Chapter 17

Parental Cognitions: Relations to Parenting and Child Behavior

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Abstract

Parents' thoughts about their children and about parenting are an integral aspect of family interactions. This chapter focuses on various cognitions of parents, including both stable and general beliefs, expectations, and attributional patterns related to children, child behavior, and parenting, as well as more dynamic cognitions that frequently occur in the context of ongoing parent-child interactions. We begin the chapter with an overview of the common theoretical models that underlie the research in this area. We then consider the various types of parental cognitions, highlighting evidence regarding the transactional nature of their associations with parenting and child outcomes. The review of evidence concludes with a summary of the strengths and limitations within this research body, and offers suggestions for future directions. Finally, the last section of the chapter focuses on the clinical implications of understanding parental cognitions and the potential benefits that may accrue if researchers and practitioners listen carefully to the thoughts of parents as they strive to fulfil their parenting role and bring to fruition their aspirations for their children.

Keywords: parenting, parent-child, parent cognitions, attributions, beliefs, expectations, self-efficacy.

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 wellbeing (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 socio-cultural 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.

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 childrearing 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 co-parent, 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 over-tired). 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 Figure 17.1.

[INSERT Figure 17.1 HERE]

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 childrearing 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 inter-generational transmission of self-regulatory abilities (e.g., Bridgett, Burt, Edwards, & Deater-Deckard, 2015; Bridgett, 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, in press) 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 over-ride 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.

[INSERT BOX 17.1 HERE]

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 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 Figure 17.1).

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/ren. 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, 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 over-control 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 over-protectiveness. These dysfunctional beliefs significantly account for the relation between parent and child anxiety, suggesting they may be an important mechanism in the inter-generational 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 (2013) coded negative relational schemas about the child (including negative attributions) from mothers' 5-minute 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, Su, Calkins, Henrich, & Smolen, 2017; Leerkes et al., 2015). 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 blame-worthy 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, 2011), 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 over-reactive 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 predictive of early child behavior problems and harsh parenting, and 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 and colleagues (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 these 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 Figure 17.1, attributions function not in an isolated manner, but within a more inter-related 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 inter-relations. 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, Rodriguez, 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, in press). 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 an important element of the parenting experience in families of children with disabilities (e.g., García-López, Sarriá, & Pozo, 2016).

Confirming the inter-related 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 Figure 17.1, 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 is 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., IATs, 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 multi-method 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 any number of 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 and 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 socio-economic 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 wellbeing.

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Box 17.1 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.

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

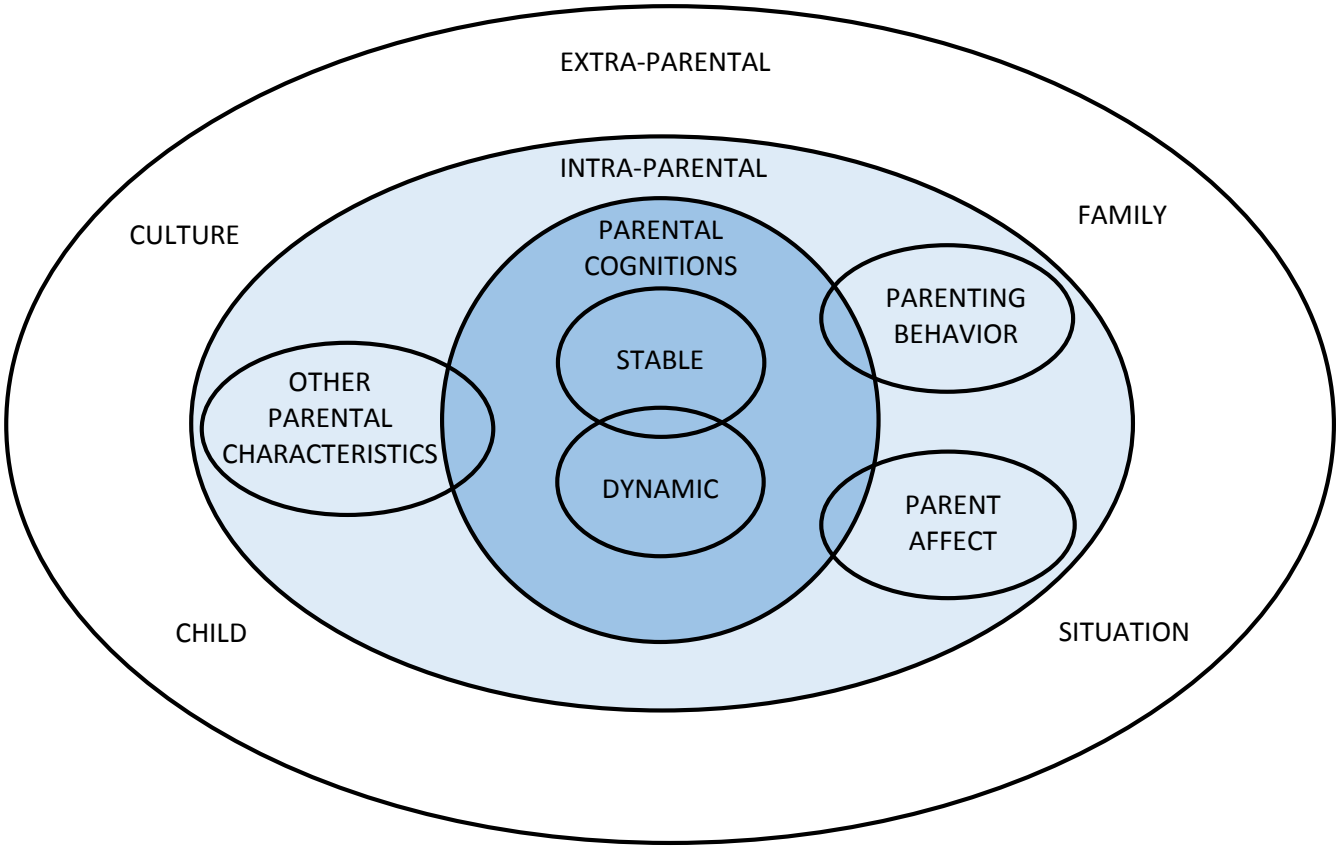
with no clear cause and asked mothers to make attributions regarding the child's intentions. In one group, mothers read the vignettes and made their ratings while remembering a very simple number. This memory task requires minimal cognitive effort and, thus, mothers are able to devote their cognitive 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, 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.

Figure 17.1. Parental cognitions in relation to other parent, child, family, and social influences.



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.