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Parents' Self-Reported Attachment Styles: A Review of Links with Parenting Behaviors, Emotions, and Cognitions

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Abstract

For decades, attachment scholars have been investigating how parents' adult attachment orientations relate to the ways in which they parent. Traditionally, this research has been conducted by developmental and clinical psychologists who typically employ the Adult Attachment Interview (AAI) to measure adult attachment. However, dating back to the mid-1990s, social and personality psychologists have been investigating how *self-reported* adult attachment styles relate to various facets of parenting. The literature on self-reported attachment and parenting has received less attention than AAI research on the same topic and, to date, there is no comprehensive review of this literature. In this article, we review over 60 studies of the links between self-reported attachment styles and parenting, integrate the findings to reach general conclusions, discuss unresolved questions, and suggest future directions. Finally, we discuss the potential benefits to the study of parenting of collaborations among researchers from the developmental and social attachment research traditions.

For nearly 30 years attachment researchers have been empirically investigating how parents' adult attachment orientations relate to their own parenting and to the quality of their relationships with their children. Traditionally, researchers studying these links (mainly developmental and clinical psychologists) have employed interview-based measures such as the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984, 1985, 1996) to measure parents' *state of mind with respect to attachment*. Recently, however, there has been growing interest in, and accumulating empirical evidence for, links between parents' *attachment styles* – measured with self-report questionnaires that have typically been used by social psychologists studying romantic relationships – and various facets of parenting. An extensive literature search revealed over 50 published studies that have examined the relation between parents' self-reported attachment styles and parenting, which is more than we initially expected to find. To our knowledge, there is no comprehensive review and analysis of this literature (see Mikulincer & Shaver, 2007, for a limited review). Therefore, the main goals of this paper are to (a) provide a comprehensive theoretical and empirical review of the literature on the links between parents' self-reported attachment styles and

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parenting, (b) integrate the findings from the various studies to reach general conclusions about the current state of this literature and evaluate the hypothesis that parents' attachment styles are related to parenting outcomes, and (c) discuss the limitations of the empirical evidence to date and suggest directions for future research that could advance this area of inquiry.

Although the social and developmental attachment traditions are both grounded firmly in Bowlby's (1969/1982, 1973, 1980) theory, as empirical research traditions they have remained relatively distinct. For the most part, researchers within each of these traditions have tended to ask different questions, employ different methodologies, and publish in different journals. The unfortunate consequence of this divide is missed opportunities for fruitful collaborations that could help move an area of inquiry forward. One such example of a missed opportunity is in the domain of parenting. Parenting research has typically been viewed as mainly within the purview of developmental and clinical attachment researchers, and in these circles the AAI has been touted as the "gold standard" measure of adult attachment. However, there is already a rather large and growing body of research within the social/personality tradition on the links between self-reported attachment styles and parenting outcomes that has gone largely unnoticed by both social and developmental researchers. Given the increasing emphasis on collaborative and interdisciplinary work within psychological science, the time is ripe to bring these disparate lines of research closer together.

Given the important role of parents in attachment theory, and the clear importance of parenting for child development (Shonkoff & Phillips, 2000), parenting is an ideal arena for cross-tradition collaborations. By reviewing the literature on self-reported attachment styles and parenting, we hope to increase awareness of this literature among both developmental and social attachment researchers, evaluate the utility of self-reports of attachment style in parenting research, and encourage collaborations among researchers from the developmental and social attachment research traditions that could move this area of inquiry forward.

Overview

We begin by discussing Bowlby's theoretical notions about the relation between attachment and caregiving. Second, we discuss the birth of adult attachment research in the 1980s and describe the two main approaches to measuring individual differences in adult attachment (i.e., AAI and self-report). We then present an argument for why self-reported adult attachment styles *should* be related to parenting. Third, we review the empirical literature on the links between attachment styles and various facets of parenting, which we loosely characterize as falling into one of three broad categories: parenting behaviors, emotions, and cognitions. In addition to summarizing the literature in each of these parenting categories, we discuss limitations and propose future directions specific to each domain. Fourth, we present general conclusions regarding the current state of this literature. Finally, we call attention to remaining issues and unresolved questions in this area of research and suggest avenues for future research applicable to all three parenting domains.

Theoretical Perspectives on Adult Attachment and Parental Caregiving

During his career, Bowlby (1969/1982, 1973, 1980) focused mainly on attachment in infancy. However, he viewed attachment as a lifespan construct that guides thoughts, feelings, and behaviors in relationships “from the cradle to the grave” (Bowlby, 1979, p. 129), and he predicted that a parent’s own attachment experiences and representations would influence the quality of parental caregiving. Although Bowlby did not write extensively about caregiving, his conceptualization of behavior in terms of dynamically interacting behavioral systems, and his proposal that cognitive representations of early relationships serve as templates for functioning in future relationships, provided a solid theoretical foundation for understanding and studying the links between adult attachment and parenting.

The Attachment Behavioral System and the Caregiving Behavioral System

In an attempt to account for his observations of young children’s behavior in response to separations from their mothers (e.g., Robertson & Bowlby, 1952), Bowlby (1969/1982) proposed a biologically based and evolutionarily adapted *attachment behavioral system*. This system organizes an infant’s behavior around the set-goal of seeking and maintaining proximity to an attachment figure (usually the child’s principal caregiver). The principal function of the attachment behavioral system is to protect young, vulnerable infants from danger (e.g., predation), which promotes survival, and, ultimately, enhances reproductive fitness. Although the attachment system most strongly influences behavior early in life when individuals are most vulnerable and dependent on others, Bowlby argued that this system continues to operate and influence behavior across the lifespan. As such, a parent’s attachment behavioral system is likely to influence some parenting behaviors, even though, importantly, a parent’s bond to the infant is not itself conceptualized as an attachment (Ainsworth, 1989). Thus, *both* child and parent possess attachment behavioral systems that influence thoughts, feelings, and behaviors in the parent-child relationship (yet in profoundly different ways given that the parent is the child’s attachment figure, but typically the child is not the parent’s attachment figure).

The behavioral system thought to most directly organize parenting behaviors, emotions, and cognitions is the *caregiving behavioral system*. Although Bowlby did not write extensively about the caregiving behavioral system, he viewed parenting behavior, like attachment behavior, as “biologically rooted” and suggested that parenting could “usefully be approached from the same ethologically inspired [i.e., behavioral systems] viewpoint” (Bowlby, 1988, pp. 4-5). More recently, attachment scholars have further elaborated the nature and function of the caregiving behavioral system and how it interacts with other behavioral systems to influence parenting (Cassidy, 2008; George & Solomon, 1999, 2008). The caregiving behavioral system is thought to have evolved in humans to organize behavior around the goal of protecting and supporting dependent others – particularly one’s offspring. Specifically, the behaviors organized by the caregiving system protect offspring from danger, reduce offspring distress, and promote offspring exploration and growth. Ultimately, these caregiving behaviors promote the survival of one’s offspring and, therefore, one’s genes.

Bowlby (1969/1982, 1988) viewed a parent's caregiving behavior as complementary to his or her child's attachment behavior, and in the context of well-functioning parent-child relationships, the child's attachment system and the parent's caregiving system work in synchrony. These two systems share a common goal – proximity between infant and attachment figure (particularly under conditions of threat or danger) – and serve a common function – protection and survival of offspring. However, the balance between the child's attachment system and the parent's caregiving system may not always operate smoothly. Building on ethologists' observation that the increased activation of one behavioral system can reduce the activation of another behavioral system, Bowlby (1969/1982) described how increased activation of the infant's attachment system typically results in reduced activation of the infant's exploration system. Similarly, increased activation of a parent's attachment system may result in reduced activation of the parent's caregiving system. In such cases, the parent's own attachment-related needs and strategies may interfere with his or her ability to respond appropriately to the needs of his or her child. Imagine, for instance, a new mother who experiences the loss of her husband (i.e., her own principal attachment figure); it is likely that the impact this loss has on her own attachment system will influence her caregiving system.

Such thinking about the influence of a *specific* attachment-related event on a parent's caregiving raises the question of whether the *continuous* functioning of a parent's attachment system may also influence (i.e., either bolster or hinder) the functioning of the caregiving system and the quality of care the parent provides. By "continuous" we are referring to the notion that the attachment system is not something that turns on and off; instead, "it must continuously monitor and appraise" relevant events in the environment to function effectively (Bowlby, 1969/1982, p. 373; see also Bretherton, 1980). In other words, the attachment system is viewed as continuously active with variation in the degree or intensity of activation depending on interpretation of contextual stimuli. Thus, if the continuous monitoring and appraisal occurring in the context of the mother's own attachment system leads her to respond selectively to her child's attachment behavior, the quality of her caregiving suffers.

A comprehensive understanding of individual differences in the links between adult attachment and caregiving may be facilitated by considering that the level and nature of behavioral system activation varies as a function of perceived contextual threat. Like other behavioral systems, the caregiving system is differentially activated as a function of the presence or absence of threat (e.g., a parent's assessment of the threat/safety of an unfamiliar adult approaching her child will guide her caregiving behavior). Moreover, when activation of the parent's caregiving system is heightened in response to *child* behavior, parental responses will be considered in the context of the level of perceived threat.

This line of thinking leads to the following proposition: It may be best to think of child behavior not as increasing activation of the parent's own attachment system, but of child behavior as increasing activation of a caregiving system operating within the context of threat assessment that is influenced by the parent's attachment system. Consider: For most parents, a distressed infant seeking comfort is not a threatening stimulus, but part of a routine situation that heightens activation of the caregiving system, with soothing of the

infant as a predictable outcome. Yet individuals vary in how they assess threat, and for some parents an infant's attachment behavior might indeed be viewed as threatening.

What might contribute to a parental view of child attachment behavior as threatening? Considerable theory, clinical experience, and data suggest that variation in both threat perception and threat response are substantially linked to attachment experiences (e.g., Bowlby, 1973; Dewitte, Koster, De Houwer, & Buysse, 2007; Fraiberg, Adelson, & Shapiro, 1975; Mikulincer & Florian, 1998). For instance, a parent's experience-based mental representations that attachment behavior leads to a negative outcome may prompt the parent to view the child's display of attachment behavior as a threat. A parent with such experiences may have developed a set of protective mechanisms in the face of threat that include the belief that the best way to maintain safety is by not depending on others or allowing others to depend on her; this belief may guide her parenting, particularly in response to her child's attachment behavior. Individual differences in the link between a parent's attachment and his or her caregiving may thus be understood as reflecting the tendency for the caregiving system to operate with consideration of contextual threat, following rules for assessing and responding to threat that are influenced by individual differences in attachment.¹

Internal Working Models of Relationships

A core tenet of attachment theory is that infants develop experience-based mental representations, or *internal working models* (IWMs), of the self, attachment figures, and relationships that vary in content and quality as a function of care received from attachment figures (see Bretherton & Munholland, 2008, for a review). According to theory, these IWMs serve as templates for current and future relationships and, as such, are the hypothesized mechanism by which early attachment experiences are "carried forward" to influence functioning in later relationships, including the parent-child relationship. Thus, an infant who receives sensitive and responsive care from an attachment figure will likely form representations of the self as worthy of love and care and of the attachment figure as sensitive and as someone who can be relied on in times of need. That is, infants internalize *both* sides of the parent-child relationship (Main, Kaplan, & Cassidy, 1985; Sroufe & Fleeson, 1986), and it is thought that these representations are carried forward to influence thoughts, feelings, and behaviors in their relationships with their own children (for empirical evidence that infants do, in fact, internalize both sides of the parent-child relationship, see Johnson et al., 2010).

Attachment in Adulthood

During the 1980s, two independent lines of research were initiated to explore the nature of attachment in adulthood. Main and her colleagues (George et al., 1984, 1985, 1996; Main et al., 1985) developed an interview procedure, the AAI, to assess adults' *current state of mind*

¹Yet surely there are times when child behavior not only activates the caregiving system (typically influenced by the attachment system) but also activates the attachment system directly. For instance, a new mother who is getting little sleep and feeling overwhelmed with parenting duties may, in the face of extensive infant crying, long for her own mother to care for her (i.e., her own attachment system may become activated as she wishes for comfort and assistance from her own attachment figure). Indeed, it is the custom in many cultures for the maternal grandmother to care for the mother during the peripartum period (Hrdy, 1999).

with respect to attachment, inferred from the linguistic properties (e.g., coherence) of adults' responses to questions about early attachment experiences, recent losses, and current relationships with their parents and own children. In the AAI measurement approach, trained coders assign adults' interview transcripts to one of three main attachment categories (secure, dismissing, preoccupied) that parallel those assigned to infants in Ainsworth's Strange Situation (Ainsworth, Blehar, Waters, & Wall, 1978; see Hesse, 2008, and Main, Goldwyn, & Hesse, 2002, for detailed descriptions of the AAI and each of the attachment categories, along with the additional infant insecure/disorganized and adult insecure/unresolved groups). A large body of work has demonstrated that an adult's state of mind in the AAI is related to his or her child's attachment classification in the Strange Situation and to the quality of his or her parenting behavior (see van IJzendoorn, 1995, for a meta-analysis). Specifically, adults classified as secure in the AAI tend to be more sensitive and responsive parents and are more likely to have a child who is categorized as secure in the Strange Situation compared to adults classified as insecure. Considerable attention has also focused on understanding factors that mediate the well-replicated link between parents' AAI classifications and their children's attachment (see van IJzendoorn, 1995, and Madigan et al., 2006, for meta-analyses; see also Bernier & Dozier, 2003).

At approximately the same time, two social psychologists (Hazan & Shaver, 1987) also suggested that there might be adolescent and adult parallels of Ainsworth's infant attachment categories, and that these adult categories might influence the course of a person's experiences in romantic and marital relationships. In contrast to Main and colleagues' lengthy interview-based assessment, Hazan and Shaver developed a simple three-category (secure, avoidant, anxious/ambivalent) self-report measure in which adults self-select from the three options the description that best characterizes their thoughts, feelings, and behaviors in adult close relationships – referred to as their *attachment style*.

The original Hazan and Shaver measure focused specifically on individuals' experiences in romantic relationships, but this measure (and other attachment style questionnaires) can also be administered with reference to close relationships more broadly. Subsequent psychometric research revealed that variation in adult attachment styles is better captured by dimensional, rather than categorical, self-report measures (Brennan, Clark, & Shaver, 1998; Fraley & Waller, 1998) that reliably measures a person's *degree* of attachment-related avoidance and anxiety in close relationships of various kinds (see Mikulincer & Shaver, 2007, for descriptions of the most commonly used self-report attachment style measures). Avoidance reflects the tendency to deactivate the attachment system and is characterized by discomfort with closeness and dependency in relationships and a reluctance to disclose feelings or information to relationship partners that might suggest vulnerability. Anxiety, on the other hand, reflects the tendency to hyperactivate the attachment system and is characterized by intense fears of rejection and abandonment and a strong desire for closeness in relationships (Shaver & Mikulincer, 2002).

Substantial empirical evidence has emerged showing that adult attachment styles predict variation in how adults respond to the needs of and provide care to romantic partners (e.g., Collins & B. Feeney, 2000; B. Feeney & Collins, 2001; Kuncz & Shaver, 1994; Rholes, Simpson, & Oriña, 1999; Simpson, Rholes, & Nelligan, 1992; Simpson, Rholes, & Phillips,

1996). For example, anxious attachment in couple relationships is associated with caregiving that is intrusive, controlling, and out-of-sync with the needs of relationship partners. Avoidant attachment, on the other hand, is associated with cold, unsupportive, and insensitive caregiving in romantic relationships. Low scores on both dimensions of attachment insecurity (indicating attachment security) are related positively to various indicators of availability, sensitivity, and responsiveness.

Our present interest is in the possibility that a secure or insecure attachment orientation, assessed with self-report measures of attachment style, relates not only to caregiving in couple relationships, but also to caregiving in parent-child relationships. In addition to the empirical evidence reported above in relation to caregiving in romantic relationships, evidence from other areas of attachment style research suggests that parental attachment styles should be related to parenting. For example, greater insecurity on self-report attachment style measures has been linked to maladaptive responses to distress and difficulties with emotion regulation (e.g., Mikulincer & Florian, 1995, 1998; Mikulincer & Shaver, 2007, 2008) and to less empathy, compassion, and forgiveness (Mikulincer et al., 2001; Mikulincer, Shaver, Gillath, & Nitzberg, 2005; Shaver, Mikulincer, Lavy, & Cassidy, 2009). Parents who have difficulties regulating their own emotions and who tend to respond to others with less empathy, compassion, and forgiveness might struggle with the challenges and stresses of childrearing and have difficulties appropriately responding to the needs of their children.

It is important to emphasize that although the AAI and self-report measures of attachment style derive from the same theoretical tradition and are described as measures of “adult attachment,” they are different in many respects and are not strongly related to each other (see Roisman et al., 2007, for a meta-analysis). As mentioned above, the AAI is coded with special reference to the coherence of a person’s discourse when discussing early attachment relationships, and the degree of coherence is considered to reflect the extent to which the person engages in defensive processes when considering past attachment experiences. The self-report measures of attachment style ask more directly about a person’s conscious experiences in dyadic relationships, although the measures have been related (in experiments and using various kinds of projective measures) to unconscious conflicts, ambivalence, and defensive suppression (Mikulincer & Shaver, 2007; Shaver & Mikulincer, 2002). In contrast to the AAI, the most commonly used self-report measures (e.g., the Experiences in Close Relationships Scale; Brennan et al., 1998) do not ask about childhood relationships with parents but instead focus on experiences in more recent relationships. Yet, despite these differences and the weak relation between the two measures, the AAI and attachment style measures have been found to be similarly linked to a variety of attachment-related constructs such as emotion regulation (Mikulincer & Shaver, 2007, 2008), romantic relationship functioning (e.g., Simpson, Rholes, Oriña, & Grich, 2002), and social information processing (Dykas & Cassidy, 2011). To date, there has been relatively little attempt to integrate studies that used self-report measures of adult attachment style to predict cognitive, emotional, and behavioral aspects of parenting. The goal of this review is to evaluate whether parental attachment style – like state of mind in the AAI – relates to various domains of parenting.

Review and Analysis of the Empirical Evidence

Study Selection

We conducted an extensive literature search for empirical studies reporting links between parents' self-reported attachment styles and parenting outcomes using the PsycINFO, PubMed, and Google Scholar databases. All published studies that met the following criteria were included in the review: (a) included a self-report measure of one or both parents' adult attachment style and (b) included a self-report or observational measure of parenting, including cognitions and emotions related to parenting. We did not limit our search to studies that included biological mothers and fathers, but also included studies that focused on other caregivers, such as step-parents and foster parents. We also included in our review several studies that examined how attachment styles relate to attitudes and feelings related to parenting in samples of non-parents (e.g., desire to have children). We did not include in our review studies that conceptualized adult attachment as parents' retrospective reports of their childhood attachments to their own parents. Our literature search resulted in a final pool of 64 studies covering research published between 1994 and 2013. It is inevitable that the classic "file-drawer" problem plagues this review as it does all literature reviews: Surely some studies examining the links between adult attachment style and parenting outcomes were never submitted for publication, and the effects of their findings on our conclusions remains unknown.

Review Format

To facilitate the review and discussion of this rather large body of literature about the links between adult attachment styles and parenting, we placed each study into one of three broad parenting categories: behaviors, emotions, and cognitions. We acknowledge at the outset that some of the parenting constructs that have been studied could be placed into more than one category. For example, is self-reported closeness to one's child an emotion, a cognition, or a summary of past behaviors? The final categorization of each parenting construct was determined by discussion and consensus among the authors.

Whenever possible, we report effect sizes (r) to provide readers with quantitative estimates of the magnitude of the associations we review. If effect sizes were not directly reported in an article, but sufficient information was reported (i.e., means and standard deviations), we used standard formulas to compute the effect size. When calculating r , we applied a correction factor to account for small or unequal sample sizes (Aaron, Kromrey, & Ferron, 1998). If sufficient information to calculate effect sizes was not reported, we contacted study authors to request the necessary information. We adopt Cohen's (1988) conventions for interpreting the magnitude of an effect: r s of .10, .30, and .50 correspond to small, moderate, and large effects, respectively.

Several factors make reviewing this literature complicated. First, there is variability across studies in the way parental attachment style was operationalized: Some researchers used dimensional measures of avoidance, anxiety, or security whereas other studies used categorical measures with 3 or 4 attachment categories. To complicate matters further, some researchers did not differentiate between the insecure subtypes or dimensions in their

analyses whereas other researchers studying the same parenting construct did, making it difficult to interpret the consistency or inconsistency of the findings across studies. Second, many studies included only women, several studies included both men and women, and a few studies included only men. Further, not every study that included both men and women examined potential gender differences, making it difficult to interpret whether patterns of results are similar across genders. When information about subtypes of insecurity or gender differences was available, we attempted to integrate that information into our review. Importantly, the goal of this review is not to provide minute details about each study, but rather to identify the key parenting constructs that have been studied in this area of research and to provide an overall sense of the main findings, consistencies and inconsistencies across studies, and gender differences (for specific details about each study, including sample characteristics, attachment style measure used, caregiving outcomes assessed, main findings, and effect sizes see Tables 1, 2, and 3).

Parents' Self-Reported Attachment Styles and Their Parenting Behaviors

Researchers have examined how parents' self-reported attachment styles relate to a variety of self-reported and observed parenting behaviors (see Table 1; in the table, SR and OB indicate self-reported and observed parental behavior, respectively). These studies can be placed into one of four parenting behavior categories: (a) parental sensitivity, responsiveness, and supportiveness; (b) hostility and conflict behavior; (c) child abuse/maltreatment; and (d) overall parental functioning and miscellaneous parenting behaviors.

Parental sensitivity, responsiveness, and supportiveness—Studies have consistently shown that attachment-related avoidance is associated with less sensitive, responsive, and supportive parental behavior (Berlin et al., 2011; Edelstein et al., 2004; Goodman, Quas, Batterman-Faunce, Riddlesberger, & Kuhn, 1997; Mills-Koonce et al., 2011; Rholes, Simpson, & Blakely, 1995, Study 1; Selcuk et al., 2010). These studies revealed both main effects of avoidance on parenting behavior and interactions between avoidance and characteristics of the parent or child. For example, Rholes et al. found a main effect of avoidance on maternal supportiveness as well as a significant avoidance X child behavior interaction in predicting less supportive behavior. In contrast, Edelstein et al. found no significant main effect of avoidance on parenting behavior, but found that maternal avoidance was negatively related to parental responsiveness only when the level of child distress was high.

Compared to avoidance, the statistical links between attachment-related anxiety and parental sensitivity and responsiveness have been less consistent. Goodman et al. found that mothers' anxiety was associated with less responsive maternal behavior after their child underwent a painful medical procedure. In addition, Selcuk et al. found that maternal anxiety was negatively correlated with observed maternal sensitivity ($p = .05$) and positively correlated with missing the child's signals and interfering with the child's exploration. None of the other studies cited above revealed significant links between anxiety and sensitive or responsive parenting behavior.

Hostility and conflict behavior—Rholes et al. (1995, Study 1) did not find a significant association between mothers' attachment styles and observed hostility toward their toddlers. However, studies have shown that parental attachment styles relate to the degree of conflict in parent-child interactions and the ways in which parents behave during situations involving conflict with their children. Specifically, Selcuk et al. (2010) found that maternal anxiety, but not avoidance, was associated with greater observed conflict in mother-child interactions. In addition, two studies found that insecure parental attachment styles were related to less supportive and constructive parental behavior during parent-child conflicts (e.g., more anger and yelling, less problem-solving, and less collaborating; J. Feeney, 2006; La Valley & Guerrero, 2010). J. Feeney found that the links between attachment style and conflict behavior were somewhat different for mothers and fathers. For mothers, avoidance and anxiety were related to less constructive conflict behavior whereas significant links emerged only with anxiety for fathers.

Child maltreatment and corporal punishment—Six studies suggest that insecure parental attachment styles are related to increased risk for child maltreatment. For example, parents with insecure attachment styles were overrepresented in a sample of maltreating parents whose children were removed from the home (59% insecure relative to 44% insecure reported by Hazan & Shaver, 1987; Cramer & Kelly, 2010). In addition, insecure parents scored higher on indices of child abuse risk compared to secure parents (Howard, 2010; Moncher, 1996; Rodriguez, 2006). The subtype of insecurity related to abuse risk, however, was inconsistent across these studies. Finally, two studies found that maternal attachment styles were weakly related to the use of corporal punishment (i.e., spanking; Berlin et al., 2011; Coyl, Newland, & Freeman, 2010).

Overall parental functioning and miscellaneous parenting behaviors—Researchers have also examined how attachment styles relate to various other aspects of parental behavior ranging from broad constructs such as general parenting style and overall quality of care provided (Cohen, Zerach, & Solomon, 2011; J. Feeney, 2002; Millings, Walsh, Hepper, & O'Brien, 2013) to more specific behaviors such as socialization of particular coping strategies (Abaied & Rudolph, 2010). The diverse behaviors that have been studied do not fall neatly into broader parenting behavior categories (see Table 1 for details about each study). In general, these studies suggest that insecure parental attachment styles are associated with more negative parental behaviors such as less consistent parental behavior (Coyle et al., 2010; Kilmann, Vendemia, Parnell, & Urbaniak, 2009), less parental involvement (Coyle et al., 2010), less caring behavior (J. Feeney, 2002), lower parental acceptance (Kilmann et al., 2009; yet see Meredith & Noller, 2003, for null findings), more observed negative intrusiveness (Mills-Koonce et al., 2011; yet see Berlin et al., 2011, for null findings), greater psychological control (Kilmann et al., 2009), more authoritarian and less authoritative parenting (Millings et al., 2013), lower quality maternal teaching behavior (Rholes et al., 1995, Study 1), less engagement in activities with children thought to promote positive development (Green, Furrer, & McAllister, 2007), and more negative ratings of overall functioning as a parent (Cohen et al., 2011; yet see Caltabiano & Thorpe, 2007, for null findings in a sample of foster parents). However, as with the other subdomains of

parental behavior, there was variability in which subtype or dimension of insecurity – anxiety or avoidance – better predicted a particular aspect of parental behavior.

Summary of research on parenting behavior—Taken together, the studies reviewed in this section clearly indicate that parental attachment styles have implications for a variety of both observed and self-reported parenting behaviors. Effect sizes for the significant links reported fell mainly in the small to moderate range (see Table 1). However, some effects were large or bordered on large (e.g., reports of overall parental functioning and providing physical comfort to a distressed child). The broad range of parenting behaviors found to be significantly associated with parental attachment styles is impressive, but perhaps what will be most intriguing to attachment researchers is the link between attachment styles and parental sensitivity and responsiveness. It is noteworthy that the findings reviewed here showing that parental insecurity is related to less sensitive, supportive, and responsive parenting behavior mesh nicely with the results of studies that have found links between insecure adult attachment styles and less sensitive and supportive caregiving in romantic relationships (e.g., Collins & B. Feeney, 2000; B. Feeney & Collins, 2001; Rholes et al., 1999; Simpson et al., 1992, 1996).

Parental sensitivity and responsiveness are at the core of attachment theory and are thought to be among the most important predictors of child attachment security (Ainsworth et al., 1978; De Wolff & van IJzendoorn, 1997). The link between parents' state of mind with respect to attachment in the AAI and parental sensitivity/responsiveness is well documented (see van IJzendoorn, 1995, for a meta-analysis). The studies reviewed in this section provide compelling initial evidence for a similar link between self-reported attachment styles and parental sensitivity, but additional studies are needed to better understand this link. For example, it is unclear whether this link is better captured by main effects models or by mediation or moderation models. The empirical evidence to date does not provide a clear answer. It is also noteworthy that in the attachment style literature, avoidance, rather than anxiety, has emerged as the dominant predictor of less observed parental sensitivity. However, virtually no observational research has been conducted with fathers thus far. Future studies examining the relation between attachment styles and observed sensitivity and responsiveness should include both mothers and fathers and should report parent gender differences in their analyses. In addition, researchers should devote additional attention to specific parental behaviors thought to promote secure child attachment, such as parent-child synchrony (Feldman, 2007; see Selcuk et al., 2010, for initial evidence), behavioral responses to child distress (see Edelman et al., 2004, for initial evidence), and secure base provision.

Though not the focus of this review, it is noteworthy that parents' insecure attachment styles not only relate to their own behavior toward their children, but also influence how their children behave in interaction with them. For example, Mayseless, Sharabany, and Sagi (1997) found that maternal attachment styles were related to infant secure base behavior in the Ainsworth Strange Situation. Specifically, infants of avoidant mothers exhibited more avoidant behavior toward their mothers whereas infants of anxious mothers exhibited more avoidant and more ambivalent behavior toward their mother (yet see Volling, Notaro, &

Larsen, 1998, who did not find links between maternal attachment style and infant secure base behavior in the Strange Situation).

Parents' Self-Reported Attachment Styles and Their Emotions Related to Parenting

Studies examining the links between attachment styles and parental emotions have focused on seven areas: (a) desire to have children; (b) feelings of closeness to children; (c) parental satisfaction; (d) coping with pregnancy and parenthood; (e) parental stress; (f) maternal separation anxiety; and (g) miscellaneous parenting emotions.

Desire to have children—Seven studies found that insecure attachment – particularly avoidance – is related to less desire to have children among non-parents (Nathanson & Manohar, 2012; Rholes et al., 1995, Study 2; Rholes, Simpson, Blakely, Lanigan, & Allen, 1997, Studies 1 and 2; Rholes, Simpson, & Friedman, 2006; Scharf & Mayseless, 2011; Wilson et al., 2007). The link between avoidance and less desire to have children seems to hold for both males and females. Only one study (Scharf & Mayseless, 2011) found that anxiety was related to less desire to have children in a sample of Israeli males.

Feelings of closeness to children—Compared to insecure mothers, secure mothers report stronger feelings of closeness to their child, both prenatally (Priel & Besser, 2000; Mikulincer & Florian, 1999c, Studies 1 and 2) and after childbirth (Rholes et al., 1995, Study 1; Wilson, Rholes, Simpson, & Tran, 2007). In general, the findings are more consistent for avoidance than for anxiety. Only one of these studies included fathers: Wilson et al. found no significant links between fathers' attachment styles and feelings of closeness to children.

Parental satisfaction—The six studies that have examined links between attachment style and parental satisfaction have yielded inconsistent results. Four of the studies found that avoidance was related to less parental satisfaction (Cohen & Finzi-Dottan, 2005; Cohen et al., 2011; Rholes et al., 2006; Vieira, Ávila, & Matos, 2012); however, in one study this effect emerged only for mothers (Cohen & Finzi-Dottan, 2005), and in another study the effect of avoidance on satisfaction was indirect through work-family conflict (Vieira et al., 2012). The findings related to anxiety are more difficult to interpret, with Cohen et al. (2011) finding a negative relation between anxiety and satisfaction, Rholes et al. (2006) finding no relation, and Vieira et al. (2012) finding a positive direct effect of anxiety on satisfaction. However, Vieira et al. found that anxiety was indirectly related to less parental satisfaction via higher work-family conflict. Contrary to expectation, Lau and Peterson (2011) found no significant association between attachment style and parental satisfaction. Finally, La Valley and Guerrero (2010) found that security was related to greater parental satisfaction.

Coping with pregnancy and parenthood—The results of several studies suggest that secure mothers are better able to cope with pregnancy, the transition to parenthood, and parenting stresses than are insecure mothers (Alexander, Feeney, Hohaus, & Noller, 2001; Berant, Mikulincer, & Florian, 2001a, 2001b; Mikulincer & Florian, 1998, Studies 1-4, Mikulincer & Florian, 1999c, Study 2; Trillingsgaard, Elklit, Shevlin, & Maimburg, 2011).

Specifically, secure mothers reported less psychological distress during pregnancy and early parenthood, felt more equipped to handle pregnancy and the transition to parenthood, reported less fear and anxiety about their own health and health of the fetus during pregnancy, and reported more adaptive coping strategies compared to insecure mothers. In addition, attachment styles were associated with specific coping strategies. Consistent with the larger literature on attachment styles and coping with stress (Mikulincer & Florian, 1995, 1998; Mikulincer & Shaver, 2007), security was associated with greater support-seeking and problem-focused coping, avoidance was related to more distancing coping, and anxiety was related to greater emotion-focused coping when dealing with stressors related to pregnancy and parenthood (Berant et al., 2001a; Mikulincer & Florian, 1998, Studies 2-4; Mikulincer & Florian, 1999c, Study 2).

Parental stress—Eleven studies have yielded significant associations between attachment style and parental stress (Alexander et al., 2001; Fernandes, Muller, & Rodin, 2012; Howard, 2010; Kor, Mikulincer, & Pirutinsky, 2012; Kwako, Noll, Putnam, & Trickett, 2010; Mills-Koonce et al., 2011; Nygren, Carstensen, Ludvigsson, & Frostell, 2012; Rholes et al., 2006; Trillingsgaard et al., 2011; Vasquez, Durik, & Hyde, 2002; Vieira et al., 2012). The majority of these studies found that both avoidance and anxiety were related to greater parenting stress. Studies that examined the effect of parent gender largely found that the link between insecure attachment styles and parenting stress was the same for mothers and fathers (Kor et al., 2012; Nygren et al., 2012; Rholes et al., 2006; Vasquez et al., 2002).

Maternal separation anxiety—Three studies found that insecurity is related to greater maternal separation anxiety (Mayseless & Scher, 2000; Scher & Mayseless, 1994; Vasquez et al., 2002). Interestingly, the two studies by Mayseless and Scher found that only avoidance was directly associated with greater maternal separation anxiety, whereas Vasquez and colleagues found that mothers who endorsed a fearful attachment style (reflecting high avoidance and anxiety) reported greater separation anxiety relative to secure, dismissing, and preoccupied mothers.

Miscellaneous parental emotions—Four studies have examined various facets of parental emotion that do not fall neatly into one of the above sub-categories. In one study, Leerkes and Siepak (2006) presented female undergraduates with separate videos of infants expressing fear and anger and then asked these women to identify the infants' emotion and rate their own emotional responses to the videos. Higher scores on avoidance were related to less accurate identification of infant fear, and higher scores on both avoidance and anxiety were associated with mistaking fear for another emotion (e.g., sadness). In addition, avoidance was positively related to responding to infant fear with amusement.

Consistent with the general tendency of anxious individuals to be jealous and desire their partners' attention (Collins & Read, 1990; Hazan & Shaver, 1987), Wilson et al. (2007) found that anxiety (but not avoidance) was related to greater feelings of jealousy toward unborn infants (6 weeks before childbirth) as competitors for a partner's love and attention in both men and women. Also, in a study of step-mothers, Ceglian and Gardner (2000) found that anxious step-mothers felt more unappreciated and disrespected by step-children compared to avoidant step-mothers, whereas avoidant step-mothers reported more

resentment toward step-children compared to anxious step-mothers (secure mothers fell in between the insecure styles on both variables). Finally, Scher and Dror (2003) found that more anxious mothers reported greater feelings of hostility toward their infants, but that attachment style was unrelated to feelings of pleasure from being a parent.

Summary of research on parental emotions—Parenthood is without a doubt a very emotional experience, and the link between parental emotions and parenting outcomes is well documented in the literature (Dix, 1991; Rueger, Katz, Risser, & Lovejoy, 2011). The studies reviewed in this section support the link between parents' self-reported attachment styles and various facets of parental emotion. Effect sizes covered the full range from small to large (see Table 2).

This body of work represents an important contribution to the literature on the links between adult attachment and parenting that has not been adequately addressed by AAI studies. AAI researchers have tended to focus on links between adult attachment and observed parenting behaviors (e.g., Adam, Gunnar, & Tanaka, 2004; Cohn, Cowan, Cowan, & Pearson, 1992; Ward & Carlson, 1995) and parents' general emotional well-being (e.g., Adam et al., 2004), but have not devoted much empirical attention to emotions related to specific aspects of parenting (e.g., parental stress, desire to have children). It would be interesting to examine how parental state of mind in the AAI relates to these specific feelings related to parenthood and to compare these findings to those in the attachment style literature.

Given the well-documented link between parental emotions and parenting outcomes (Dix, 1991; Rueger et al., 2011), future research in the area should further examine how various kinds of parental emotions mediate and moderate links between attachment styles and parenting behavior. For example, do parental emotion regulation capacities mediate the link between attachment styles and sensitive parenting behavior? In addition, researchers should go beyond self-reports of parental emotion and include physiological and behavioral indices of emotion in their studies. For example, how do parental attachment styles relate to physiological responses during interactions with children or in response to child distress?

Parents' Self-Reported Attachment Styles and Their Cognitions Related to Parenting

Researchers have examined how attachment styles relate to a variety of attitudes, perceptions, expectations, and beliefs related to parenting. These studies fall into one of the following parental cognition categories: (a) perceptions of parenthood and of oneself as a parent; (b) perceptions of current and future children; (c) perceptions of the parent-child relationship and family functioning; and (d) cognitive responses to infant distress (see Table 3).

Perceptions of parenthood and of oneself as a parent—Studies have consistently shown that attachment security is associated with an overall more positive outlook on parenthood – part of what Rholes et al. (1997) referred to as “working models of parenthood” (Berant et al., 2001a, 2001b; Mikulincer & Florian, 1998, Study 2; Nathanson & Manohar, 2012; Rholes et al., 1997, Study 1; Vasquez et al., 2002). That is, secure parents perceive parenthood as less threatening and concerning, and secure fathers view parenthood as more rewarding. In addition, in samples of non-parents, insecurity is related to more

negative attitudes toward childrearing and expecting childcare to be more stressful and aggravating (Nathanson & Manohar, 2012; Rholes et al., 1997, Study 1; yet see Scharf & Mayseless, 2011, who did not find a link between attachment style and expected parental satisfaction). Although not all of these studies examined the subtypes of insecure attachment, those studies that did typically found that both avoidance and anxiety were related to more negative overall views of parenthood (Mikulincer & Florian, 1998, Study 2; Rholes et al., 1997, Study 1; yet see Berant et al., 2001a, 2001b, who did not find significant links between avoidance and perceiving parenthood as threatening).

In addition, studies examining individuals' perceptions of themselves as current or future parents found that insecurity is associated with less self-reported competence in the parental role, less confidence in the ability to relate to children and to parent effectively, less emphasis on children attaining developmental goals, less knowledge of child development, and more unrealistic expectations of being a "perfect" parent (Caldwell, Shaver, Li, & Minzenberg, 2011; Howard, 2010; Kilmann et al., 2009; Kohlhoff & Barnett, 2013; Rholes et al., 1995, Study 2; Rholes et al., 1997, Study 1; Scharf & Mayseless, 2011; Scher & Mayseless, 1994; Snell, Overbey, & Brewer, 2005). However, the subtype of insecurity predicting each of these parenting cognitions was not consistent across studies (see Table 3). Non-parents who reported greater insecurity also reported that they expected to be less warm and more strict with future children (Nathanson & Manohar, 2012; Rholes et al., 1997, Study 1). These links emerged in relation to both avoidance and anxiety and for both males and females (Rholes et al., 1997, Study 1).

Perceptions of current and future children—The studies examining perceptions of current and prospective children have yielded inconsistent results. Four studies found no relation between parents' attachment styles and perceptions of their current (Lench, Quas, & Edelstein, 2006; Mayseless & Scher, 2000; Meredith & Noller, 2003) or future (Scharf & Mayseless, 2011) children. On the other hand, three studies did find that insecure attachment styles were related to more negative perceptions of current child temperament (e.g., less adaptable, more fearful, more reactive; Pesonen, Räikkönen, Keltikangas-Järvinen, Strandberg, & Järvenpää, 2003; Pesonen, Räikkönen, Strandberg, Keltikangas-Järvinen, & Järvenpää, 2004; Priel & Besser, 2000) and to non-parents' more negative expectations of future child attachment behavior (Rholes et al., 1997, Study 2). Several of these studies found that both avoidance and anxiety were associated with more negative perceptions of infant temperament (Pesonen et al., 2003, 2004; Priel & Besser, 2000). In addition, Scher and Mayseless (1997) found that maternal avoidance, but not anxiety, predicted an increase in negative perceptions of infant temperament from 3 to 9 months. Finally, Rholes et al. (1995, Study 1) found that maternal anxiety interacted with maternal psychological distress to predict perceptions of child difficulty: among highly anxious mothers greater distress was associated with reports of less child difficulty.

In addition to perceptions of child temperament and behavior, Rholes et al. (2011) found that parental anxiety, but not avoidance, was associated with perceiving one's infant as interfering with the parents' romantic relationship. This fits with the general tendency of anxious individuals to be jealous and desirous of the attention of close others (Collins & Read, 1990; Hazan & Shaver, 1987) and meshes with the finding that anxiety is related to

feelings of jealousy toward infants (Wilson et al., 2007). In addition, Mikulincer and Florian (1999c, Study 1) found that, in the first trimester of pregnancy, secure women expected their future children to be more similar to themselves in terms of personality traits compared to anxious or avoidant women. Finally, greater parental avoidance has been linked to less optimistic expectations for child outcomes (Lench et al., 2006). That is, more avoidant parents view their child as more likely to experience negative life events (e.g., become seriously ill, drop out of college) and less likely to experience positive life events (e.g., stay healthy, be happy).

Perceptions of the parent-child relationship and family functioning—Both avoidance and anxiety have been linked with more negative perceptions of the parent-child relationship (e.g., feeling disliked by one's child; Berlin et al., 2011). In addition, several studies have examined how attachment styles relate to parents' perceptions of family functioning. For example, two studies found that parental security was associated with higher ratings of family cohesion and adaptability (Mikulincer & Florian, 1999a; Finzi-Dottan, Cohen, Iwaniec, Sapir, & Wiezman, 2006; yet see Mikulincer & Florian, 1999b, for non-significant results). In addition, Kor et al. (2012) found that parents' avoidance and anxiety were related to greater emotional distance among family members and greater family chaos (i.e., lower organization and control). Finally, Kohn et al. (2012) found that higher parental anxiety was related to perceiving family responsibilities as overwhelming and to perceptions of greater work-family conflict in both mothers and fathers. Avoidance was also related to perceiving family responsibilities as overwhelming and to more work-family conflict, but only in fathers.

Cognitive responses to infant distress—Leerkes and Siepak (2006) asked female college students to view videos of infants expressing anger and fear and then assessed their attributions for why the infant in each video was crying. Avoidance and anxiety were related to different types of attributions for infant distress. Specifically, anxiety was positively related to temporary/physical attributions for infant fear and anger (e.g., infant is hungry), whereas avoidance was negatively related to situational/emotional attributions about infant anger (e.g., infant was upset by task) and positively related to negative/internal attributions about infant fear (e.g., infant is spoiled or difficult). These findings, in conjunction with the results from this study related to emotional responses to infant distress reported above, suggest that avoidance is associated with rather maladaptive responses to infant distress. That is, more avoidant women attribute infant distress to negative stable characteristics of the infant, rather than to situational factors, and respond to infant fear with amusement. The findings related to anxiety are more difficult to interpret. The authors suggest that the combination of mistakenly labeling fear as another negative emotion and attributing infant distress to temporary, physical factors may reflect a pattern of responding that is out-of-sync with the needs of the infant (e.g., feeding a frightened infant rather than providing comfort).

Summary of research on parental cognitions—Taken together, the studies reviewed in this section support the link between parents' self-reported attachment styles and various aspects of parental cognitions. Effect sizes were mainly in the small to moderate range (see Table 3). However, a few effects were large or bordered on large (e.g., knowledge of infant

development). These findings represent a novel and important contribution to our understanding of the links between adult attachment and parenting. As mentioned in the summary of parental emotions, AAI researchers have tended to focus mainly on the relation between adult attachment and parenting behavior and, for the most part, have not devoted empirical attention to how state of mind in the AAI relates to parental cognitions. An interesting question for future research is whether state of mind in the AAI is related to specific parental cognitions (e.g., working models of parenthood, perceptions of oneself as a parent) in the same way that self-reported attachment styles are (see Scharf & Mayseless, 2011, for some initial evidence).

There are several important cognitive components of parenting that have yet to be examined in relation to parental attachment styles. For example, parental mind-mindedness (Meins, 1997), reflective function (Slade, 2005), and parental insightfulness (Oppenheim & Koren-Karie, 2009) have been found to be important predictors of parenting behavior and child outcomes. Future research should examine how parents' attachment styles relate to these cognitions. In addition, future research should examine parental cognitions as mediators and moderators of the link between parental attachment styles and parenting behavior. For example, do negative attributions for child distress mediate the link between insecure attachment styles and insensitive parenting behavior?

Though not the focus of this review, it is interesting to note that parents' attachment styles not only relate to perceptions of themselves as parents, but also shape how their children perceive them and the parent-child relationship. For example, children of parents with insecure attachment styles hold more negative representations of their parents and perceive their parents as less warm (Berant, Mikulincer, & Florian, 2008; Newland, Coyl, & Chen, 2010). In addition, college-aged children of insecure parents reported more negative perceptions of parental behavior in situations of parent-child conflict (J. Feeney, 2006). Finally, La Valley and Guerrero (2010) found that college-aged children of secure parents reported more positive perceptions of the parent-child relationship.

Overall Conclusions Regarding the State of the Empirical Literature

In general, the literature reviewed above provides compelling evidence for an association between parents' self-reported attachment styles and many aspects of parenting. Across all three broad parenting domains reviewed here, security was consistently related to more positive parenting characteristics and outcomes, whereas insecurity was consistently related to more negative parenting characteristics and outcomes. As mentioned above, the number and variety of parenting constructs studied in relation to parents' attachment styles are impressive. Thus, the hypothesis that parents' attachment styles are related to parenting outcomes appears to be supported by the available empirical evidence.

Although the broad conclusion that self-reported attachment styles are related to parenting is straightforward (and accurate), it is certainly an over-simplified representation of this literature. The results of studies within each of our parenting categories suggest that there are several important factors to consider if one intends to understand the more nuanced aspects of this literature. For example, although it is certainly true that insecurity is related to

more negative parenting behaviors, emotions, and cognitions, the literature is less consistent in terms of how the specific subtypes or dimensions of insecurity relate to particular parenting outcomes.

Some of the variability in findings is likely due to the type of parenting construct examined, because some aspects of parenting may be particularly influenced by avoidance rather than anxiety or vice versa. For example, most attachment researchers would probably expect the desire to have children – an aspect of parenting emotions that has to do with the desire for a close relationship characterized by intense emotion and dependency – to be particularly low for individuals high on avoidance who value their independence and are uncomfortable with relationship intimacy, and this is, in fact, what the literature shows. On the other hand, other aspects of parenting such as jealousy toward an infant for “stealing” a romantic partner’s time and affection or perceiving an infant as interfering with the parents’ romantic relationship may be more strongly associated with anxiety than avoidance (see Collins & Read, 1990, and Hazan & Shaver, 1987, for relevant research within adult relationships), and this expectation was borne out in the literature. Still other aspects of parenting are likely to be associated with both attachment dimensions. For instance, parental stress may be associated with avoidance and anxiety because both dimensions of insecurity are associated with difficulties in coping with distress (Mikulincer & Florian, 1998; Mikulincer & Shaver, 2007, 2008). The literature supports this prediction, but also shows that anxious and avoidant parents differ in the strategies they use to cope with parenting stress (Berant et al., 2001a; Mikulincer & Florian, 1998, Studies 2-4; Mikulincer & Florian, 1999c, Study 2). It is clear that the links between attachment styles and parenting are complicated, and in future studies researchers should devote careful a priori consideration to how the specific subtypes or dimensions of insecurity will relate to a particular aspect of parenting.

In some cases, findings were inconsistent or failed to replicate across studies (e.g., one study found a link with avoidance, but another study found a link with anxiety; or one study found a significant link, but another study found no significant associations). Although inconsistent findings are part of the “normal state of affairs” when comparing multiple studies on a topic, particularly when studies involve relatively small samples, we offer two potential explanations for the inconsistencies: diverse samples and differences in how attachment style was measured across studies. Examination of Tables 1 through 3 reveals that the studies reviewed in this paper were conducted in several different countries (United States, Israel, Australia, Portugal, Turkey, Finland, Sweden, Canada, United Kingdom, Denmark) using diverse samples characterized by differing life circumstances (e.g., parents versus non-parents; parents of infants versus parents of older children or adolescents; parents of sick versus healthy children; single versus married parents; low SES versus middle-class parents). This diversity in samples could at least partially account for some of the variability across studies. As one example, it is perhaps not surprising to find that the link between attachment style and perceptions of parenthood differs somewhat in a sample of Israeli mothers of infants diagnosed with congenital heart disease compared to a sample of US college students without children (Berant et al., 2001a, 2001b; Rholes et al., 1997, Study 1). Future research in this area should involve greater consideration of sample-specific characteristics that could potentially influence results and should include discussion of how results are consistent or inconsistent with prior research conducted with different samples.

Tables 1 through 3 also reveal variability in how attachment style was measured across studies. Researchers have used a variety of dimensional attachment style measures that, although similar, are not identical. Of perhaps greater importance is the issue of comparing findings from studies that used categorical measures of attachment style with findings from studies that used dimensional measures. Given the evidence for some differences emerging as a function of the type of attachment style measure used (i.e., categorical measures tend to result in greater endorsement of security and less endorsement of insecurity compared to dimensional measures; Brennan et al., 1998), variability in type of measure used could at least partially explain some of the variability in findings across studies. In accord with the psychometric evidence to date indicating that adult attachment is better conceptualized in terms of dimensions rather than categories (Brennan et al., 1998; Fraley & Waller, 1998; Roisman, Fraley, & Belsky, 2007), we encourage researchers studying links between attachment style and parenting to utilize dimensional measures in future studies.

Another important factor to consider when delving into this literature is the role of parent gender. The link between attachment style and parenting sometimes, but not always, differed for mothers and fathers (or for female and male non-parents). For example, the link between attachment insecurity and greater parenting stress seems to hold for both mothers and fathers (Kor et al., 2012; Nygren et al., 2012; Rholes et al., 2006; Vasquez et al., 2002), whereas links between attachment insecurity and parental conflict behavior seem to differ for mothers and fathers (J. Feeney, 2006). Relatedly, links between attachment style and parenting were sometimes significant for mothers, but not fathers (and vice versa). Similar to the larger literature on parenting, research in this area has tended to exclude fathers. In particular, studies examining attachment styles and *observed* parenting behavior have been almost completely limited to mothers (Edelstein et al., 2004 included 4 fathers). Given the evidence for sex differences in attachment styles (Del Giudice, 2011), which vary across cultures, and the initial evidence reported in this review for potential differences in how attachment styles relate to some aspects of parenting as a function of parent gender, future research in this area should include both mothers and fathers and include a discussion of whether the obtained results are similar or different for the two genders.

In sum, the empirical evidence to date supports the conclusion that self-reported adult attachment styles – traditionally of interest principally to social psychologists studying romantic relationships – can be used profitably to study thoughts, feelings, and behaviors in parent-child relationships.

Remaining Issues and Unresolved Questions

One of the most interesting issues in adult attachment research concerns the relation between attachment style measured by self-report questionnaires and state of mind with respect to attachment measured by the AAI. As described in the introduction, these two measures of adult attachment were designed with very different conceptual foci in mind, are only modestly related to each other (Roisman et al., 2007), and have been associated with relatively independent lines of research. Given that the two measures were designed for different purposes and differ in their approach to assessment (i.e., interview versus self-report), it is perhaps not surprising that the magnitude of the relation between them is small

(see Bartholomew & Shaver, 1998; Roisman et al., 2007; Shaver, Belsky, & Brennan, 2000, for in-depth discussions of these two approaches). What is perplexing, however, is that even though the two measures are largely unrelated to each other, they are similarly related to a variety of attachment-relevant constructs, such as emotion regulation, defensive processes, social information-processing, and romantic relationship functioning in theoretically expectable ways (Dykas & Cassidy, 2011; B. Feeney & Collins, 2001; Mikulincer & Shaver, 2007, 2008; Simpson et al., 2002). Based on the literature reviewed in this paper, we argue that parenting can be added to the list of attachment-relevant constructs related to both kinds of measures of adult attachment. The burning question we are left with is: What are these two measures of adult attachment tapping that leads them both to be related to parenting but largely unrelated to each other?

Two other important issues that require greater consideration are (a) the developmental origins of adult attachment styles and (b) the intergenerational transmission of attachment styles from parents to children (i.e., the concordance between a parent's attachment style and his/her child's attachment). Both the AAI and self-report research traditions adhere to the theoretical proposition that individual differences in adult attachment orientations stem from individuals' developmental histories, particularly experiences in close relationships. With regard to AAI attachment, there is evidence that early experiences are systematically related to variations in adult state of mind with respect to attachment (Haydon, Collins, Salvatore, Simpson, & Roisman, 2012; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). Although, in the past, the attachment style literature has been criticized for its dearth of empirical evidence for developmental origins (e.g., Belsky, 2002), recent longitudinal studies have provided compelling evidence for developmental antecedents of adult attachment style (Dinero, Conger, Shaver, Widaman, & Larsen-Rife, 2008; Fraley, Roisman, Booth-LaForce, Owen, & Holland, 2013; Salo, Jokela, Lehtimäki, and Keltikangas-Järvinen, 2011; Zayas, Mischel, Shoda, & Aber, 2011). For example, Fraley et al. found that individual differences in attachment style at age 18 were prospectively predicted by variation in the quality of the early caregiving environment, social competence, and the quality of peer relationships. These prospective studies filled an important gap in the attachment style literature and laid the foundation for further investigation into the developmental origins of variations in adult attachment style.

A central hypothesis within attachment theory is that parents' adult attachment experiences and representations will influence the quality of their child's attachment to them. Within the AAI research tradition, substantial empirical evidence demonstrates that parents' state of mind with respect to attachment is predictive of their child's attachment (i.e., secure parents in the AAI are more likely to have a child who is securely attached to them; see van IJzendoorn, 1995, for a meta-analysis). This important issue within attachment theory has received less empirical attention from attachment style researchers. Nonetheless, several studies have found significant association between parents' attachment styles and the self-reported attachment styles of their young adult children (Besser & Priel, 2005; Cook, 2000; J. Feeney, 2002, 2006; Kilmann et al., 2009; Mikulincer & Florian, 1999b; Obegi, Morrison, & Shaver, 2004). For example, Obegi et al. found 70% concordance between mothers' and daughters' self-reported attachment styles when using a secure versus insecure split. Fewer studies have examined the association between parents' attachment styles and the

attachment of their young children or infants. Roelofs, Meesters, and Muris (2008) found that fathers' insecurity was significantly associated with their 9- to 12-year-old children's reports of insecurity with father (no significant findings emerged in relation to mothers' attachment styles). In addition, Coyl et al. (2010) found that parents' self-reported security was associated with the security of their preschool-aged children (based on parents' ratings of items from the Waters & Deane [1985] Q-sort). Studies examining the relation between parents' attachment styles and the attachment of their infants have yielded inconsistent results. Two studies (Howard, 2010; Volling et al., 1998) found no evidence for intergenerational transmission (Howard included fathers only and used the father-completed Attachment Q-sort to measure infant attachment; Volling et al. included both mothers and fathers and assessed infant attachment with the Strange Situation). However, Mayseless et al. (1997) found that mothers of infants classified as insecure-ambivalent in the Strange Situation tended to report higher attachment-related anxiety ($p < .06$). In addition, these authors found that maternal avoidance was positively associated with infant avoidant behavior, and maternal anxiety was positively associated with infant resistant and avoidant behavior during the two reunion episodes of the Strange Situation.

Taken together, these studies provide some initial evidence for the intergenerational transmission of attachment style, although the links between parents' attachment styles and the attachment of their children appear to be more consistent when children are older (i.e., young adults). Additional research on this topic, particularly focusing on how parents' attachment styles relate to infant attachment in the Strange Situation and on identifying mediators of this link, is warranted. In addition, examination of caregiving influences on child attachment necessitates consideration of differential child susceptibility to rearing influences. According to the differential susceptibility hypothesis (Belsky, 2005), variability in genetic make-up can make children more or less susceptible to environmental influences. Thus, for some children, their attachment may be largely unaffected by caregiving behavior.

Future Directions

Throughout this review we have mentioned many future directions for research that could address the limitations of the empirical evidence to date and shed light on unresolved questions. Below, we suggest several additional avenues for future research that we believe could substantially advance our understanding of the links between adult attachment styles and parenting.

First, the lack of a developmental focus that has characterized much (though not all) of the research on attachment styles and parenting can be addressed only by longitudinal studies. To better understand (a) the developmental origins of adult attachment styles, (b) the association between parental attachment styles and child attachment at various ages, and (c) the prospective links among parental attachment styles, parenting, and child developmental outcomes will require longitudinal research with well-characterized samples of parents and children.

Second, future research should involve greater attention to the interplay among parenting behaviors, emotions, and cognitions. Although we reviewed the literature on each of these

parenting domains separately, for easier reading, in reality these aspects of parenting do not exist in a vacuum. Emotions influence cognitions, cognitions influence emotions, and both influence behavior. If the ultimate goal is to understand how attachment styles predict parents' actual behavior toward their children, there are several possible theoretical and statistical models to consider: main effects models, mediation models with emotions, cognitions, or both as mediators, and interaction models in which attachment style interacts with parenting emotions or cognitions to predict behavior. Future research should further explore the interrelations among parenting behaviors, emotions, and cognitions and further examine which of the three models best represents the relation between attachment style and parenting behavior.

Third, future research should include greater consideration of the role of parents' romantic relationship quality when studying the links between attachment styles and parenting. The parent-child relationship is just one component of a larger family system that includes (but is not limited to) the parents' romantic relationship, and it has long been recognized that the marital relationship both influences and is influenced by parent-child relationships (e.g., Belsky, 1981). Given substantial evidence for strong associations between adult attachment styles and romantic relationship quality (Mikulincer & Shaver, 2007), as well as evidence for links between marital quality and the quality of parent-child relationships (see Erel & Burman, 1995, for a meta-analysis), future research should examine the additive and interactive influences of attachment styles and marital quality on parenting. Relatedly, in addition to examining the influence of each parent's individual attachment style on parenting outcomes, studies should examine the joint influence of both parents' attachment styles on parenting (both secure; both insecure; one secure, one insecure; see Volling et al., 1998, who found that dual secure parents reported greater parental competence compared to dual insecure parents). It is possible that the security of one partner could buffer the negative impact of the other partner's insecurity on parenting. A conceptual framework in which the family is viewed as a system of reciprocally influential attachment relationships (Berlin, Cassidy, & Appleyard, 2008; Byng-Hall, 1999) can also be useful in guiding future research.

Fourth, an interesting question for future research is whether individual differences in attachment style relate to differences in physiological and neurobiological responses to caregiving-related stimuli. Several studies have found that variation in state of mind in the AAI is related to differences in neural responses to infant cues (Lenzi et al., 2013; Riem, Bakermans-Kranenburg, van IJzendoorn, Out, & Rombouts, 2012; Strathearn, 2011; Strathearn, Fonagy, Amico, & Montague, 2009), as well as to differences in peripheral oxytocin response to infant contact (Strathearn, 2011; Strathearn et al., 2009). Given some evidence that attachment styles are related to differences in physiological and neuroendocrine responding during romantic partner interactions (i.e., pro-inflammatory cytokine levels and cortisol reactivity; Gouin et al., 2009; Powers, Pietromonaco, Gunlicks, & Sayer, 2006), it is possible that they also relate to neurobiological responses during parenting situations. This question awaits empirical investigation.

Fifth, following the social psychological research tradition of using experimental and quasi-experimental designs to study attachment style influences on caregiving in romantic relationships (e.g., B. Feeney & Collins, 2001; Mikulincer, Shaver, Sahdra, & Bar-On, 2013;

Simpson et al. 1992), future research should involve the application of these designs to the study of parental caregiving. Existing paradigms used in romantic caregiving studies could be easily adapted for use with parents and children. In addition, future research should examine whether temporarily “boosting” attachment security via supra- or subliminal priming techniques leads to more positive (or less negative) cognitions and emotions related to parenting. Even more interesting is the question of whether priming security could actually result in more sensitive parenting behavior, as it does in the case of caring for a romantic partner or suffering stranger (Mikulincer et al., 2005, 2013).

Sixth, future research should examine not only how parental attachment styles relate to parenting but also how the experience of parenthood may change parents’ attachment styles. The transition to parenthood, characterized by repeated experiences of caring for a highly dependent newborn infant, is a major life event that likely leads individuals to reflect upon, re-evaluate, and possibly change their orientation toward close relationships (Bowlby, 1988; Simpson, Rholes, Campbell, & Wilson, 2003). Further, researchers should consider how characteristics of the parents, the parents’ romantic relationship, and characteristics of the child relate to changes in parents’ attachment styles. For example, Simpson et al. (2003) found that prenatal perceptions of spousal support and anger as well as perceptions of support-seeking predicted changes in women’s attachment styles six months after childbirth. To our knowledge, no study has examined how characteristics of the infant (e.g., temperament) relate to changes in parents’ attachment styles. This is an important question for future research.

Seventh, in future work on the links between attachment styles and parenting, researchers should devote greater consideration to the role of child characteristics. Given the theoretical focus of this review, we were specifically interested in how parental attachment styles shape parenting behaviors, emotions, and cognitions. However, it has long been recognized that characteristics of the child can elicit certain parental responses (Bell, 1968), and a recent review provided support for the possibility that some parental behavior could be accounted for by evocative gene-environment correlation (i.e., genetically influenced characteristics of the child evoke certain behaviors in parents; Avinun & Knafo, 2013). Thus, greater consideration of the additive and interactive influences of parent and child characteristics on parenting will be important in future research.

Finally, researchers studying the link between adult attachment and parenting should include *both* the AAI and self-report measures of attachment style in their studies. It will be particularly easy for researchers already administering the AAI to parents to add a brief attachment style measure that takes only a few minutes to complete. The modest empirical association between the two adult attachment measures indicates that one measure is not simply a substitute for the other. Yet both seem to be reliably associated with various facets of parenting. It is possible that some aspects of parenting are more strongly predicted by self-reports whereas others are more strongly predicted by the AAI, and still others are predicted by both measures together (see Scharf & Mayseless, 2011, for some initial evidence related to parenting outcomes; see also Simpson et al., 2002, for evidence showing that AAI and self-report measures independently predict observed caregiving behavior in romantic relationships). To our knowledge, no study has examined how parental AAI and

self-reported attachment style relate to observed parenting behaviors in the same sample. This is an important next step for future research.

In conclusion, research on adult attachment and parenting would benefit greatly from increased collaboration among researchers from the social and developmental attachment research traditions. Research from both traditions has provided valuable insights into how adult attachment affects various aspects of parenting, and combining the strengths of both approaches promises to advance this area of research even further. We hope this review increases awareness of the literature on the relation between attachment styles and parenting, which hitherto has not been integrated in a coherent fashion, and spurs further collaboration among researchers from the social and developmental research traditions.

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Table 1

Parental Attachment Styles and Parental Behaviors

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|---------------------------------|--|---------|---|--|---------------------------------------|
| Abate & Rudolph (2010) | 157 US mothers of adolescents (<i>M</i> age = 12.42 years) | H&S | Socialization of coping strategies (SR) | Insecurity positively related to disengagement coping suggestions and negatively related to engagement coping suggestions. | .16*, -.25** |
| Berlin et al. (2011) | 947 US mothers with 3-year-old children. Half assigned to Early Head Start (EHS) services, half assigned to control group around time of childbirth. | AAQ | Maternal Supportiveness (OB) | Avoidance negatively correlated with maternal supportiveness at age 3 in EHS group only. Anxiety unrelated to supportiveness. | I: -.19*** C: -.03 |
| | | | Maternal Intrusiveness (OB) | Avoidance unrelated to intrusiveness. Anxiety unrelated to intrusiveness. | I: .10 C: .02 I: .04 C: -.07 |
| | | | Spanking (SR) | Avoidance unrelated to spanking. Anxiety marginally positively correlated with spanking in control group only. | I: -.05 C: .00 |
| Caltabiano & Thorpe (2007) | 111 Australian foster parents | ASQ | Overall quality of performance as foster parent (rated by senior foster care workers) | Attachment style unrelated to quality of performance as foster parent. | I: -.09 C: .10 ⁺ NA |
| Cohen, Zerach, & Solomon (2011) | 477 middle-aged Israeli male combat veterans with children in military service | ECR | Parental functioning (SR) | Avoidance negatively correlated with parental functioning. Anxiety negatively correlated with parental functioning. | -.48*** -.31*** |
| Coyl, Newland, & Freeman (2010) | 235 US parents of preschool-aged children (2-5 years old) | AAQ | Parental involvement (SR) | Security positively correlated with parental involvement. But non-significant when social support is included in regression model. | .15* |
| | | | Parenting Consistency (SR) | Security related to more consistent parenting. | .18** |
| | | | Co-parenting consistency (SR) | Security related to more consistent co-parenting. | .33** |
| | | | Spanking (SR) | Security negatively correlated with spanking. But non-significant when social support is included in the regression model. | -.14* |
| Cramer & Kelly (2010) | 86 US parents whose children were removed from the home due to maltreatment. Child ages ranged from infancy to | RQ | Distribution of attachment styles in a sample of maltreating parents | 41% Secure, 14% Preoccupied, 21% Dismissing, and 24% Fearful. | NA |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|---|---|---------|---|--|---|
| Edelstein et al. (2004) | adolescence. 39 US parents (4 fathers) and their children (<i>M</i> age = 5.23 years) | RSQ | Parental responsiveness after child received inoculation (OB) | Avoidance X Child distress interaction: avoidance negatively related to parental responsiveness when child distress was high. | -.19 |
| J. Feeney (2002) | 134 Australian parents and their adult children (<i>M</i> age = 24.42 years) | ASQ | Retrospective report of caring behavior (SR) | Anxiety unrelated to parental responsiveness Avoidance negatively correlated with caring behavior in mothers, but not fathers. | .08 M: -.34** F: -.19 |
| | | | Retrospective report of overprotective behavior (SR) | Anxiety unrelated to caring behavior. | M: -.18 F: .20 |
| | | | | Avoidance positively correlated with overprotective behavior in mothers, but not fathers. | M: .36** F: .13 |
| | | | | Anxiety positively correlated with overprotection in mothers. Marginal for fathers. | M: .43*** F: .24+ |
| J. Feeney (2006) | 169 Australian parents and their adult children (<i>M</i> age = 25.53 years) | ASQ | Avoidance behavior during conflict with child (SR) | Avoidance unrelated to avoidance behavior. | M: .12 F: .14 |
| | | | Attack behavior during conflict with child (SR) | Anxiety unrelated to avoidance behavior. | M: -.09 F: -.05 |
| | | | Problem-solving behavior during conflict with child (SR) | Avoidance positively correlated with attack behavior in mothers. Marginal for fathers. | M: .35*** F: .21+ |
| | | | | Anxiety positively correlated with attack behaviors in mothers and fathers. | M: .36*** F: .33 |
| | | | | Avoidance negatively correlated with problem-solving behavior in mothers, but not fathers. | M: -.49*** F: -.16 |
| | | | | Anxiety negatively correlated with problem-solving behavior in fathers, but not mothers. | M: .02 F: -.40 |
| Goodman, Quas, Batterman-Faunce, Riddlesberger, & Kuhn (1997) | 46 US mothers and their children (<i>M</i> age = 5.6 years) | H&S | Maternal response to child reaction to painful medical procedure (SR) | Avoidance negatively correlated with explaining the procedure to the child and physically comforting the child and positively correlated with reporting not having enough time to attend to the child's needs. Anxiety negatively correlated with explaining the procedure to the child and physically comforting the child and positively correlated with reporting not having enough time to attend to the child's needs. | -.37* , -.31+ , .33+ -.29+ , -.50*** , .43*** |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|--|--|---------|--|--|--|
| Green, Furrer, & McAllister (2007) | 152 low socioeconomic status US parents (1 father) assessed when toddlers were 14 months and again at 36 months. | AAQ | Engagement in activities thought to promote positive child development (SR) | Security positively correlated with discussing, explaining, and asking questions about the procedure and with physically comforting the child. Avoidance unrelated to activities. | .44** .47** .42** .42** |
| Howard (2010) | 72 US fathers and their 6-month-old infants | H&S | Child abuse risk (SR) | Anxiety negatively correlated with engagement in positive parent-child activities at Time 2, but not Time 1. Secure fathers reported lower abuse risk compared to anxious fathers. | T1: -.15 T2: -.15 T1: -.16 T2: -.39** |
| Kilmann, Vendemia, Pamell, & Urbaniak (2009) | 90 US married couples (180 individual parents) and their college-aged daughters (<i>M</i> age = 20.3 years) | RSQ | Parental Acceptance (SR) Parental Firm Control (SR) Parental Psychological Control (SR) | Secure parents reported higher acceptance than insecure parents. Attachment style unrelated to firm control. Secure parents reported less psychological control than insecure parents. | NA NA NA |
| La Valley & Guerrero (2010) ^a | 250 US parents and their college-aged children (<i>M</i> age = 21.65 years) | GFM | Inconsistent love and affection (SR) Conflict management styles in parent-child relationship (SR) | Secure parents reported less inconsistent love and affection than insecure parents. Security related to more positive conflict management strategies (e.g., collaborating and compromising). | NA .19** to .34*** |
| Meredith & Noller (2003) | 74 Australian mothers of infants | RQ | Maternal acceptance-rejection (SR) | Insecurity related to more negative conflict management strategies (e.g., avoiding, competitive fighting). Attachment style unrelated to maternal acceptance-rejection | .04 to .33*** NA |
| Millings, Walsh, Hepper, & O'Brien (2013) | 125 British couples (250 individual parents) with children between the ages of 7 and 8 years. | ECR-R | Authoritative parenting (SR) Authoritarian parenting (SR) | Avoidance indirectly related to less authoritative parenting through reports of responsive caregiving to romantic partner. Anxiety indirectly related to less authoritative parenting through reports of responsive caregiving to romantic partner. | M: -.43*** F: -.37*** M: -.35*** F: -.38*** |
| | | | Authoritarian parenting (SR) | Avoidance indirectly related to more authoritarian parenting through reports of responsive caregiving to romantic partner. | M: .41*** F: .24** |
| | | | Permissive parenting (SR) | Anxiety directly and indirectly (through reports of responsive caregiving to romantic partner) related to more authoritarian parenting. Avoidance indirectly related to more permissive parenting through reports of responsive caregiving to romantic partner. | M: .40*** F: .37*** M: .35*** F: .26** |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|--|--|-------------------------|--|---|-----------------------------------|
| Mills-Koonce, Appleyard, Barnett, Deng, Putallaz, & Cox (2011) | 137 US mothers assessed when child was 6 and 12 months | H&S | Maternal sensitivity (OB) | Anxiety directly and indirectly (through reports of responsive caregiving to romantic partner) related to more permissive parenting. Mothers who reported being avoidant at both time points demonstrated less sensitivity than consistently secure mothers. Avoidance X Psychological distress interaction: higher psychological distress was associated with less maternal sensitivity in mothers who reported being avoidant at both assessments. Anxiety excluded from analyses. | M: .37*** F: .42*** NA |
| Moncher (1996) | 48 low socioeconomic status single US mothers with children between the ages of 2 and 6 years. | Brennan & Shaver (1995) | Child abuse risk (SR and coded audio responses to vignettes) | Consistently secure mothers showed less negative intrusiveness than inconsistently secure mothers. Secure mothers at significantly lower abuse risk compared to avoidant or anxious mothers. | -.47*** |
| Rholes, Simpson, & Blakely (1995, Study 1) | 44 US mothers and their toddlers (M _{age} = 36 months) | AAQ | Maternal supportiveness (OB) | Main effect of avoidance and Avoidance X Child behavior interaction: avoidance negatively related to supportiveness when child behaved more positively. Anxiety unrelated to supportiveness. | -.24 -.12 |
| Rodriguez (2006) | 80 US mothers who were victims of domestic violence | ASQ | Maternal hostility (OB) Maternal teaching behavior (OB) | Attachment style unrelated to hostility Avoidance X Child behavior interaction: the link between positive child behavior and positive teaching behavior was weaker for more avoidant mothers. Anxiety unrelated to teaching behavior. | NA -.02 |
| Selcuk et al. (2010) | 85 Turkish mothers and their children (age range: 10-50 months) | ECR-R | Child abuse risk (SR) Maternal sensitivity (OB) | Avoidance positively correlated with abuse risk, but non-significant in regression model. Anxiety positively correlated with abuse risk, but non-significant in regression model. Avoidance negatively related to maternal sensitivity. Anxiety negatively correlated with maternal sensitivity, but non-significant in regression model. | .32*** .35*** -.38*** |
| | | | Caregiving themes (OB) | Avoidance positively correlated with non-synchronicity in interactions, discomfort with contact, inaccessibility, missing the child's | -.21* (p = .05) .19+ to .36*** |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|-------|--------|---------|-------------------------------|--|---------------------------------------|
| | | | | signals, and failing to meet the child's needs. Anxiety positively correlated with conflict in interactions, missing the child's signals, and interfering with exploration. | .19 [†] to .29 ^{**} |

Note. H&S = Hazan and Shaver (1987); SR = self-reported parental behavior; AAQ = Adult Attachment Questionnaire (Simpson, Rholes, & Phillips, 1996); OB = observed parental behavior; I = intervention group correlation; C = control group correlation; ASQ = Attachment Style Questionnaire (J. A. Feeney, Noller, & Hanrahan, 1994); ECR = Experiences in Close Relationships Scale (Brennan, Clark, & Shaver, 1998); NA = effect size not available; M = mother correlation; F = father correlation; r^2 = effect size correlation calculated from means and standard deviations or t-statistic; RSQ = Relationship Scales Questionnaire (Griffin & Bartholomew, 1994); GFM = Measure developed by Guerrero, Farnelli, and McEwan (2009); RQ = Relationship Questionnaire (Bartholomew & Horowitz, 1991); ECR-R = Experiences in Close Relationships Scale-Revised (Fraley, Waller, & Brennan, 2000).

^aThe findings reported are actor effects in the Actor-Partner Interdependence Model (APIM). See article for information on partner effects and actor by partner interaction effects.

[†] p < .10.

* p < .05.

** p < .01.

*** p < .001.

Table 2

Parental Attachment Styles and Parental Emotions

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|---|---|---------|--|--|-----------------------------------|
| Alexander, Feeney, Hohaus, & Noller (2001) ^a | 92 Australian married couples (184 individual parents) during transition to parenthood | ASQ | Support-seeking to cope with parenthood tasks | Avoidance negatively correlated with support-seeking in mothers, but not fathers. | M: $-.24^*$ F: .08 |
| | | | Problem-focused coping related to parenthood tasks | Anxiety uncorrelated with support-seeking. | M: .00 F: .13 |
| | | | Emotion-focused coping related to parenthood tasks | Avoidance unrelated to problem-focused coping. | M: .08 F: $-.05$ |
| | | | | Anxiety negatively related to problem-focused coping in fathers, but not mothers (non-significant correlation, but significant path coefficient). | M: $-.04$ F: $-.07$ |
| | | | | Avoidance marginally positively correlated with emotion-focused coping in fathers, but not mothers. | M: .14 F: $.20^+$ |
| | | | | Anxiety positively correlated with emotion-focused coping in mothers and fathers. | M: $.41^{***}$ F: $.40^{***}$ |
| | | | Parenting Strain | Avoidance unrelated to parenting strain | M: .00 F: $-.04$ |
| | | | | Anxiety positively related to parenting strain in fathers, but not mothers (marginal correlation, but significant path coefficient). | M: .14 F: $.19^+$ |
| Berant, Mikulincer, & Florian (2001a) | 151 Israeli mothers of newborns with and without a diagnosis of congenital heart disease. | H&S | Support-seeking to cope with motherhood tasks | Secure mothers reported greater support-seeking compared to anxious or avoidant mothers. | Sec > Anx $r^1 = .04$ to $.34$ |
| | | | Distancing coping related to motherhood tasks | No main effect of attachment style. Significant Attachment X Group interaction: In the healthy child group, avoidant mothers reported more distancing coping than secure or anxious mothers. | Sec > Av $r^1 = .18$ to $.30$ |
| | | | | In the sick child group, secure mothers reported more distancing coping than avoidant mothers. | Sec > Av $r^1 = .19$ |
| | | | Emotion-focused coping related to motherhood tasks | Anxious mothers reported greater emotion-focused coping than secure or avoidant mothers. | Anx > Sec $r^1 = .21$ to $.39$ |
| | | | | | Anx > Avo $r^1 = .12$ to $.47$ |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|---------------------------------------|---|---------|--|--|---|
| Berant, Mikulincer, & Florian (2001b) | 85 Israeli mothers of infants with congenital heart disease. Assessed 2 weeks after diagnosis and again 1 year later. | AASS | Support-seeking to cope with motherhood tasks | At T1, avoidance negatively related to support-seeking. At T1, anxiety negatively related to support-seeking. | -.25* -.26* |
| | | | Distancing coping related to motherhood tasks | At T1, avoidance negatively related to distancing coping (non-significant correlation, but significant in regression). At T1, anxiety negatively related to distancing coping. | -.11 -.25* |
| | | | Emotion-focused coping related to motherhood tasks | At T1, avoidance unrelated to emotion-focused coping. | .11 |
| | | | Problem-focused coping related to motherhood tasks | At T1, anxiety positively related to emotion-focused coping. | .28* |
| Ceglian & Gardner (2000) | 154 US step-mothers | AAS | Relationship with step-children | Attachment style unrelated to problem-focused coping Avoidant mothers reported lower levels of inadequacy and insecurity in relationship with step-child than secure and anxious mothers. Avoidant mothers reported more resentment toward step-children compared to anxious mothers. Anxious mothers felt more unappreciated and disrespected by step-children compared to avoidant mothers. | -.01 and -.03 Av < Sec, Anx r ² = -.33, -.31 Av > Anx r ² = .23 Anx > Av r ² = .22 NA |
| Cohen & Finzi-Dottan (2005) | 49 recently divorced Israeli parents (98 individual parents) of adolescents (M age = 12 years) | RQ | Parental satisfaction in the year after divorce | Avoidance (but not anxiety, security, or fearfulness) was negatively related to parental satisfaction in mothers, but not fathers. | NA |
| Cohen, Zerach, & Solomon (2011) | 477 middle-aged Israeli male combat veterans with children in military service | ECR | Parental satisfaction | Avoidance negatively related to parental satisfaction. Anxiety negatively related to parental satisfaction. | -.49*** -.40*** |
| | | | Concern for child during military service | Avoidance unrelated to concern. Anxiety positively correlated with concern (but non-significant in regression model). Avoidance related to greater parenting stress. | NA .25*** .41*** |
| Fernandes, Muller, & Rodin (2012) | 65 Canadian parents diagnosed with cancer with children under 18 | ECR | Parental stress | Anxiety related to greater parenting stress. | .42*** |
| Howard (2010) | 72 US fathers and their 6- | H&S | Parental stress | Secure fathers reported less parenting stress | Sec < Anx |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|--|---|---------|--|--|---------------------------------|
| | month-old infants | | | than anxious fathers. | $r^1 = -.42$ |
| Kor, Mikulincer, & Pirutinsky (2012) | 1632 Israeli parents with children between the ages of 12-18 years | ECR | Parental stress | Avoidance related to greater parenting stress in both mothers and fathers. | .15*** |
| Kwako, Noll, Putnam, & Trickett (2010) | 35 US mothers (16 were victims of childhood sexual abuse) and their children (<i>M</i> age = 4.59 years) | ECR | Parental Stress | Anxiety related to greater parenting stress in both mothers and fathers. | .55*** |
| | | | | Avoidance related to greater parenting stress. | .61***, .64*** |
| | | | | Anxiety related to greater parenting stress. | .48**, .61***, .64*** |
| Lau & Peterson (2011) | 157 Australian parents (4 groups of parents with varying constellations of Asperger's Syndrome in the family) | H&S | Parental satisfaction | Attachment style unrelated to parental satisfaction. | NA |
| La Valley & Guerrero (2010) ^a | 250 US parents and their college-aged children (<i>M</i> age = 21.65 years) | GFM | Satisfaction with the parent-child relationship | Security directly and indirectly related to greater satisfaction with the parent-child relationship via use of collaborating conflict behavior. | .22** |
| | | | | Preoccupied negatively correlated with relationship satisfaction, but non-significant in APIM analyses. None of the other insecure dimensions related to satisfaction. | -.03 to -.14* |
| Leerkes & Siepak (2006) | 444 US undergraduate women (non-parents) | RSQ | Emotional reactions to videos of distressed infants | Avoidance positively related to responding to infant fear with amusement. | .10* |
| | | | | Anxiety unrelated to emotional reactions to infant distress. | .01 to .09+ |
| | | | | Accurate identification of emotion in distressed infant | -.10*, .13**, .10+ |
| | | | | Anxiety positively related to mistaking fear with another negative emotion. | .11* |
| Maysseless & Scher (2000) | 97 Israeli mothers assessed when infants were 3 and 9 months | ACQ | Maternal separation anxiety at 3 months and 9 months | Avoidance positively correlated with separation anxiety at 9 months, but not 3 months. Avoidance X Child adaptability interaction: avoidance positively related to separation anxiety at 9 months when mothers perceived infants as adaptable at 3 months. | T1: .15, .16 T2: .40**, .25* |
| | | | | Anxiety X Child adaptability interaction: anxiety positively related to separation anxiety at 9 months when mothers perceived infants as adaptable at 3 months. | T1: .15 T2: .15 |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|---------------------------------------|--|---------|---|---|---|
| Mikulincer & Florian (1998, Study 1) | 255 Israeli women during their first pregnancy | H&S | Fear and anxiety about own health and health of baby during pregnancy | Avoidance positively correlated with fear and anxiety during first two trimesters, but not third trimester. | .34* |
| | | | | Anxiety positively correlated with fear and anxiety during first two trimesters, but not third trimester. | .36* |
| | | | | Security negatively correlated with fear and anxiety during first two trimesters, but not third trimester. | -.24* |
| Mikulincer & Florian (1998, Study 2) | 80 Israeli mothers of newborns (2-3 months old) | H&S | Ways of coping with motherhood tasks | Secure mothers reported relying more on problem-focused coping strategies compared to avoidant and anxious mothers. | Sec > Av, Anx ^b r ¹ = .69, .65 |
| Mikulincer & Florian (1998, Study 3) | 44 Israeli mothers of 4-5 year old children with mild mental retardation | H&S | Ways of coping with being mother of handicapped child | Secure mothers reported greater support-seeking than avoidant and anxious mothers. | Sec > Av, Anx ^b r ¹ = .52, .38 |
| Mikulincer & Florian (1998, Study 4) | 39 Israeli mothers of adolescents hospitalized for psychiatric disorders | H&S | Ways of coping with being mother of child with mental disorder | Secure mothers reported greater support-seeking than avoidant and anxious mothers. | Sec > Av, Anx ^b r ¹ = .50, .36 |
| Mikulincer & Florian (1999c, Study 1) | 260 Israeli women during their first pregnancy | H&S | Bonding to fetus | Secure mothers reported more problem-focused coping than avoidant and anxious mothers. | Sec > Av, Anx ^b r ¹ = .43, .37 |
| | | | | Main effect of attachment style: secure women reported greater bonding to fetus compared to avoidant or anxious women. | Sec > Av, Anx r ¹ = .40, .25 |
| | | | | Attachment style X Trimester of pregnancy: In the 1 st and 2 nd trimesters, secure women reported a closer bond to the fetus compared to avoidant and anxious women. In the 3 rd trimester, secure women reported closer bond than avoidant (but not anxious) women. | |
| Mikulincer & Florian (1999c, Study 2) | 30 Israeli women during their first pregnancy | H&S | Bonding to fetus | Attachment style X Trimester of pregnancy: In the 1 st trimester, secure women reported a closer bond to the fetus compared to anxious or avoidant women. No differences in the 2 nd trimester. In the 3 rd trimester, secure and anxious women reported a stronger bond compared to avoidant women. | 1 st Tri: Sec > Av, Anx r ¹ = .69, .78 3 rd Tri: Sec, Anx > Av r ¹ = .33, .45 |
| | | | | Secure women reported more support-seeking than avoidant or anxious women. | Sec > Av r ¹ = .40, .38, .25 Sec > Anx |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|--|---|---------|--|---|------------------------------------|
| | | | | | $r^1 = .47, .30, .09$ |
| | | | Distancing coping related to pregnancy-related problems | Avoidant women reported more distancing coping than secure women. | Av > Sec $r^1 = .51, .31, .16$ |
| | | | Emotion-focused coping related to pregnancy-related problems | Anxious women reported more emotion-focused coping than secure or avoidant women. | Anx > Sec $r^1 = .52, .33, .65$ |
| | | | Problem-focused coping related to pregnancy-related problems | Attachment style unrelated to problem-focused coping. | Anx > Av $r^1 = .29, .42, .50$ |
| | | | Parental stress | Consistently avoidant mothers reported greater parental stress than consistently secure mothers. | NA |
| Mills-Koonce, Appleyard, Barnett, Deng, Putallaz, & Cox (2011) | 137 US mothers assessed when child was 6 and 12 months | H&S | Parental stress | Security positively correlated with desire to have children. | NA |
| Nathanson & Manohar (2012) | 180 US college students (non-parents) | AAS | Desire to have children | Insecurity negatively correlated with desire to have children. | .16* |
| Nygren, Carstensen, Ludvigsson, & Frostell (2012) | 8122 Swedish parents of toddlers | RSQ | Parental stress | Avoidance related to greater parenting stress in both men and women. | NA |
| Priel & Besser (2000) | 115 Israeli women assessed during third trimester and again 16 weeks after childbirth | RQ | Bonding to fetus | Anxiety related to greater parenting stress in both men and women. | NA |
| Rholes, Simpson, & Blakely (1995, Study 1) | 44 US mothers and their toddlers (M _{age} = 36 months) | AAQ | Feelings of closeness to child | Secure mothers reported greater bonding to fetus compared to insecure mothers. | Sec > Insec $r^1 = .63$ |
| | | | | Avoidance related to feeling less close to children. | -.61*** |
| | | | | Anxiety X Marital quality: anxiety negatively related to closeness when marital quality was high. Anxiety X Maternal distress: the link between maternal distress and lower perceived closeness was weaker for mothers higher in anxiety. | -.17 |
| Rholes, Simpson & Blakely (1995, Study 2) | 97 US college students (non-parents) | AAQ | Desire to have children | Avoidance related to less desire to have children in both men and women. | NA |
| Rholes, Simpson, Blakely, Lamigan, & Allen (1997, Study 1) | 379 US college students (non-parents) | AAQ | Desire to have children | Anxiety unrelated to desire to have children. Avoidance related to less desire to have children in both men and women. | NA |
| | | | | Anxiety unrelated to desire to have children. | -.30*** |
| | | | | Anxiety unrelated to desire to have children. | NA |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (<i>r</i>) |
|---|--|---------|---|---|--|
| Rholes, Simpson, Blakey, Lanigan, & Allen (1997, Study 2) | 259 US college students (non-parents) | AAQ | Desire to have children | Avoidance related to less desire to have children in both men and women. | -.31*** |
| Rholes, Simpson, & Friedman (2006) ⁴ | 106 US couples (212 individual parents) assessed 6 weeks prior to childbirth and 6 months post-partum | AAQ | Desire to have children (prenatal) Parental stress (postnatal) | Anxiety unrelated to desire to have children. Avoidance related to less desire to have children in both men and women. Anxiety unrelated to desire to have children. Avoidance positively related to more parenting stress in both mothers and fathers. | NA -.24*** -.11 .33*** |
| Scharf & Mayseless (2011) | 60 Israeli males assessed during senior year of high school and again 8 to 9 years later | H&S | Desire to have children | Anxiety positively correlated with parental stress in both mothers and fathers, but unrelated to parental stress in APIM analysis. | .28*** |
| Scher & Dror (2003) | 68 Israeli mothers of infants (<i>Mage</i> =12.2 months) | ECR | Pleasure from parenting | Avoidance negatively correlated with parental meaning/satisfaction, but unrelated to meaning/satisfaction in APIM analysis. | -.17** |
| Scher & Mayseless (1994) | 118 Israeli mothers assessed when infants were 9 and 12 months old | ADQ | Maternal separation anxiety | Anxiety unrelated to parental meaning/satisfaction. | -.08 |
| Trillingsgaard, Elklit, Shevlin, & Malmberg (2011) | Danish women expecting their first child assessed in third trimester (<i>n</i> = 567) and one year post-partum (<i>n</i> = 1069) | AAS | Worry related to pregnancy and being a parent Parental Stress | Avoidance marginally negatively correlated with desire to have children 9 years later. Anxiety negatively related to desire to have children 9 years later. Attachment styles unrelated to pleasure from parenting. Avoidance unrelated to hostile feelings. | -.22+ -.36*** .11, -.12 -.03 |
| Vasquez, Durik, & Hyde (2002) | 1120 US parents (570 mothers) assessed when children were 12 months and 4.5 years old. | RSQ | Maternal separation anxiety | Anxiety positively correlated with hostile feelings toward infant. Avoidance positively correlated with maternal separation anxiety. | .29* .21*, .39*** |
| | | | | Anxiety unrelated to separation anxiety. Avoidance related to greater worry. Anxiety related to greater worry. Avoidance related to greater parenting stress. Anxiety related to greater parenting stress. | .13 NA NA NA NA |
| | | | | Secure mothers reported less separation anxiety than dismissing, preoccupied, and fearful mothers. | Sec < Dis, Pre, Fear $r^1 = -.13,$ -.19, -.25 |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (<i>r</i>) |
|--|--|---------|---|---|--|
| Vieira, Ávila, & Matos (2012) | 242 Portuguese parents with preschool-aged children | RAQ | Parental stress | Secure parents reported least parental stress at both time points; fearful parents reported the most parental stress at both time points. | Sec < Fear $r^2M = -.28$ to $-.40$ $r^2F = -.08$ to $-.36$ |
| | | | Parental stress | Avoidance related to greater parental stress. Avoidance indirectly related to greater parental stress through higher work-family conflict and lower work-family positive spillover. | .09 to .15* |
| | | | Parental satisfaction | Anxiety indirectly related to greater parental stress through higher work-family conflict. | -.10 to .02 |
| | | | Parental satisfaction | Avoidance indirectly related less parental satisfaction through higher work-family conflict. | -.12 to -.21** |
| | | | Parental satisfaction | Anxiety directly related to more parental satisfaction. Anxiety indirectly related to less parental satisfaction through higher work-family conflict. | .15* to .23*** |
| Wilson, Rholes, Simpson, & Tran (2007) | 188 US couples (376 individual parents) assessed 6 weeks before childbirth and 2 weeks post-partum | AAQ | Jealousy of baby as competitor for romantic partner's time and affection (prenatal) | Avoidance positively correlated with jealousy of baby in men only, but non-significant in regression. | M: .05 F: .20** |
| | | | Desire to have children (prenatal) | Anxiety related to greater jealousy of baby in both men and women. | M: .23** F: .22** |
| | | | Feelings of closeness to newborn (postnatal) | Avoidance negatively correlated with desire to have children in both men and women. | M: -.25** F: -.20** |
| | | | Feelings of closeness to newborn (postnatal) | Anxiety unrelated to desire to have children. | M: -.05 F: -.09 |
| | | | Feelings of closeness to newborn (postnatal) | Avoidance related to feeling less close to newborns in mothers, but not fathers (non-significant correlation, but significant in regression model). | M: .08 F: -.07 |
| | | | Feelings of closeness to newborn (postnatal) | Anxiety unrelated to feelings of closeness to newborn. | M: .08 F: -.04 |

Note. ASQ = Attachment Style Questionnaire (J. A. Feeney, Noller, & Hamrahan, 1994); M = mother correlation; H&S = Hazan and Shaver (1987); r^1 = effect size correlation calculated from means and standard deviations or t-statistic; AASS = Adult Attachment Style Scale (Mikulincer, Florian, & Tolmacz, 1990); AAS = Adult Attachment Scale (Collins & Read, 1990); AAQ = Adult Attachment Questionnaire (Simpson, Rholes, & Phillips, 1996); RQ = Relationship Questionnaire (Bartholomew & Horowitz, 1991); NA = effect size not available; ECR = Experiences in Close Relationships Scale (Brenman, Clark, & Shaver, 1998); GFM = Measure developed by Guerrero, Farinelli, and McEwan (2009); RSQ = Relationship Scales Questionnaire (Griffin & Bartholomew, 1994); ACQ = Attachment Concerns Questionnaire (Mayselless, 1995); ADQ = Attachment Dimensions Questionnaire (Scher & Mayselless, 1994); RAQ = Romantic Attachment Questionnaire (Matos, Barbosa, & Costa, 2001).

^aThe findings reported are "actor effects" in the Actor-Partner Interdependence Model (APIM). See article for information on partner effects and actor by partner interaction effects.

^b Effect sizes not corrected for small or unequal samples due to insufficient information.

[†] $p < .10$.

* $p < .05$.

** $p < .01$.

**** $p < .001$.

Table 3

Parental Attachment Styles and Parental Cognitions

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|---|--|---------|---|---|--|
| Berant, Mikulincer, & Florian (2001a) | 151 Israeli mothers of newborns with and without a diagnosis of congenital heart disease. | H&S | Appraisal of Motherhood | Secure mothers appraised motherhood as less threatening compared to anxious mothers. | Sec < Anx $r^1 = -.14$ to $-.27$ |
| | | | Perceived ability to cope with parenting challenges | Secure mothers reported being better able to cope with parenting challenges than avoidant and anxious mothers. | Sec > Av $r^1 = .09$ to .39 |
| Berant, Mikulincer, & Florian (2001b) | 85 Israeli mothers of infants with congenital heart disease. Assessed 2 weeks after diagnosis and again 1 year later. | AASS | Appraisal of motherhood as threatening and challenging (Time 1, Time 2) | Avoidance unrelated to Time 1 appraisal of motherhood or to changes in appraisal of motherhood from Time 1 to Time 2. At Time 1, anxiety positively correlated with appraising motherhood as more threatening, but unrelated to appraisal of challenging. Anxiety did not predict changes in appraisals of motherhood from Time 1 to Time 2. | Sec > Anx $r^1 = .23$ to .40 |
| | | | Perceived ability to cope with parenting challenges | At Time 1, avoidance unrelated to perceived ability to cope. Avoidance related to decrease in perceived ability to cope from Time 1 to Time 2. | .28*, -.05 |
| Berlin et al. (2011) | 947 US mothers with 3-year-old children. Half assigned to Early Head Start (EHS) services, half assigned to control group around time of childbirth. | AAQ | Perception of parent-child relationship. | At Time 1, anxiety negatively related to perceived ability to cope. Anxiety did not predict changes in perceived ability to cope. In both intervention and control groups, baseline avoidance positively correlated with negative perceptions of the parent-child relationship at age 3. | -.37** |
| | | | | In both intervention and control groups, baseline anxiety positively correlated with negative perceptions of the parent-child relationship (marginal correlation for control group). | I: .18*** C: .15* |
| Caldwell, Shaver, Li, & Minzenberg (2011) | 76 US mothers with children under 18 years old. | ECR | Parental self-efficacy | In both intervention and control groups, avoidance negatively correlated with parental self-efficacy (but non-significant in regression). Anxiety negatively correlated with parental self-efficacy (but non-significant in regression). | I: .22*** C: .10* |
| | | | | | -.29* -.37** |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|--|---|---------|---|--|--|
| Finzi-Dottan, Cohen, Iwaniec, Sapir, & Wiezman (2006) | 56 Israeli married couples (112 individual parents) with children (<i>M</i> age = 10.86 years). Husband was in the first stages of recovery from drug abuse. | AASS | Perceptions of family cohesion | Security positively correlated with family cohesion in fathers and mothers. | M: .26* F: .34* |
| Howard (2010) | 72 US fathers and their 6-month-old infants | H&S | Parenting Efficacy | Secure fathers reported more parenting efficacy compared to anxious fathers. | Sec > Anx $r^1 = .28$ |
| Kilmann, Vendemia, Pamell, & Urbaniak (2009) | 90 US married couples (180 individual parents) and their college-aged daughters (<i>M</i> age = 20.3 years) | RSQ | Parental competence | Secure parents reported higher parental competence compared to insecure parents. | NA |
| Kohlhoff & Barnett (2013) | 83 Australian mothers of infants (<i>M</i> age = 5.3 months) | ASQ | Parental self-efficacy | Avoidance negatively correlated with parental self-efficacy. | -.25* |
| Kohn, Rholes, Simpson, Martin III, Tran, & Wilson (2012) | 192 US couples (384 individual parents) studied across the first 2 years of parenthood | ECR | Family Demand at baseline assessment | Anxiety negatively correlated with parental self-efficacy (but non-significant in regression). Avoidance positively correlated with family demand in fathers, but not mothers. | -.33* M: .09 F: .15* |
| Kor, Mikulincer, & Prituimsky (2012) | 1632 Israeli parents with children between the ages of 12-18 years | ECR | Work-family conflict at baseline assessment | Anxiety positively correlated with family demand in both mothers and fathers. | M: .18* F: .22** |
| Leerkes & Siepak (2006) | 444 US undergraduate women (non-parents) | RSQ | Perceived family disengagement (i.e., low warmth, emotional distance) Perceived family chaos (i.e., low control) Attributions for infant distress | Avoidance positively correlated with work-family conflict in fathers, but not mothers. Anxiety positively correlated with work-family conflict in both fathers and mothers. Avoidance related to greater family disengagement. Anxiety related to greater family disengagement. Avoidance related to greater family chaos. Anxiety related to greater family chaos. | M: .00 F: .19** M: .15* F: .25** .16*** .27*** .07** .27*** -.16** , .09+, and positively correlated with making |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|--------------------------------------|---|---------|---|---|---|
| | | | | negative/internal attributions about fear. | |
| Lench, Quas, & Edelstein (2006) | 106 US parents of 5 and 6 year olds | RQ | Optimism that child will avoid negative outcomes and attain positive outcomes | Anxiety positively correlated with making temporary/physical attributions about anger and fear. | .20*** .19*** |
| Mayseless & Scher (2000) | 97 Israeli mothers of infants assessed when infants were 3 and 9 months | ACQ | Perceptions of child effortful control Perceptions of infant temperament | Avoidance related to less optimism that child would attain positive outcomes and avoid negative outcomes. Anxiety unrelated to optimism about child outcomes. | NA NA |
| Meredith & Noller (2003) | 74 Australian mothers | RQ | Perceptions of infant difficulty | Attachment style unrelated to perceptions of child effortful control. | .07, -.05 |
| Mikulincer & Florian (1998, Study 2) | 80 Israeli mothers of newborns (2-3 months old) | H&S | Appraisal of motherhood | Attachment style uncorrelated with perceptions of infant temperament. | .04 to .15 |
| Mikulincer & Florian (1999a) | 93 Israeli couples (186 individual parents) with young children | AASS | Perceived family cohesion and adaptability | Attachment style unrelated to perceptions of infant difficulty. Secure mothers appraised motherhood as less threatening than avoidant and anxious mothers. | NA Sec < Av, Anx ^d r ¹ = -.35, -.47 |
| | | | | Secure and anxious mothers and fathers reported greater family cohesion compared to avoidant mothers and fathers. | Sec, Anx, > Av r ¹ M = .53, .52 |
| | | | | Secure and anxious mothers and fathers reported greater family cohesion compared to avoidant mothers and fathers. | r ¹ F = .27, .28 |
| | | | | Secure and anxious mothers and fathers reported greater family cohesion compared to avoidant mothers and fathers. Secure mothers and fathers reported greater family adaptability compared to avoidant or anxious mothers and fathers. | Sec, > Av, Anx r ¹ M = .29, .26 |
| | | | | Secure and anxious mothers and fathers viewed their ideal family as having more cohesion compared to avoidant mothers and fathers. | r ¹ F = .27, .35 |
| | | | Perceptions of Ideal Family Cohesion and Adaptability | Secure and anxious mothers and fathers viewed their ideal family as having more cohesion compared to avoidant mothers and fathers. | Sec, Anx > Av r ¹ M = .32, .28 |
| | | | | | r ¹ F = .28, .40 NA |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|--|---|------------|---|--|--|
| Mikulincer & Florian (1999b) | 196 Israeli parents of undergraduates | AASS | Perceived family cohesion and adaptability | Attachment style unrelated to ideal family adaptability. Attachment style unrelated parent perceptions of family cohesion and adaptability. | NA |
| Mikulincer & Florian (1999c, Study 1) | 260 Israeli women during their first pregnancy | H&S | Perceived similarity between self and fetus | Main effect of attachment style: secure mothers reported more similarity than avoidant and anxious mothers. Significant Attachment Style X Trimester of pregnancy interaction: In the 1st trimester, secure women reported more similarity compared to anxious and avoidant women. No differences in the 2nd trimester. In the 3rd trimester, secure and anxious women reported more similarity compared to avoidant women. | Sec > Av, Anx $r^1 = .17, .10$ |
| Nathanson & Manohar (2012) | 180 US college students (non-parents) | AAS | Negative attitudes toward childrearing | Security correlated with less negative attitudes toward childrearing. Insecurity correlated with more negative attitudes toward childrearing. | -.20** .37*** |
| | | | Expected attitudes toward child TV watching | Attachment style unrelated to expected attitudes toward child TV watching. | .01 to .14 ⁺ |
| | | | Expected warmth toward future children | Security unrelated to expected warmth. Insecurity negatively correlated with expected warmth toward future children. | .00 -.16* |
| | | | Expected disciplinary harshness/warmth | Security unrelated to endorsement of strict discipline. Insecurity positively correlated with greater endorsement of strict discipline. | .05 .16* |
| | | | Expected encouragement of independent ideas | Attachment style unrelated to encouragement of independent ideas. | .06, .01 |
| Pesonen, Rääkkönen, Keltikangas-Järvinen, Strandberg, & Järvenpää (2003) | 180 Finnish couples (360 individual parents) with 6 month old infants | AAS and RQ | Perceptions of infant temperament | Mother and father avoidance related to more negative perceptions of infant temperament. | M: .01 to .26** F: .05 to .21** |
| Pesonen, Rääkkönen, Strandberg, Keltikangas-Järvinen, & Järvenpää (2004) | 492 Finnish parents with 6 month old infants | AAS and RQ | Perceptions of infant temperament | Mother and father anxiety related to more negative perceptions of infant temperament. Mother and father avoidance were related to more negative perceptions of infant temperament. After controlling for parental | M: .00 to .23** F: .01 to .22** NA |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|---|---|---------|---|---|--|
| Priel & Besser (2000) | 115 Israeli women assessed during third trimester and again 16 weeks after childbirth | RQ | Perceptions of infant temperament | depression, only mother avoidance was associated with perceiving the infant as more fearful. Mother and father anxiety were related to more negative perceptions of infant temperament. After controlling for parental depression, anxiety was unrelated to perceptions of infant temperament. Secure mothers reported less negative perceptions of infant temperament compared to insecure mothers. Bonding to fetus mediated link between insecure attachment and perceptions of infant temperament. | NA NA Sec < Insec $r^2 = .21$ to .49 |
| Rholes, Simpson, & Blakely (1995, Study 1) | 44 US mothers and their toddlers (M age = 36 months) | AAQ | Perceptions of child difficulty | Avoidance unrelated to perceptions of child difficulty. | NA |
| Rholes, Simpson, & Blakely (1995, Study 2) | 97 US college students (non-parents) | AAQ | Confidence in ability to be a good parent | Anxiety X Maternal distress interaction: the link between maternal distress and greater perceived child difficulty was stronger for mothers low in anxiety. Avoidance related to less confidence in ability to be a good parent. | NA NA |
| Rholes, Simpson, Blakeley, Lanigan, & Allen (1997, Study 1) | 379 US college students (non-parents) | AAQ | Concerns about psychological costs of childrearing Beliefs about importance of warmth in parent-child relationship | Attachment style unrelated to concerns about psychological costs of childrearing. Avoidance related to advocating less warmth in parent-child relationships in both men and women. Anxiety related to advocating less warmth in parent-child relationships in both men and women. | NA -.14** -.15*** |
| | | | Beliefs about strict discipline | Avoidance related to endorsing more strict/harsh discipline practices in both men and women. | .15** |
| | | | | Anxiety related to endorsing more strict/harsh discipline practices in both men and women. | .16** |
| | | | Beliefs about encouraging child's independence | Attachment style unrelated to beliefs about encouraging independence. | -.01, -.09 |
| | | | Perception of childcare as stressful and aggravating | Avoidance related to higher expectations of being aggravated by children in both men and women. Anxiety related to higher expectations of | .25** |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|---|--|---------|--|---|---------------------------|
| | | | | being aggravated by children in both men and women. | |
| | | | | Anxiety related to higher expectations of being aggravated by children in both men and women. | .37** |
| | | | Confidence in ability to relate well to children | Avoidance negatively related to perceived ability to relate well to children in both men and women. | -.28** |
| | | | | Anxiety negatively related to perceived ability to relate well to children in both men and women. | -.24** |
| Rholes, Simpson, Blakely, Lamigan, & Allen (1997, Study 1), continued | 379 US college students (non-parents) | AAQ | Expected satisfaction from parenting | Avoidance negatively related to expected satisfaction from parenting in both men and women. | -.12* |
| | | | | Anxiety unrelated to expected satisfaction from parenting. | -.05 |
| | | | Overall orientation toward parenthood | Avoidance related to more negative orientation toward parenthood in both men and women. | NA |
| | | | | Anxiety related to more negative orientation toward parenthood in both men and women. | NA |
| Rholes, Simpson, Blakely, Lamigan, & Allen (1997, Study 2) | 259 US college students (non-parents) | AAQ | Expectations about child attachment behaviors | Avoidance related to expectation of less secure, more avoidant, and less affectionate behavior in both men and women. | -.16** .21** -.20** |
| | | | | Anxiety unrelated to expectations of child attachment behaviors. | -.10, .05, -.02 |
| | | | Overall expectation of prospective child | Avoidance related to more negative expectations of prospective children in both men and women. | NA |
| | | | | Anxiety unrelated to expectations of prospective children. | NA |
| Rholes et al. (2011) | 192 US couples (384 individual parents) studied across the first 2 years of parenthood | ECR | Baby's interference with romantic relationship | Anxiety positively correlated with perceiving the baby as interfering with the romantic relationship in both mothers and fathers. | M: .00 F: .05 |
| | | | | Anxiety positively correlated with perceiving the baby as interfering with the romantic relationship in both mothers and fathers. | M: .28*** F: .31*** |
| | | | Baby's interference with outside activities | Avoidance positively correlated with perceiving the baby as interfering with outside activities in fathers, but not mothers. | M: .10 F: .23** |
| | | | | Anxiety positively correlated with perceiving the baby as interfering with outside activities | M: .16* F: .14 |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|---------------------------------|--|---------|--|--|--|
| Scharf & Mayselless (2011) | 60 Israeli males assessed during senior year of high school and again 8 to 9 years later | H&S | Perceived ability to relate to children | in mothers, but not fathers. Avoidance negatively correlated with ability to relate to children 9 years later, but marginal in regression. Anxiety negatively correlated with ability to relate to children 9 years later, but marginal in regression. | -.30* -.30* |
| | | | Expected satisfaction from parenting | Anxiety unrelated to expected parental satisfaction 9 years later. | -.17 |
| | | | Perception of self as future parent | Anxiety unrelated to expected parental satisfaction 9 years later. Avoidance unrelated to perceptions of self as future parent 9 years later. | -.05 -.16 |
| Scher & Mayselless (1994) | 118 Israeli mothers assessed when infants were 9 and 12 months old | ADQ | Perceived importance of behavioral and socialization skills of child | Anxiety negatively correlated with positive perception of self as parent 9 years later, but marginal in regression. Avoidance unrelated to perceptions of future child 9 years later. | -.27* -.17 |
| Scher & Mayselless (1997) | 118 Israeli mothers assessed when children were 3 and 9 months old. | ACQ | Changes in perceptions of infant temperament from 3 to 9 months of age | Anxiety unrelated to perceptions of future child 9 years later. Avoidance unrelated to perceived importance of behavioral and socialization skills of child. Anxiety negatively correlated with perceived importance of the development of social skills, self-help skills, and independence. | NA -.19* -.22*, -.22* |
| Snell, Overbey, & Brewer (2005) | 960 adults (82% from US; 53% of adults were parents). | RQ | Parenting perfectionism | Avoidance related to an increase in mother-reported child negative emotionality from 3 to 9 months. Anxiety unrelated to changes in perceptions of infant temperament. | NA NA |
| Vasquez, Durik, & Hyde (2002) | 1120 US parents (570 mothers) assessed when children were 12 months and 4.5 years old. | RQ | Perception of parenthood as rewarding | Fearful and preoccupied participants reported being overly perfectionist about their own and their partners' parenting. Secure participants endorsed more adaptive aspects of parenting perfectionism. Secure fathers rated parenthood as more rewarding than dismissing and fearful fathers. No significant attachment-related differences in mothers. Secure mothers and fathers reported fewer concerns about parenting compared to dismissing, preoccupied, and fearful parents. | NA NA NA NA Sec > Dis, Fear $r^2 = .07, .22$ Sec < Dis, Pre, Fear $r^2 = -.29,$ |

| Study | Sample | Measure | Parenting Outcome Variable(s) | Results | Effect Size (r) |
|-------|--------|---------|-------------------------------|---------|-----------------|
| | | | | | -.22, -.47 |

Note. H&S = Hazan & Shaver, 1987; r^1 = effect size correlation calculated from means and standard deviations or t-statistic; AASS = Adult Attachment Style Scale (Mikulincer, Florian, & Tolmacz, 1990); AAQ = Adult Attachment Questionnaire (Simpson, Rholes, & Phillips, 1996); I = intervention group correlation; C = control group correlation; ECR = Experiences in Close Relationships Scale (Brennan, Clark, & Shaver, 1998); M = mother correlation; F = father correlation; RSQ = Relationship Scales Questionnaire (Griffin & Bartholomew, 1994); NA = effect size not available; ASQ = Attachment Style Questionnaire (J. A. Feeney, Noller, & Hanrahan, 1994); RQ = Relationship Questionnaire (Bartholomew & Horowitz, 1991); ACQ = Attachment Concerns Questionnaire (Mayselless, 1995); AAS = Adult Attachment Scale (Collins & Read, 1990); ADQ = Attachment Dimensions Questionnaire (Scher & Mayselless, 1994).

^a Effect sizes not corrected for small or unequal samples due to insufficient information.

- [†] p < .10.
- * p < .05.
- ** p < .01.
- *** p < .001.