known measure of externalizing behavior problems in children (Eyberg & Pincus, 1999), used in eight studies. Other instruments used were the Child Behavior Checklist (two studies; Cunningham et al., 1995; Muntz et al., 2004), the Conner's ADHD rating scale (one study; Sayal et al., 2016), the Parent Account of Child Symptoms (PACS, one study; Scott et al., 2010), the Behar Preschool Behavior Questionnaire (one study; Foster et al., 2007) and the Dyadic Parent-Child Interactive Coding

[3]Note that the cost elements of the results were converted to US dollars (reference year 2016) from original currency using purchasing power parities from http://eppi.ioe.ac.uk/costconversion/default.aspx. We have done this so that readers can compare the costs determined across the various studies.

Table 2 Economic evaluation methods and results of the studies included

Author, year	Evaluation	Analysis perspective	Instruments	Results (US$, 2016)[a]
General health				
Ulfsdotter et al. (2015)	CUA	Limited societal	VAS (children—parent proxy), GHQ-12 parents	The ABC program compared to the WC yielded an ICER of $50,441 per QALY gained (including child and parents QALY gains) and $36,255 per QALY gained, which included extreme utility weight values. Probability of cost-effectiveness was 50.8%
Dalziel et al. (2015)	CEA	Societal	CAPI	ICER of $30,913 per case of child maltreatment avoided
Byford et al. (2015)	CEA	Public sector policy-makers, societal	ADOS-G	From a public sector services perspective, ICERs with higher costs and effects than the comparator and WTP of $463 and above per unit improvement in proportion of children with a clinically meaningful ADOS-G improvement was needed to be cost-effective. From a societal perspective, the WTP needed to be cost-effective dropped to $175
Gibbard et al. (2004)	CCA	Healthcare provider with parents time	Measures of child language/expression/comprehension	ICERs reported in costs per unit of outcome for each effectiveness measure. Significantly better outcomes for intervention than comparator, no differences in costs
Mental health				
General				
Herman et al. (2015)	Cost-offset	Societal	–	The monetary benefits per family for intervention compared to control, based on reduction in 15-year health/justice system costs, were $1227. Given the difference in intervention costs and in monetary benefits, the intervention was cost-effective
Sharac et al. (2011)	CEA	Healthcare sector	SDQ	No significant differences in either costs or outcomes between interventions
Externalizing behavior problems				
Sayal et al. (2016)	CEA, CUA	NHS, personal social service, societal	Conner's ADHD rating scale, EQ-5D-Y, CHU9D	Mean NHS perspective ICERs of cost per point change on Conner's ADHD rating scale compared to control was $44 for parent-only arm and $203 for parent + teacher arm. ICER QALY results—Parent only arm had an ICER of $5897 per QALY from the NHS perspective, and $9104 per QALY from the societal perspective. Above a WTP of $47 per one-point improvement in the parent-rated ADHD index, the parent-only arm had the highest probability of cost-effectiveness, whereas below this threshold, neither intervention was more likely to be cost-effective than doing-nothing
Sampaio et al. (2016)	CEA	Limited health sector with parents time	ECBI	Cope, Comet, Incredible Years, and bibliotherapy reduced conduct problems compared to WC, with bibliotherapy being the cheapest. Comet entailed better outcomes and higher costs than bibliotherapy, ICER $8542 per recovered case
Sampaio et al. (2015)	CMA	Municipality payer	ECBI	No significant differences between intervention and WC at follow-up
O'Neill et al. (2013)	CEA	Department of health	ECBI	ICER of $115 per point improvement on ECBI intensity scale. Estimates it would cost almost $12,553 to bring a child with the highest ECBI score to below the clinical cutoff

(continued)

Table 2 (continued)

Author, year	Evaluation	Analysis perspective	Instruments	Results (US$, 2016)[a]
Bonin et al. (2011)	Cost-offset	Public sector and societal	ECBI	Cost savings to society over 25 years per family: $27,136
Scott et al. (2010)	CEA	Third party payer	PACS	Significant improvements in antisocial behavior, ADHD symptoms and reduction in oppositional defiant disorder diagnosis. ICER was $7981 per standard deviation improvement
Edwards et al. (2007)	CEA	Multiagency public sector	ECBI	ICER of $139 per point improvement on ECBI intensity scale. Estimates it would cost almost $10,452 to bring a child with the highest ECBI score to below clinical cutoff
Mihalopoulos et al. (2007)	CEA	Government as third-party funder	ECBI	Triple P was likely to be cost saving over the long-term if at least 7% of cases of CD were averted. Net benefits estimated at $28.5 million based on a minimum estimated reduction of 25% of cases of CD
Foster et al. (2007)	CEA	Third party payer	PBQ, DPICSR	Around a modest value of WTP of $3000 per unit improvement in each outcome measure, for problems at school, a combination of parent and teacher therapy was likely to be cost-effective, and for problems at home, the combination of three components: parent, teacher, and child therapy was likely to be cost-effective
Muntz et al. (2004)	CEA	Societal	CBCL	No significant differences in costs or outcomes between an intensive psychological intervention and standard treatment
Harrington et al. (2000)	CEA	Multisectorial	ECBI	No significant differences between community and hospital-based therapy in terms of costs or outcomes
Cunningham et al. (1995)	CCA	Intervention costs	CBCL	Community-based group therapy entailed similar costs but better outcomes than clinic-based individual therapy, thus potentially being more cost-effective
Sampaio et al. (2017)	CUA	Healthcare sector	ECBI	Triple P was cost-effective at a WTP of $35,000 (AU$50,000) per DALY averted, when delivered in a group format (ICER = $712 per DALY averted), and in an individual format (ICER = $14,410 per DALY averted). The probability that both interventions were cost-effective was approximately 99%
Internalizing behavior problems				
Mihalopoulos et al. (2015)	CUA	Healthcare sector	–	ICER of $4624 per DALY averted. At a WTP of $35,000 (AU$50,000) per DALY averted, 99% probability of cost-effectiveness
Simon et al. (2013)	CEA	Societal	ADIS	Screening and differentially offering a parent-focused intervention to children of anxious parents, or a child-focused intervention to children of non-anxious parents was the most cost-effective option and yielded an ICER of $136 per ADIS improved child compared to do-nothing
Simon et al. (2012)	CEA	Societal	ADIS	The parent-focused intervention was the most cost-effective strategy at low WTP thresholds and when delivered to high-anxious parents. The child-focused intervention was preferred at WTP thresholds above $5707 per ADIS improved child

ADIS Anxiety Disorder Interview Schedule, *ADOS-G* Autism Diagnostic Observation Schedule-Generic, *CAPI* Child Abuse Potential Inventory, *CBCL* Child Behavior Checklist, *CCA* cost-consequence analysis, *CEA* cost-effectiveness analysis, *CMA* cost-minimization analysis, *CUA* cost-utility analysis, *DPICSR* Dyadic Parent–Child Interactive Coding System—revised, *ECBI* Eyberg Child Behavior Inventory, *ICER* incremental cost-effectiveness ratio, *PACS* Parent Account of Child Symptoms, *PBQ* Behar Preschool Behavior Questionnaire, *SDQ* Strengths and Difficulties Questionnaire, *WC* waitlist control, *WTP* willingness-to-pay

[a]All costs converted to 2016 US$ from original currency using a conversion rate based on Purchasing Power Parities (PPP) for gross domestic product from http://eppi.ioe.ac.uk/costconversion/default.aspx

System-Revised (one study; Foster et al., 2007). Only one study included two multi-attribute utility instruments (MAUIs) to measure health-related quality of life, namely, the EuroQol Five Dimensions Youth version (EQ-5D-Y) and the Child Health Utility Nine Dimensions (CHU9D; Sayal et al., 2016). MAUIs are useful outcome measures in economic evaluations, as they are health-related quality of life measures with an added scoring algorithm, allowing preference-based weights, and thus QALYs to be determined.

Summary of Results

The heterogeneity across studies with regard to outcome measures, study population, and type of intervention evaluated makes it impossible to make comparisons and to draw any conclusions on *value-for-money*. Nevertheless, a brief descriptive summary of the results is of importance to provide some information to readers on the research conclusions reached so far.

The only study targeting children at risk of ADHD (Sayal et al., 2016) demonstrated that a parent-only and a combined parent and teacher intervention showed no differences in outcomes (improved ADHD symptoms) and entailed higher costs compared to doing-nothing. In addition, above a WTP of US$47 per point improvement in the parent-rated ADHD index, the parent-only intervention had the highest probability of cost-effectiveness, whereas below this threshold, neither intervention was more likely to be cost-effective than doing-nothing.

For studies targeting conduct problems/behavior problems, results were quite heterogeneous. Edwards et al. (2007), O'Neill et al. (2013), and Scott et al. (2010) found that the Incredible Years group-based parenting program improved child behavior but at higher costs than the comparators (a waitlist control and a help-call line, respectively), however it is not known whether these interventions are good value-for-money. Foster et al. (2007), using evidence from different trials, compared different combinations of components of the Incredible Years, and demonstrated that combinations of treatments were likely to be cost-effective, except at low levels of WTP for reductions in behavior problems. At a modest level of WTP of US$3000 per each unit of outcome improvement, for problems at school, a combination of parent and teacher therapy was likely to be cost-effective, and for problems at home, the combination of three components, including parent, teacher, and child therapy, was likely to be cost-effective. Sampaio et al. (2016) found that the group-based parenting interventions Comet, Incredible Years, and bibliotherapy reduced conduct problems compared to a waitlist control, with bibliotherapy being the cheapest. Of these interventions, Comet entailed better outcomes and higher costs than bibliotherapy. The results suggest that bibliotherapy could be a cheap and effective option to initially target conduct problems within a limited budget, and Comet could be offered to achieve greater outcomes based on decision-makers' willingness to make larger investments.

The study by Sampaio et al. (2015) found that offering low intensity levels of the Triple P—Positive Parenting Program (levels 2 and 3) universally did not improve child behavior compared to a waitlist control, therefore suggesting that this was not a cost-effective intervention. This study had, however, low power to detect any possible small effects that are often associated with such low-intensity interventions. Mihalopoulos et al. (2007) modelled the expected long-term costs and cost savings of implementing different intensity levels of Triple P (levels 1–5) at a population level. The study concluded that Triple P had the potential to be cost saving over the long-term if at least 7% of cases of CD were averted. Sampaio et al. (2017) found the delivery of group and individual-based Triple P (level 4), for the treatment of CD in children, was good value-for-money, with the group format being the most cost-effective option (group: ICER = US$712 per DALY averted; individual: ICER = US$14,410 per DALY averted). As specified above, a commonly used value-for-money threshold in Australia is around AU$50,000/DALY averted (approximately US$35,000), therefore both of these interventions are likely to be cost-effective at this threshold. In fact, this study found that both interventions had a probability of approximately 99% of being cost-effective at this criterion.

Bonin et al. (2011) modelled the costs and longer-term cost savings of a range of evidence-based programs likely to be implemented in the UK, associated with the reduction of the probability of persistent CD among children, and found them to be cost saving, yielding about US$27,136 per family over 25 years.

The studies comparing the setting of delivery of parenting interventions found variable results. Cunningham et al. (1995) found community-based group therapy entailed similar costs but better outcomes than clinic-based individual therapy, thus potentially being more cost-effective, whereas Harrington et al. (2000) found no differences in costs or outcomes between hospital- and community-based group therapy. Muntz et al. (2004) found no differences in costs or outcomes between a group of children referred to Child and Adolescent Mental Health Services (CAMHS) receiving standard treatment and a group receiving an intensive psychological intervention.

Internalizing Behavior Problems

There have been three economic evaluation studies evaluating parenting interventions for the prevention of anxiety in the published literature. There were two cost-effectiveness studies (Simon et al., 2012, 2013) and one cost-utility study (Mihalopoulos et al., 2015). Simon et al. (2012) compared three strategies: a parent- and a child-focused intervention and a do-nothing within the same trial for high-anxious children detected via screening. The study had a time horizon of 2 years and completed a cost analysis from a societal perspective, including healthcare and non-healthcare costs, as well as productivity losses. The Anxiety Disorder Interview Schedule (ADIS) was used as the primary outcome instrument. Simon et al. (2012) found the parent-focused intervention to be the most cost-effective strategy at low WTP thresholds and when delivered to high-anxious parents, and the child-focused intervention to be preferred at WTP thresholds above US$5707 per ADIS-improved child. Simon et al. (2013), using epidemiological data from the trial, further investigated the cost-effectiveness of screening of selected high-anxious children in combination with a child- or a parent-focused intervention or differentially offering a child- or a parent-focused intervention based on parental anxiety. The authors concluded that the strategy of screening and differentially offering a parent-focused intervention to children of anxious parents or a child-focused intervention to children of non-anxious parents was the most cost-effective option, with an ICER of $136 per ADIS-improved child compared to doing-nothing. Mihalopoulos et al. (2015) modelled the cost-effectiveness of a parenting intervention compared to a do-nothing scenario over a 3-year time horizon, from the perspective of the healthcare sector. DALYs were used as the main outcome measure. The study concluded that the group-based parenting intervention was very cost-effective for the prevention of anxiety disorder in children aged 3–5 years, with an ICER of US$4624 per DALY averted. At a WTP threshold of US$35,000 (AU$50,000), the intervention had a 99% probability of cost-effectiveness.

Evaluations of Parenting Interventions Targeting Diverse Child Health Problems

There have been four studies evaluating the costs and outcomes of parenting interventions for improving child health. The studies evaluated a range of parenting interventions targeting different aspects of child health and levels of intervention: Ulfsdotter et al. (2015) evaluated universal group-based therapy for improving general child well-being, Dalziel et al. (2015) evaluated individual-based therapy for methadone-maintained parents for the prevention of child abuse, Byford et al. (2015) evaluated individual-based therapy for the treatment of autism, and Gibbard et al. (2004) evaluated group-based therapy for the treatment of expressive language delay. Cost-effectiveness evaluations were used in two studies (Byford et al., 2015; Dalziel et al., 2015), a cost-consequence framework in one (Gibbard et al., 2004), and a cost-utility in another (Ulfsdotter et al., 2015). All economic evalua-

tions were conducted within trials, apart from Dalziel et al. (2015), that modelled the outcomes of a previously conducted RCT. Time horizons ranged from six (Dalziel et al., 2015; Gibbard et al., 2004; Ulfsdotter et al., 2015) to 13 months follow-up (Byford et al., 2015). Two studies adopted a societal perspective in their costing analysis, including a range of costs incurring to different sectors of society (Byford et al., 2015; Dalziel et al., 2015). The studies by Gibbard et al. (2004) and Ulfsdotter et al. (2015) adopted the perspective of the healthcare provider and a limited societal perspective, respectively, and included the costs of the intervention and productivity losses (parents' time off from work to attend the intervention), with no other costs included. The most common comparator used was treatment-as-usual defined as locally provided services (Byford et al., 2015; Dalziel et al., 2015; Gibbard et al., 2004), although a waitlist control was used in the study by Ulfsdotter et al. (2015). As expected, various outcome measures were used in the cost-effectiveness and cost-consequence studies, which targeted different aspects of child health, measured mainly on symptom rating scales, such as cases of child maltreatment avoided (Dalziel et al., 2015), and proportion of children demonstrating a clinically meaningful improvement in the Autism Diagnostic Observation Schedule-Generic score (ADOS-G; autism severity measure). Ulfsdotter et al. (2015) used a parent-proxy Visual Analogue Scale (VAS) to measure QALYs (which is not an instrument based on individual preferences). Hence, it is not possible to compare different interventions targeting disparate child health problems and using different outcome measures, nor draw any conclusions on *value-for-money*. However, the studies using clinical outcomes concluded that the parenting interventions cost more but also entailed better outcomes than treatment-as-usual for the treatment of expressive language delay (Gibbard et al., 2004), autism (Byford et al., 2015), and prevention of child abuse (Dalziel et al., 2015). The results of the study by Ulfsdotter et al. (2015) found that the universal parenting program ABC was probably cost-effective compared to a waitlist control, with an ICER of US$50,441 per QALY gained excluding extreme utility weights, whereas a lower ICER of US$36,255 per QALY gained was reported when including extreme utility weight values. However, the probability of cost-effectiveness was 50.8%. QALY gains for both children and parents were included in the ICER attempting to capture the impacts of the intervention on both child and parental mental health.

Methodological Considerations

To date, there have been 22 economic evaluations of parenting interventions targeting improvements in child health. Although these studies contribute to the literature on the cost-effectiveness of parenting interventions and may serve as foundation to helping address issues of efficiency in the allocation of scarce societal resources, there are several methodological limitations that should be highlighted and considered in the process of decision-making.

Most evaluations have targeted child mental health (specifically externalizing behavior problems) utilizing cost-effectiveness designs. Although informative, these cost-effectiveness studies have used a variety of disease-specific outcomes that are not directly comparable for interventions targeting the same problems or interventions across different diagnostic areas. Further, the use of clinical measures means they miss improvements that may be relevant to everyday life and general well-being, such as improvements in quality of life. This is particularly important in the case of parenting interventions that may have impacts on different areas of children's lives. Importantly, while there are established WTP threshold values for a QALY gained or a DALY averted, no such threshold values exist for disease-specific outcome measures, such as the ones employed in the cost-effectiveness studies, thus it is impossible to draw conclusions regarding the value-for-money of such interventions. For interventions that show similar outcomes, the option of choice is normally the one with the lowest cost (i.e., a cost-minimization analysis), such as in the study by Sampaio et al.

(2016) where group-based parenting programs and bibliotherapy showed similar outcomes among themselves compared to a waitlist control, with bibliotherapy being the cheapest option. However, in situations where an intervention entails better outcomes but also costs more than the comparator it becomes difficult to determine whether the intervention represents value-for-money. For example, Edwards et al. (2007) reported that the Incredible Years parenting program compared to a waitlist resulted in an ICER of US$139 per one point improvement on the ECBI intensity scale, whereas in the study by Simon et al. (2012), a child-focused intervention compared to a parent-focused intervention resulted in an ICER of US$5707 per ADIS-improved child. It is difficult to say whether these interventions are truly cost-effective, and how much a decision-maker's willingness-to-pay for such outcomes would be. To tackle these limitations, studies should include instruments that can capture health-related quality of life based on individuals' preferences. There are a few multi-attribute utility instruments (MAUIs) available in the literature, which can be used in children (Chen & Ratcliffe, 2015), that make it possible to estimate QALYs, and thus allow pragmatic value-for-money estimations to be made. These instruments are, however, limited to children older than 7 years of age (unless proxies are used). This may very well be one of the reasons they were not included in most studies in this review, given that the included children belonged to quite young age groups.

The studies have also adopted quite limited costing perspectives, mostly limited to either costs accruing to the health sector or to a third party payer, such as the government or a municipality, or only estimating intervention costs. This is a narrow approach to costing such interventions that is likely to miss important impacts across different sectors of society. Given that economic evaluations are intended to inform decision-makers on the efficient allocation of resources to improve societal welfare, it is recommended that a societal perspective be adopted in such evaluations (Drummond et al., 2015). This is especially true for evaluations in child health, since many conditions have impacts across different sectors of society, and may also require the delivery of care in nonmedical settings, such as schools, home, and the community. For instance, antisocial behaviors are known to result in excessive use of resources in different sectors of society, such as healthcare, and educational and justice services (Romeo, Knapp, & Scott, 2006; Scott et al., 2001). Childhood anxiety disorders are also known to yield large productivity losses of parents due to absence from paid work (Bodden, Dirksen, & Bögels, 2008). Importantly, narrow costing perspectives limit the comparability with other interventions that may impact differently on the use of resources, and may lead to inappropriate decision-making. It is however, recognized that capturing the full scope of costs that may be impacted by a parenting intervention may be a difficult task, given that many of these are likely to occur as the children get older. Another important issue when evaluating child health interventions are *spill-over* effects, i.e., the impacts of the interventions not only on children themselves, but also on those who can be directly affected by changes/improvements in children's health and well-being. The health and well-being of parents (and siblings) is likely to be affected by the well-being of their children, especially in cases of severe illness. To ignore these impacts is to underestimate the full impact of interventions on child health. For instance, a child with conduct problems has a great impact on the environment, such as siblings, parents, teachers and peers. A parenting intervention that successfully reduces conduct problems may also reduce caregiver burden and improve the relationship of the child with the parents and with significant others in the near social circle, which will have impacts on the quality of life of these individuals. There have been studies evaluating the positive impact of parenting programs on child behavior, parenting skills, and parental mental well-being (Dretzke et al., 2009, 2005; Nowak & Heinrichs, 2008). It is thus, important to include impacts on all relevant individuals affected by child health interventions, including children and any significant others who provide care (not only limited to parents) in the economic evaluation of child health interventions, through collecting information on quality

of life of both children and their carers. Among the studies included in this review only one included quality of life impacts on parents in the ICER estimate (Ulfsdotter et al., 2015). To make appropriate decisions conducive to an improved societal welfare, broader perspectives and the inclusion of all relevant impacts are needed.

Existing economic evaluations of RCTs have quite limited time horizons, often around six months. This is because many evaluations of parenting interventions are largely short-term cross-over trials, where control groups commonly cross over to the intervention group. Further, it is also expensive to run sufficiently long-term trials that would capture the longer-term impacts of such interventions. Modelling studies, such as Mihalopoulos et al. (2015), Sampaio et al. (2017), Mihalopoulos et al. (2007), and Bonin et al. (2011), can help address some of these issues, through longer-term projections of estimated costs and consequences, but always limited to available evidence from real world data and assumptions.

Most of the economic evaluation studies of parenting interventions found in this review have been conducted in Australia, North America and Western Europe. This may have implications for the transferability of results to other settings, mostly due to differences between healthcare systems in relation to structure, financing, price levels, and service provision. Additionally, the choice of a relevant comparator may also differ between settings—the common choice of *treatment-as-usual* as a comparator may very well entail a different range of services offered in different settings. In the absence of economic evaluations conducted in the same setting where the policy decision is taken, the use of existing evidence to support decision-making is, nevertheless, recommended.

There are also a number of reports not published in the scientific literature, such as those conducted by the Washington State Institute for Public Policy (2017a), using methods such as social return on investment techniques (which are essentially variants of cost-benefit analysis which consider costs and cost-impacts but not necessarily health gains which do not have a monetary value). For example, such studies may monetarize the impact of improved academic performance at school via increased earning potential as an adult. Like all modelling studies, such longer-term impacts are assumed. Many of these reports have found that parenting interventions result in highly favorable social return to investment ratios (Washington State Institute for Public Policy, 2017b).

Finally, it is important to stress the importance of planning for an economic evaluation upon study design so that all important costs and consequences impacted by parenting interventions can be captured, and the right instruments to measure outcomes can be included. This is not always the case, as a few evaluations included in this review were conducted on an ad hoc basis (Foster et al., 2007; Sampaio et al., 2016, 2015).

Implications for Policy and Practice

While there is consensus regarding the need for interventions to support parenting to help improve parent-child relationships and child health, there is still, to date, limited evidence on the value-for-money across all potential interventions, and on which interventions or packages of interventions should be provided to whom to achieve the best improvements in child health in the most efficient manner. However, the Incredible Years and Triple P parenting programs are well evaluated and have strong credentials of cost-effectiveness. Evaluations of evidence-based parenting interventions, such as the Incredible Years and the Triple P, show that they either (a) have a potential to improve externalizing behavior problems in children at higher costs than the comparators and are likely to be cost-effective; or (b) can be cost saving over the long-term. The available studies suggest that higher intensity levels of intervention, such as the group and individual formats of Triple P are cost-effective in reducing CD. While less-intense forms of such interventions have been found to be effective (Baker, Sanders, Turner, & Morawska, 2017; Boyle et al., 2010; Morawska, Haslam, Milne, & Sanders, 2011; Sanders, Baker, & Turner, 2012; Sanders, Bor, & Morawska, 2007; Tellegen & Sanders, 2014), there is, unfortunately, no evidence on the cost-

effectiveness of such low intensity levels of Triple P at present. Self-help written materials, such as bibliotherapy, also show the potential to be cost-effective, and could be a cheap and effective option to initially target conduct problems within a limited budget.

The studies included in this review are quite heterogeneous and target different areas of child health, with the majority of studies targeting child mental health, in particular child externalizing behavior problems. Overall studies lack comparability mostly due to the disparity in outcome measures. There is no consensus on whether the setting of delivery of services plays a role in the outcomes of parenting interventions. Group-based parenting interventions are cost-effective for the prevention of anxiety in children. Studies targeting diverse child health problems concluded that parenting interventions cost more, but also entailed better outcomes than treatment-as-usual for the treatment of expressive language delay, autism, and prevention of child abuse. An evaluation of the quality of the studies included in this review using published criteria, such as the ones from Drummond et al. (2015), was not conducted as it was beyond the scope of this chapter. However, as specified previously, the studies with economic evaluations of parenting interventions included in this review suffer from several methodological limitations, such as limited costing perspectives, challenges with outcome measurement and short time horizons. These limitations also apply to the cost-utility evaluations included. While CUA studies provide greater information on cost-effectiveness and allow for pragmatic estimations of value-for-money to be made, these studies should also be interpreted with some caution.

Conclusions

This chapter provides a narrative review of the economic evidence of parenting interventions to date targeting improvements in child health. The existing evidence demonstrates that parenting interventions are likely to be a cost-effective use of resources, particularly with respect to preventing child mental health issues, and therefore, investment in such interventions is certainly worth serious consideration by decision-makers. Methodological limitations of the studies included are discussed, with a special focus on the need to capture the full potential health and economic impacts of child health interventions, including the full spectrum of costs and quality of life impacts on both children and their caregivers. Nevertheless, the existing evidence provides a good foundation for improvements in methodology that hopefully future research will address.

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Future Directions for Research, Policy, and Practice

Matthew R. Sanders and Alina Morawska

Introduction

The chapters in this book have covered some of the most important theoretical and empirical findings relating to parenting and the parent–child relationship in the context of child development across the lifespan. The topics have ranged from whether and *how* parents influence child development, to the *impact* of parenting on various domains of children's development, to the varied tasks of parenting across the lifespan. While we have gained incredible insights into many aspects of parenting and child development in the past decades, it is clear that there are still many areas to work on. Each chapter provided an overview of key future research and policy directions, describing some of the central areas for development within each specific domain or topic area. In this final chapter, we wanted to share our thoughts on what we view as some of the most pressing areas which require additional work from researchers, practitioners, and policy makers.

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Future Directions for Research

Expanding the Lifespan Perspective on Parenting and the Parent–Child Relationship

As the chapters in this volume overwhelmingly demonstrate, parenting matters to children's development, across a multitude of domains, and the effects are evident throughout the child's life course. The effects of parenting begin in the earliest moments of a child's life, while they are still a fetus in their mother's womb. The choices, decisions, behaviors, emotions, and cognitions parents make in these earliest days influence their child's development, and likewise the child influences the parent. While the tasks of parenting are vastly different in some respects when comparing a fetus in the womb, to a toddler, to an adolescent, to an adult child, there are also many commonalities over time. For example, while the form of the task may change over time and development, the importance of secure attachment, positive parent–child relationships, and effective communication are relevant, irrespective of the child's age.

What is striking in Part IV of the book is that while it is clear that the tasks and challenges of parenting extend from pregnancy through to old age, there is a considerable paucity of research which captures the lifespan perspective on parenting and the parent–child relationship. We have

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considerable, although still incomplete, understanding of parenting and parent–child relationships in the early years of life (Mihelic & Morawska, 2018; Staples & Bates, 2018; Kirby & Hodges, 2018), reflecting numerous calls in both research and policy about the importance of the first 3 years of life and early childhood development (e.g., see Berg, 2016). An emerging body of work on adolescent development, parenting of adolescents, as well as converging evidence from parenting intervention research (Ralph, 2018), have recently begun to expand the literature on parenting beyond early childhood. However, while the parenting role clearly does not stop when children become adults, the literature on parenting of young adults and beyond is sparse, and there is a significant gap in our understanding and knowledge of how parents influence their children during later life stages.

Another component that is missing in considering a life course perspective on parenting and child development, is the reciprocal influences between parents and children. The chapter by Sanson, Letcher, and Havighurst (2018) highlighted these influences in the early development of children, however, limited work has been done with older children and their parents. Crucially, what is important to consider here is not only how children and parents influence each other, but also how these effects evolve and change over time, and affect the development of *both* parent and child. Becoming a parent is known to affect various aspects of a parent's life both positively and negatively (Nomaguchi & Milkie, 2003), and while some of the effects are transient (e.g., sleep deprivation), others have potentially long lasting effects (e.g., changes in social support). As the child continues on their developmental pathway into adulthood and beyond, their parent continues to develop alongside, yet we know relatively little about this process of development or its effect on children or parents. While Sanson and colleagues (2018) noted in their chapter that these reciprocal influences appear to be small in effect, they also described a number of limitations in the literature which might explain why the effects are not more evident. We would add to these, that the absence of a life course perspective on child and parent development may cloud the picture and hide important effects. Studies which examine the concurrent development of parent and child across longer periods in development, and which consider the ecological context within which development occurs are needed to address this important area.

The Cultural Context of Parenting

Only one chapter in this volume (Fung, Wong, & Park, 2018) explicitly examined the effect of culture as a determinant of parenting, and provided an overview of how culture influences children's development. However, many of the others chapters explored the influence of culture on specific areas of development (for example see Kirby & Hoang, 2018), and even more noted the considerable gap in the literature in our understanding of culture and its role in parenting and child development. A recent article by Nielsen, Haun, Kärtner, and Legare (2017) provided a critical review of the persistent and continuing bias in developmental research, with an overreliance on participants from high-resource settings, who represent a minority of the world's children and parents. Likewise in the parenting intervention literature, while considerable progress has been made in adapting and testing interventions across cultures (Gardner, Montgomery, & Knerr, 2016), much work remains to be done (Mejia, Leijten, Lachman, & Parra-Cardona, 2017).

Our knowledge of how child development and parenting is similar or different across cultures remains limited. More importantly, in our rapidly globalizing world, as the ecological context around families evolves and changes, parents and children are exposed to a variety of new ideas and practices, some of which may be inconsistent with their values and beliefs. How parents navigate these changes, how they integrate new ideas and balance these with their valued cultural practices and beliefs is likely to have important implications for children's development. Moreover, as children themselves grow up in a rapidly changing environment, where the knowledge, skills, and practices of their parents and grandparents

can appear to be outdated and inconsistent with the world around them, the importance of communication and relationships between parents and children becomes ever more important. Research is far behind in explaining the role of culture in development (Nielsen et al., 2017), and even more so in understanding how our changing environment influences parenting, and in helping parents respond effectively to this rapidly shifting world.

The Role of Fathers

This book is about parenting and its role in influencing child development across the lifespan. When we think of parenting, we mean it to reflect *both* mothers and fathers.[1] When we talk about parenting intervention, we believe it is relevant for mothers *and* fathers. However, as discussed by Keown, Franke, and Kaur (2018), the majority of the work in child development, parenting, and parenting interventions has been conducted with mothers. The evidence to date clearly indicates that fathers independently affect children's development (Sarkadi, Kristiansson, Oberklaid, & Bremberg, 2008) and research on fathers is increasingly coming to the fore. However, there are still many gaps in our understanding of how fathers affect children's development; how children influence their fathers; how fathers' and mothers' parenting is similar or different and how it may complement each other; how fathers' parenting changes over the life course; and how fathers engage with and benefit from parenting interventions.

One of the important aspects to consider in any discussion of fatherhood is the fact that the role of fathers, and perceptions about traditional gender roles have changed dramatically in the past few decades. This is not to say that actual gender roles or stereotypes have kept pace with these changing perceptions (Haines, Deaux, & Lofaro, 2016; Humphreys, 2016), and the notion that mothers are particularly suited to parenting and the concomitant primary responsibility for childrearing that mothers take on remains characteristic of many societies (Craig & Mullan, 2011; Tiitinen & Ruusuvuori, 2014). Likewise, mothers continue to be much more likely to attend parenting programs, and evaluations of the effects of such interventions for fathers are limited (e.g., Fletcher, Freeman, & Matthey, 2011). However, many fathers are very involved in childrearing and do see their role quite differently to their own fathers, yet societal perceptions, structures and services do not necessarily support their involvement. Sociological research (e.g., Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000; Marsiglio, Amato, Day, & Lamb, 2000) provides ample evidence of these changing perceptions and roles, and has potential to inform research and policy. Integration of sociological research with research on child development, and evidence based parenting interventions has the potential to provide a more grounded and father focused approach to parenting.

Research on parenting and child development needs to refocus and address these changing parental roles in order to ensure that adequate support and services are available to all families and children. A stronger emphasis on joint or coparenting, as compared to mothering or fathering, and more work on how families share parenting responsibilities in a changing environment are also likely to be important.

Parent and Child Self-Regulation

Self-regulation refers to the capacity to guide one's own goal-directed activities over time and across changing circumstances. Understanding self-regulation has been identified as "the single most crucial goal for advancing an understanding of development and psychopathology" (Posner & Rothbart, 2000). As discussed by Baker (2018), it is a multidimensional concept that includes emotion management, effortful

[1] We also recognize that parenting is more broadly defined, and includes a variety of family configurations such as single parents, LBGTQ parents, extended family and carers who are not necessarily kin to the child, and we certainly do not dismiss their role or importance. In this section, we simply want to focus attention specifically on the role of fathers.

control, focusing and shifting attention, and inhibiting and activating behavior (Karreman, van Tuijl, van Aken, & Deković, 2006). Early differences in self-regulation are implicated in a developmental cascade leading to a range of short and long term outcomes. Self-control in early childhood predicts adult outcomes ranging from criminal convictions, poorer health and academic outcomes, and lower income (Moffitt et al., 2011). These differences are stable from toddlerhood into the preschool years and beyond (Kim & Kochanska, 2012).

Meta-analyses show that parent use of positive parenting strategies (e.g., guidance) is associated with better child self-regulation, while use of negative parenting strategies (e.g., coercive behaviors) is associated with weaker child self-regulation (Karreman et al., 2006). Early sensitive and responsive parenting may be particularly important for children with more difficult temperaments (Kim & Kochanska, 2012). *Changes in parental self-regulation* may trigger changes in parenting behaviors, and the capacity for self-regulation is seen as a fundamental process supporting the maintenance of nurturing, non-coercive parenting practices (Sanders & Mazzucchelli, 2013). It is assumed that a parent who has high self-regulatory skills is capable of changing their own behavior in a planned, self-initiated and deliberate manner in response to cues and information regarding the current needs of their children. The parent has confidence in their own ability to manage the day-to-day tasks of parenting and to problem solve when difficulties arise. However, parenting interventions have generally not directly evaluated parental self-regulation and how such interventions may improve this important capability in a way to best promote children's development.

Furthermore, interventions to improve child self-regulation are generally child focused and have shown limited effects (Eisenberg, Spinrad, & Eggum, 2010), yet to date few parenting intervention trials have examined self-regulatory outcomes in either parents or children. Given the increasing focus on the importance of self-regulatory skills, effective interventions that enhance these capabilities in both parents and children are essential.

Mechanisms of Change in Parenting Interventions

Parenting interventions (described in Part V of this volume) are well-established, evidence-based prevention and intervention approaches for child behavioral and emotional problems (Chorpita et al., 2011). We know that they produce positive changes in both parent and child. A multitude of programs, with a variety of delivery modalities, targeting a range of populations and problems, have been evaluated and disseminated (Lundahl, Risser, & Lovejoy, 2006; Sanders, Kirby, Tellegen, & Day, 2014). Yet, after over 50 years of research, we do not know *how* they work. We do know that most parents do not engage with parenting interventions (Morawska, Ramadewi, & Sanders, 2014); many practitioners do not use them (Kazdin & Blase, 2011); and dropout rates are as high as 50% or more (Morawska & Sanders, 2006).

The majority of evidence-based parenting interventions are based on the same underlying principles (e.g., social learning theory) and are similarly structured, but vary dramatically in length (1–20+ sessions; Serketich & Dumas, 1996). But if a single session intervention leads to the same outcomes as an 8- or 20-session program (e.g., Sanders et al., 2014), why do we waste time and money on more intensive interventions? A big part of the answer is that we do not know *how and when* the desired change occurs. Without understanding how interventions work, we undermine our ability to maximize benefits to family and community well-being and deliver services in the most effective and efficient ways.

While recent meta-analytic work has identified specific effective elements of behavioral parenting interventions (Kaminski, Valle, Filene, & Boyle, 2008), this has largely focused on program content, not process. Understanding the process that accounts for change in parenting interventions will help optimize program targets, for example, should we place more focus on parental self-efficacy or specific parenting behaviors? Insight into the critical elements of parenting interventions will facilitate the development of briefer, more effective, less costly programs.

Many parenting programs have been evaluated, yet translation of research into practice remains a major challenge (Kazdin & Blase, 2011). To translate intervention research into service settings and therefore to generalize the effects into practice we need to know what is required to make programs work, what are the optimal conditions, and what components must not be diluted to achieve change (Eyberg, Nelson, & Boggs, 2008; Kazdin, 2007).

The Impact of Positive Parenting on Children's Biology

While in some ways the nature vs. nurture debate was long laid to rest, with the consensus that both our genetic endowment and the environment in which we grow up, play a role in our development, an understanding of *how* these factors interact to create a unique individual is only recently emerging. Spurred by developments in gene sequencing, neuroimaging technologies, and rapid and low-cost physiological assessment, our knowledge of how development plays out at the biological level is greatly increasing. Likewise, we are seeing how psychosocial interventions focused on parenting can lead to long-term neurobiological changes in children (e.g., Brody, Yu, Chen, & Miller, 2017; Miller, Brody, Yu, & Chen, 2014).

There is much we do not know. As discussed by Posner and Rothbart (2018), evidence for effects of parenting on children's brain development is currently lacking. Similarly, as briefly outlined by Morawska and Mitchell (2018), while there is emerging evidence on the links between parenting and biological markers of children's health, this is a new area of research which has not yet been conducted in a systematic way. Better understanding of the interacting biological and psychosocial mechanisms, placed within an ecological context, has the potential to not only expand our knowledge of normal human development, but also to apply this knowledge in providing interventions to enhance the capabilities of all children, and to provide tailored services in situations where children experience difficulties in social, emotional, behavioral, or health domains. Furthermore, better integration across the various factors contributing to children's development is likely to allow for the development of more comprehensive, inclusive, complementary, and effective solutions to assist parents in their parenting role.

Future Directions for Policy and Practice

A Systems-Contextual Approach to Parenting Support

Throughout this volume, numerous individual authors have emphasized the critical importance of viewing parenting within a wider ecological context. Bronfenbrenner's ecological model has resonated with many and is a particularly useful frame of reference when considering how the various contexts that impinge on parents' lives can be used positively to design population level parenting interventions. A systems-contextual perspective views parenting as involving a socially embedded series of relationships within multiple interacting systems. As children develop, a parent engages with a wider range of social influence contexts that can affect parents both positively and negatively. These contexts include interactions with extended family, neighbors, media including social media, and formal contacts with health, education, and social service professionals. The quality of parent's social connections influences whether parents feel included or isolated, coerced, criticized, or supported in their parenting role. It is through these various contacts that parents are socialized into the role of being a parent and are exposed to new information, support, and role models about how to raise children.

Parenting programs can potentially use all of these settings or contexts to support parents and children to make them more accessible and easier to participate in. For example, successful parenting programs have been run in mental health facilities, primary health care settings, workplaces, childcare and school settings, neighborhood

centers, public libraries, online, via webinars, and videoconferencing. The main advantage of having parenting support accessible in multiple contexts is that parents have more options to fit around their lifestyles and hours of work and there is greater consistency of messaging about parenting across agencies.

Towards Integration of Prevention and Treatment Programs

Parenting interventions fall on a spectrum that ranges from universal, indicated, and targeted prevention programs through to programs that are part of the treatment, management, relapse prevention, and rehabilitation of individuals with specific mental health problems. These interventions in both the prevention and treatment space range in intensity from light touch or low intensity parenting interventions (e.g., one session parenting seminars and topic specific discussion groups) to more intensive multisession treatment programs for children and parents with serious or chronic mental health problems (Sanders, Burke, Prinz, & Morawska, 2017). It is tempting to assume that parenting programs focusing on treatment are likely to be more intensive and complex than prevention programs. However, some targeted prevention programs involve intensive, multisession home visiting programs with at risk mothers of newborns and can involve many hours of intervention over a period of years with varied patterns of attendance (Holland, Olds, Dozier, & Kitzman, 2017). Conversely, some relatively brief, low-intensity interventions such as Triple P online have been successfully deployed with parents with chronic mental health problems undergoing online CBT intervention for bipolar disorder (e.g., Jones et al., 2017), and parents of children with complex problems such as ADHD (e.g., Franke, Keown, & Sanders, 2018). The main issue is that increasing evidence is emerging that complex problems can sometimes respond well to less intensive and expensive to deliver interventions.

Adopting a Population Approach

There has been increasing advocacy for the value of parenting programs to adopt a whole of population perspective, to both prevent child maltreatment (e.g., Prinz & Neger, 2017), and to reduce the prevalence rates of serious social, emotional, and behavioral problems in children (Sanders, 2012). Sanders and Prinz (2018) identified the key parent and child outcomes that a population approach to parenting support seeks to accomplish: (1) to increase the number of parents who have the necessary knowledge, skills, and confidence to parent their children and adolescents well, by increasing the number of parents who complete an evidence-based, culturally appropriate parenting program; (2) to increase the number of children and adolescents who are thriving socially, emotionally, and academically; (3) to decrease the number of children and adolescents who develop serious social, emotional, and behavioral problems; and (4) to decrease the number of children and adolescents who are maltreated or at risk of being maltreated by their parents. A population approach seeks to achieve these outcomes by making high quality, evidenced-based parenting support programs widely available to all parents. The population approach involves examining the effects of an intervention by tracking population level data on relevant child outcomes such as rates of child maltreatment, hospitalization and injuries due to maltreatment or out-of-home placements, or other relevant administrative data (Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009).

A Consumer and End-User Driven Approach

There is ample evidence to show that parents and end users of parenting programs have valuable insights to offer that help improve the relevance, cultural appropriateness, and efficacy of parenting programs. Sanders and Kirby (2012) presented a model of consumer involvement that

argued that parents as consumers should be involved throughout the research and development, and dissemination phases of program innovation. This collaborative partnership process has been successfully applied in numerous studies seeking to adapt evidence based programs for particular cultural contexts or types of parenting concerns. For example, in New Zealand, extensive consultation through focus groups occurred in developing an adapted version of Triple P with the indigenous Maori population. The consultation involved the development of an additional resource that connected Maori cultural values to principles and techniques of positive parenting. The resulting adaptation was then tested in a randomized controlled trial (RCT) with Maori parents of preschool aged children and showed positive sustained intervention effects (Keown, Sanders, Franke, & Shepherd, 2018). A similar approach has been used to adapt Group Triple P for grandparents (Kirby & Sanders, 2014) and for fathers (Frank, Keown, Dittman, & Sanders, 2015), and Triple P Discussion Groups for parents of children with sibling conflict (Pickering & Sanders, 2017), and to develop a media series on positive parenting for parents with early onset conduct problems (Metzler, Sanders, Rusby, & Crowley, 2012). In each case, consumer survey information sometimes combined with focus group discussions helped identify consumer preferences for how parents would like to receive an intervention. This information is most valuable when programs are being first designed to gauge the degree of parent interest in participating, and capturing information about perceived barriers to engagement.

Multidisciplinary Approaches to Support Parenting and Parent Training

The adoption of a systems-contextual approach to parenting support at a population level, combined with evidence showing that parenting influences diverse areas of child development inevitably leads to practitioners from multiple disciplines having an interest and a mandate to provide parenting support to promote better developmental outcomes in children. Parents seek advice from a wide range of people as children enter and leave different developmental contexts. These include psychologists and social workers, medical professionals (general medical practitioners, pediatricians), and allied health staff such as nurses, occupational therapists, speech therapists, counsellors, as well as teachers, educators, and family support workers.

Professionals from different backgrounds vary greatly in the quality of training and knowledge about parenting, child development and effective behavior change strategies. Those with advanced graduate level training in clinical or developmental psychology, social work, and nursing are best equipped to deliver parenting interventions to parents with complex mental health and developmental problems, including drug and alcohol problems. However, even these professionals require training in specific evidence based programs. Fortunately, professionals from a wide variety of backgrounds can be trained through structured, intensive professional training courses to deliver different types of parenting programs (Ralph & Dittman, 2018). Well regarded and widely used professional training courses that have been shown to work, tend to involve active skills training exercises, live and or video demonstrations, practicing skills through role plays, feedback from peers and trainers, and ideally some kind of accreditation or credentialing process and post training supervision.

Existing training models for most evidence based parenting interventions require a trainer to deliver a training course in person. In that context, skills can be modelled, practiced, and feedback provided to participants about dealing with common process problems encountered in delivering parenting programs (e.g., dealing with parental resistance, conducting behavioral rehearsal of specific skills). This type of active skills training involving in vivo coaching is difficult to simulate in online training programs that are designed to be delivered without a live trainer. Further research is needed to evaluate the efficacy of online professional training involving complex clinical skills.

If they prove as effective as in person training, the costs of training programs could be reduced substantially.

Enhancing the Social Ecology of Parenting

Increasing parental access to high-quality, culturally informed, and evidence-based parenting programs that can be delivered by well-trained and supported professionals is a crucial element in ensuring the parenting role is acknowledged and properly supported. However, ensuring access to parenting services interacts with other aspects of the social ecology of parenthood. Many other factors influence parental capacity to raise children. Professionals need to become social activists with respect to advocating for policies and practice by local, state, and federal governments to implement policies that work to ensure parents and children live in safe family environments free from family violence, can access stable employment, have adequate housing, live in safe neighborhoods with adequate play and recreational space, good schools and health and dental services. While some would argue that being resilient in the face of adversity is an essential life skill for all parents and children, there is a larger social obligation for all citizens to take reasonable steps to create communities that ensure children are safe, protected, and can thrive and reach their potential. This includes advocacy for and supporting legislative change that reduces risks to children, including supporting the global call to reduce family violence and to ban corporal punishment of children in homes and schools (Gershoff, 2010).

Integration of Parenting Intervention within the Broader Field of Parent and Child Development Support

As there is such extensive support for the conclusion that parenting is a crucial determinant of child development outcomes, it is tempting to conclude that all we need to do to fix children's problems is to educate parents better. While this undoubtedly would make a substantial difference to children's development, poor or inadequate parenting or conversely highly competent parenting does not guarantee that children will do well or poorly. Other potentially modifiable determinants over and above the effects of genes, the child's biological makeup and quality of parenting children receive, include extended family relationships, peer relationships, school experiences, exposure to social media and cyberbullying, and exposures to natural disasters or to famine and war. Racial discrimination and racial vilification continue to marginalize and disenfranchise people, particularly minorities, refugee families, and indigenous people around the world and provide a social, cultural, and historical context where there are different parenting challenges for parents. Unfair employment practices that disadvantage women who continue to be paid less in some industries for the same work as male colleagues, and the lack of provision of paid maternity leave ensure that there remain large differences between parents both within and between countries, and that parents undertake their role on a very uneven playing field.

Conclusion

Developmental research into the effects of parenting on the development of both children and parents has made substantial progress over the past few decades. It is now clear that the quality of parenting children receive has a pervasive influence on children's development and its effects are experienced over a lifetime. With major disparities between the life course opportunities of children continuing in most countries, partly as a function of differences in life circumstances and the socioeconomic opportunities of families, increasing children's exposure to positive, nurturing family environments represents a clear pathway to positively influence developmental outcomes. Every generation of parents experiences new challenges (e.g., internet, cyberbullying) as well as the familiar and predictable everyday tasks of raising children. Parents'

capacity to learn, self-regulate their own behavior and emotions, support each other, and flexibly adapt to the changing needs of their children is one of life's greatest and most important challenges.

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