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Reflective Functioning in Parents of School-Aged Children

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Abstract

Parental reflective functioning (RF) has garnered tremendous support as a predictor of secure attachment in infancy, though little work has examined RF among parents of older children. In this study, we used a high-risk community sample of parent–child dyads ($N = 117$) to explore whether parental RF comprises self- and child-focused factors, whether parental RF is associated with parent and child attachment security, and whether parental RF mediates the association between parent and child attachment security. Results suggested that parental RF can be characterized as having both self- and child-focused components, and that child-focused parental RF is associated with child but not parent attachment security. Further, child-focused parental RF indirectly mediates the association between parent attachment avoidance and child attachment security. These findings extend previous work on parental RF to parents of school-age children and, in so doing, inform developmental models of attachment relationships in middle childhood. Discussion focuses on the importance of these findings in informing theory, prevention, clinical practice, and policy.

Keywords

reflective functioning; attachment; middle childhood; parent–child

Attachment security involves confidence that one's caregiver will be available as a source of protection and comfort in times of need, which in turn translates to confidence in interacting in the external environment, and a view of the self as worthy of love (Bowlby, 1973; Weinfield, Sroufe, Egeland, & Carlson, 2008). Stemming from this internalized sense of security comes the capacity to self-regulate, harbor positive expectations for relationships, and be self-efficacious (Bowlby, 1973). Indeed, ample research demonstrates that secure attachment measured in early childhood predicts a host of positive outcomes throughout

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development (see Weinfield et al., 2008, for a review). Thus, identifying ways to support children's attachment security is an important social policy endeavor (Heinicke, 1990). And yet the development of effective programs requires intricate understanding of the mechanisms underlying the association between parenting and child outcomes (Gardner, Burton, & Klimes, 2006), as well as how these mechanisms function at different stages of children's development (Landry et al., 2008). Our goal in conducting the current study is to fill one of the central gaps in the attachment literature, namely that regarding links between parental reflective functioning, an attachment-related construct, and attachment security during middle childhood.

Attachment, Parenting Sensitivity, and Reflective Functioning

According to Bowlby (1973), attachment is an evolutionarily based system in which infants develop strategies to maintain proximity to a caregiver to ensure their survival. Infants develop internal working models of relationships based on their experiences with their caregivers, and specifically, on the degree of sensitivity exhibited by their caregivers (Ainsworth, 1979; Bowlby, 1973): Those whose caregivers respond consistently and sensitively to their attachment bids develop secure attachments, whereas those whose caregivers respond in a consistently or inconsistently rejecting manner develop insecure attachments (Ainsworth, 1979; Bowlby, 1973; De Wolff & van IJzendoorn, 1997).

Contemporary attachment researchers have endeavored to understand the internal psychological mechanisms that may underlie sensitive caregiving. Reflective functioning (RF), the ability to understand feelings, desires, beliefs, and intentions in the self and others (Fonagy & Target, 1998), has received significant attention in the literature. RF has important implications for psychological functioning: Individuals high in RF are able to reflect upon their own mental states and experience emotionally charged situations without becoming overwhelmed by their emotions or shutting down (i.e., hyperactivating or deactivating the attachment system, respectively; Slade, 2005), which in turn leads to more sensitive behavior.

Dimensions of Parental RF

RF can be measured as it pertains to the caregiving role, for example, by assessing the degree to which parents can entertain ideas about thoughts and feelings motivating behavior in their children or in themselves in the parenting role (Slade, 2005). Our research group previously delineated two types of parental RF which may have unique influences on parenting across development: *self-focused RF*, a parent's ability to understand the mental states underlying his or her own parenting behaviors and their impact on the child, and *child-focused RF*, the parent's capacity to understand those underlying the child's behavior and their impact on the parent (Suchman, DeCoste, Leigh, & Borelli, 2010).[1] When parenting young children, the importance of RF for the self and for the child is clear—preverbal children rely on their caregivers to intuit their underlying mental states because they are

[1]Note that self-focused parental reflective functioning (RF; derived from the PDI) differs from adults' RF coded from the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1996) in that it is focused on understanding the self in the parenting role, whereas AAI RF occurs in the context of reflecting on one's childhood experiences with caregivers.

unable to understand or express their thoughts and feelings. Further, to parent sensitively, parents must be keenly aware of their own mental states and be able to differentiate their own internal experience from their children's (Slade, 2005).

Take the example of 10-month-old Nathan, who is pinching his mother's skin fiercely while she holds him as she rushes around the home getting ready to leave for work. A mother who uses RF on behalf of herself and her child might be able to infer that her child is scared about her leaving him, and that his pinching behavior may be a byproduct of that fear. Similarly, she may also be aware of her own mental state in the moment—that she is feeling harried, guilty about leaving, and angry at her child for pinching her. She may realize that her own mental states are impacting her child (i.e., that he can sense her stress and that this makes him more scared). Her RF may then inform her behavior: Instead of sternly reprimanding him for pinching her, she may choose to take a deep breath herself, gently remove his fingers, and reassure him that she will come home after the workday like always. Thus, rather than interpreting interactions based exclusively on behavior, RF allows for a deeper understanding of the interaction between mental states and behavior in the self and the child, which in turn can promote sensitive parenting.

In a prior investigation of RF in parents with a history of substance dependence, we found that parents' self-focused RF but not child-focused RF was positively associated with maternal sensitivity (Suchman et al., 2010). In interpreting these findings, we reasoned that self-focused RF may have had a more important role in facilitating sensitive parenting than child-focused RF in this particular sample. Specifically, given the considerable difficulties in emotion regulation among individuals with substance dependence (Sher & Grekin, 2007; Tice, Bratslavsky, & Baumeister, 2001), the ability for a mother to understand her own emotions and their effect on her child may be more central to parenting than child-focused RF, though among lower risk populations, child-focused RF may be more important.

RF and Attachment

Parental RF bears direct relevance to parenting behavior: Parents who can engage in RF on behalf of their children or themselves have information that allows them to respond sensitively to the child (Suchman et al., 2010). Further, RF allows greater regulation of emotion, which in turn can promote sensitivity (Fonagy et al., 2002; Slade, Grienenberger, Bernbach, Levy, & Locker, 2005). In turn, heightened sensitivity predicts secure child attachment (Bowlby, 1973; Fonagy et al., 1991; Fonagy, Steele, Steele, & Moran, 1991; van IJzendoorn, 1995).

Further, parents' capacity for RF is associated with their own attachment history and internal working models. Developing an awareness of one's own mental states, a building block of RF, is thought to arise when caregivers respond to infants' emotions by contingently mirroring their emotion (Fonagy et al., 2002). In addition to promoting working knowledge of mental states, contingent affective mirroring by the caregiver also predicts secure attachment in the infant (Beebe et al., 2010; Jaffe, Beebe, Feldstein, Crown, & Jasnow, 2001; Koulomzin et al., 2002). This basic understanding of personal mental states then promotes people's ability to engage in RF for their own and others' mental states (Fonagy et

al., 2002; Fonagy & Target, 1997). In other words, the same types of parent–child interactions that predict secure attachment in the child are thought to promote the capacity for RF. Extrapolating from this argument leads us to believe that parental RF should be associated with secure attachment in the parent. In support of this argument, adolescents and adults with secure attachment have higher RF (Ammaniti & Dazzi, 1999; Fonagy, Steele, & Steele, 1991; Fonagy et al., 1998, 2002).

A synthesis of these different arguments suggests as follows: Parental RF may be a byproduct of the parents' own attachment history and may be one factor underlying sensitive parenting, which in turn may predict child attachment organization. Indeed, initial evidence suggests that maternal RF mediates the association between mother and infant attachment (Grienenberger, Kelly, & Slade, 2005; Slade, Grienenberger, et al., 2005). In sum, RF may be one mechanism explaining the intergenerational transmission of attachment, making it a prime target of intervention.

RF Among Parents of School-Aged Children

Although the importance of parental RF may be most readily apparent among parents of young children (e.g., Grienenberger et al., 2005), who cannot themselves verbally describe their mental states, it likely also plays a crucial role in parenting throughout children's development because of children's ongoing need for understanding from and connection with their parents. Specifically, RF may be important for parents of school-age children in that it may enable them to understand the changes that children experience as they progress through development and their own emotional reactions to these changes (Benbassat & Priel, 2012).

As they grow, children's capacities for emotion regulation change as do their relationships. Although parental RF is thought to promote the development of attachment security in young children, as children age, the connection between parental RF and child attachment security may become increasingly bidirectional (Bell, 1968; Cohn & Tronick, 1988; Cummings & Davies, 1994). For instance, as children develop, secure children may make parental RF increasingly easier—more aware of their own internal mental states and willing to communicate them more freely, secure children may provide parents more opportunities to learn about their children's internal worlds. On the other hand, insecure children may become increasingly withholding over time, rendering parental RF more challenging.

However, though parental RF can become easier in certain ways as children develop, increasing sophistication in the child can create new challenges for parents as well. Specifically, children make gains in emotional self-regulation, including the ability to use language to express their mental states as well as the ability to mask or inhibit emotional expressions (Aureli & Presaghi, 2010; Mikulincer, Shaver, & Pereg, 2003; Raffaelli, Crockett, & Shen, 2005; Saarni, 1984). Although for some children the growth in children's expressive capacities (Kopp, 1982, 1989) may reduce the need for parents' child-focused RF, for others, being able to more easily disguise mental states (Saarni, 1984) may render child-focused RF more essential than earlier in development. When a child is better able to control how much or what kind of emotion he or she expresses, RF may be more difficult for the

parent than during earlier stages in development when the child's needs are more basic and more transparent.

Further, the relational changes of middle childhood may also contribute to the complexity of engaging in RF for one's child. During this developmental phase, children transition from relying almost exclusively on their parents to meet their needs to relying on others to do so (Mayseless, 2005; Rubin, Bukowski, & Parker, 1998), so the extent to which parents have direct awareness about their children's experience may decrease. The parent's task becomes one of providing a secure base for the child, and creating a space in which the child can discuss experiences that occur outside of the parent–child relationship, which requires the parent to use RF to understand the child in terms of experiences of which he or she was not a part. This type of RF may be more challenging for parents because they do not have their own direct experience to draw upon. Further, using RF about nonshared experiences may pose a threat to certain parents who have difficulty supporting the child's exploration and individuation from the parent–child relationship (Marvin, Cooper, Hoffman, & Powell, 2002). In short, the fact that many of school-age children's important interpersonal experiences occur outside of the context of the parent–child relationship may mean that child-focused RF may be of the utmost importance at this developmental stage—parents must have accurate and realistic imagination to reflect for their children in the absence of their own direct experience of the situation.

As a means of illustrating the importance of RF among parents of school-age children, take the example of 10-year-old Nathan. Recently, Nathan's close group of friends has been snubbing him, which he has shared with his mother. Typically, when Nathan's mother drops him off at school in the morning, Nathan and his mother exchange "I love you," while Nathan exits the car. This morning, after his mother says "I love you," Nathan fails to do so, instead uttering a rushed "bye." Nathan's mom says goodbye but feels hurt by the fact that Nathan left her in the lurch. Looking up, the mother sees Nathan's group of friends walking by, and Nathan rushing to join them. Although Nathan gave no direct indication of his internal state to his mother, she may use her capacity for child-focused RF to conclude that he rushed the goodbye because of his fear of being left out by his friends. Reflecting on her own emotions may also allow her to acknowledge her feelings of rejection, but these feelings will not eclipse her ability to understand her son's experience. Then, instead of retaliating later toward Nathan for rebuffing her, she may instead express interest in how he feels about his friend group. In this way, her capacity for RF may assist her in being sensitive to Nathan's needs.

Despite the tremendous promise of the parental RF framework for attachment research, to date, this work has almost exclusively focused on parents of young children. The gap in knowledge reflects the dearth of research within the larger attachment literature as it pertains to school-age children (Kerns et al., 2005). In fact, to our knowledge, only two published studies have been conducted examining RF among parents of older children, neither of which has examined the association between parental RF and child attachment security. Further, neither study has assessed distinctions between self-focused versus child-focused RF. In one study, investigators assessed parental RF using the Parent Development Interview (PDI; Slade et al., 2004) with parents of adolescent children, finding a positive association

between overall parental RF and adolescents' psychological adjustment (Benbassat & Priel, 2012). A second study used a sample of parents of clinically anxious school-age children, assessing parents' RF with respect to their relationships with their own parents. Esbjørn and colleagues (2013) found that higher RF among mothers, but not fathers, predicted lower anxiety in the child. Although parents' RF vis-à-vis their own childhood relationships with caregivers is undoubtedly important, it may not provide as precise an assessment of RF as it operates in the specific parent–child relationship. Taken together, these studies suggest that RF among parents of older children is meaningfully associated with children's psychological adjustment, though to date no studies have explored the association between parental RF and child attachment security, nor have any studies distinguished between self- and child-focused parental RF, rendering comparisons to prior studies more difficult (e.g., Suchman et al., 2010).

Current Investigation and Implications

An important next step in this area is to examine parents' RF for its association with parent and child attachment in middle childhood. Research examining parents of infants has supported theoretical models of RF by linking parental RF with both parent and child attachment security, as well as suggesting that parental RF mediates the association between parent and child attachment security (Slade, Grienenberger, et al., 2005). However, these associations have yet to be examined in middle childhood, leaving a large gap in our understanding of the importance of parental RF throughout children's development. If parental RF operates in a similar fashion during this developmental stage, we would expect that it would follow a similar factor structure as we observed among parents of toddlers (Suchman et al., 2010) and would be positively associated with both parent and child attachment. Further, RF would mediate the association between parent and child attachment (cf., Slade, Grienenberger, et al., 2005).

Using a cross-sectional design involving a community sample of parent–child dyads, we examine RF among the parents of school-age children, employing a widely used method for assessing RF among parents, coder-rated RF on the Parent Development Interview–Revised for School-Aged Children (PDI-R-SC; Slade et al., 2009). Given the preliminary nature of this topic, first we pursue two exploratory goals. For Goal 1, we aim to evaluate whether parental RF in our sample (community sample of parents of school-age children) follows the factor structure we observed among substance dependent mothers of toddlers (Suchman et al., 2010). Specifically, we explore whether RF among parents of school-age children can be subdivided into self- (parent) and child-focused RF.

For Goal 2, we examine the association between parent and family level demographic factors (parent race/ethnicity, parent age, educational attainment, family income, child age, child gender, child birth order) and self- and child-focused parental RF. We anticipate that demographic factors will be weakly or not significantly associated with parental RF.

Goal 3 involves testing three directional hypotheses related to the theoretical framework of RF. First, we hypothesize that parents' self-reported attachment security will be associated with parental RF (Hypothesis 1). Second, we anticipate that parental RF will be associated

with coder-rated child attachment security (Hypothesis 2). Third, we predict that parental RF will mediate the link between parent and child attachment security (Hypothesis 3).

The answers to these research questions have important implications for the development of prevention and intervention programs. Although contemporary attachment interventionists consider parental RF a crucial target of intervention, existing programs only target the promotion of parental RF among parents of infants and toddlers (Grienenberger et al., 2004; Slade, Sadler, et al., 2005; Suchman et al., 2008). If our findings demonstrate a correlation between parental RF and children's attachment security later in development, and if future longitudinal studies reinforce this link, these findings may suggest that programs supporting RF among parents of older children may also be important in promoting adaptive psychosocial development in children.

Method

Participants

One hundred and 17 children (n = 56 boys, 48%) between the ages of 8 and 12 (M_{age} = 9.80 years old, SD_{age} = 1.46 years) and their primary caregivers (97 mothers, 2 grandmothers, 18 fathers; M_{age} = 37.65 years old, SD_{age} = 6.43 years) from the greater Los Angeles area participated in this study of children's socioemotional development. Participants were recruited through Internet advertisements, word of mouth, and flyers. Thirty-eight percent of caregivers identified as Latino/a, 36% as Caucasian, 17% as African American, 2% as Asian, 2% as Native American, and 5% as other or biracial. Most parents worked full-time (84%), were married/cohabiting with a romantic partner (59%), had previously been divorced (65%), and reported an annual income of less than $40,000 (49%).

Procedure

The study protocol was approved by the Institutional Review Board of Pomona College. First, children and their primary caregivers completed informed consent and assent. Participants were informed they could decline to participate in any part of the study. Children and their parents then completed relationship interviews (Child Attachment Interview; Shmueli-Goetz et al., 2004, and PDI, respectively) separately with trained researchers. Following the interview, parents reported on demographics and romantic attachment style.

Measures

Family demographics—Parents reported on the following individual- and family-level demographics using self-report scales: parent gender, child gender, parent age, child age, parent marital status, parent educational attainment (six-point scale, ranging from high school to graduate school), annual family income (six-point scale, ranging from less than $40,000 to over $120,000), parent race/ethnicity, total number of children in the family, and birth order of target child (i.e., the child participating in the study).

Parent attachment security—The Experiences in Close Relationships–Revised (ECR-R; Fraley, Waller, & Brennan, 2000), is a widely used, reliable self-report measure

consisting of two subscales that assess trait attachment anxiety and avoidance in romantic relationships. Adults report the degree to which they agree or disagree with 36 statements using a seven-point Likert scale. The avoidance scale taps discomfort with intimacy in romantic relationships (e.g., "I am nervous when partners get too close to me"), and the anxiety scale indexes worry about close relationships as well as feelings and thoughts about responsiveness and approval from romantic partners (e.g., "I worry that romantic partners won't care about me as much as I care about them"). Although in the ECR-R parents report on their anxiety and avoidance with respect to romantic relationships, both theory and prior work suggest that romantic attachment style is associated with parenting behavior (Burkhart, Borelli, Rasmussen, & Sbarra, 2015; Jones & Cassidy, 2014; Jones, Cassidy, & Shaver, 2015; Stern, Borelli, & Smiley, 2015). In this sample, reliability for both scales was high (avoidance α = .83; anxiety α = .94).

Parent reflective functioning—The Parent Development Interview–Revised (PDI-R; Slade et al., 2004) is a semistructured interview lasting 45 to 60 min in which parents describe their emotional experiences of parenting. Specifically, parents answer questions regarding their relationships with their young children (e.g., Can you describe a time when you and [child's name] really clicked?), as well as their feelings related to parenting (e.g., *Have you ever felt really angry as a mother?*), and their children's experience of emotional and physical pain (e.g., *Does [child's name] ever feel upset?*). For the purposes of this study, we adapted the PDI-R for use with school-age children (PDI-R-SC; Slade et al., 2009, see Stern et al., 2015, for more information). Our modifications focused on (a) reducing the total number of questions to shorten the overall length of the interview (from 30 to 23 total questions), and (b) modifying interview language and content to be developmentally appropriate for parents of school-age children as opposed to parents of infants/toddlers. For example, in the PDI-R, parents are asked to describe a separation of any length of time from the child, in the PDI-R-SC, parents are asked to describe a separation of a week or longer.

Interviews were audio-recorded and transcribed verbatim. Interview transcripts were then subjected to the coding methods initially developed by Fonagy and colleagues (1998) for use on the AAI (George et al., 1996), then later adapted for use on the PDI (Slade, Grienenberger, et al., 2005). Each question receives a score on an 11-point scale, with higher scores indicating higher RF.

The first and last authors of this paper (J.B. and N.S., respectively) trained the second author of the paper (H.S.J.) in the RF coding scheme for the PDI-R until she achieved adequate reliability using that coding system on a different sample of parent interviews. Then, H.S.J. blindly coded the entire sample of PDIR-SCs from the current study. J.B. double-coded a portion of these interviews to establish reliability within this sample: Intraclass correlation coefficients (ICCs) for the individual PDI questions on n = 25 interviews ranged from .76 to .94.

Child attachment—The Child Attachment Interview (CAI; Shmueli-Goetz et al., 2004) is a 19-question semistructured interview for 8- to 13-year-olds that assesses children's attachment representations of their relationships with their primary caregivers. The CAI's structure closely parallels that of the AAI in that children are first asked to describe each of

their current relationships with primary caregivers at the broad or semantic level and then are asked to substantiate this with concrete episodic memories (Hesse, 2008; Shmueli-Goetz et al., 2004). Children also are specifically asked to describe times when they experienced the activation of attachment needs (e.g., getting hurt). CAIs are transcribed verbatim and the transcripts are used in coding analysis. Like the Strange Situation Procedure (Ainsworth, Blehar, Waters, & Wall, 1978), coders also rely upon on the videotaped interview in their evaluation of child attachment.

CAI raters code videotapes and verbatim transcripts on 11 nine–point scales (e.g., Idealization of attachment figures). The Overall Narrative Coherence scale serves as a summary score for the other 10 scales and is considered a dimensional measure of attachment security (Shmueli-Goetz et al., 2004). Based on these scales and children's nonverbal interview behavior, raters classify children into one of four categories with respect to each caregiver (secure, dismissing, preoccupied, disorganized). Here we use the overall narrative coherence scale as our measure of attachment security—high scores signify high attachment security.

Researchers have documented the CAI's validity and reliability in normative and clinical samples (Shmueli-Goetz, Target, Fonagy, & Datta, 2008; Target, Fonagy, & Shmueli-Goetz, 2003). CAI classification is not associated with child gender, age, gender, socioeconomic status, ethnicity, expressive language ability, verbal IQ, or whether the child lives with one or two parents (Target et al., 2003). In this study, a certified CAI rater coded all transcripts, with reliability performed on 16 cases by a second certified coder (ICCs for narrative coherence scale = .83, $p < .001$; four-way attachment classification: $\kappa = .91$, $p < .001$).

Data Analytic Plan

First, we evaluated the PDI factor structure using exploratory factor analysis. Second, we examined the association between parental RF scores and parent and child demographic variables so that we could employ those that were significantly associated with parental RF as covariates in subsequent analyses. To test Hypothesis 1 we used two hierarchical linear regressions to evaluate associations between parent attachment (avoidance and anxiety) and each dimension of parental RF (self-focused, child-focused). In evaluating the association between child attachment and parental RF (Hypothesis 2), first we assessed bivariate associations between CAI scales and the RF factors. Next we evaluated the association between CAI security and parental RF using two commonly used metrics of attachment security on the CAI—the overall coherence score (a continuous measure) and attachment categories (categorical measure). To test hypotheses involving the overall coherence score, we used hierarchical linear regressions, whereas we used analyses of covariance (ANCOVAs) when using attachment categories. To examine the mediational model, we did so using the continuous CAI coherence variable using Model 4 in PROCESS (Hayes, 2012). Although in years past researchers assumed mediation could not occur when no significant direct effect was present (i.e., no significant association between *x* and *y*), current research recommendations suggest evaluating the presence of indirect effects in the absence of direct effects (Hayes, 2009; Zhao, Lynch, & Chen, 2010), which is the approach we adopted in this article.

Results

Means of study variables are reported in Table 1. An independent samples *t* test revealed that CAI coherence was significantly higher among girls than among boys, $t(107) = -2.76$, $p = .007$.

Goal 1: Underlying Factor Structure of PDI-R-SC

One of our central goals was to examine whether the underlying factor structure of the PDI-R-SC matched that observed in previous work with parents of toddlers. We followed the procedures outlined by Suchman et al. (2010): First we completed an exploratory factor analysis on participants' RF scores on the 10 PDI questions. Two questions from the Suchman et al. child-focused RF grouping did not cluster as expected within our sample (*separation from the child* and *child felt rejected*). As a result we repeated the factor analysis eliminating these items.

Preliminary tests from this second factor analysis indicated that the data were suitable for factor analysis (Kaiser-Meyer-Olkin = 0.84, Bartlett's test of sphericity = 221.51, $p < .001$). Examination of the scree plot indicated that a two-factor solution best fit the data, and a principal components analysis extracted two factors. All variables had communalities above .70. Questions loading on the first factor (eigenvalue = 3.32) involved the parent's emotional experience of parenting (*child changed you*, *needing someone to take care of you*, *pain/difficulty*, *angry as a parent*; all positive loadings). On the basis of the loadings, we termed this factor the self-focused factor, with high scores indicating high RF related to one's own experiences as a parent. Items loading on the second factor (eigenvalue = 1.08) involved the child (*time when you and child were clicking*, *time when you and child were not clicking*, *time when child needs your attention*, and *time when child was upset*; all positive loadings). High scores on this factor (called the child-focused RF factor) indicate higher parental RF regarding the child (see Table 2). With the exception of the two items we removed from the child-focused RF scale, these factors were nearly identical to those found in Suchman et al.'s (2010) previous work.

We then computed means for parents' self- and child-focused RF. Internal consistency for each of these scales (self-focused $\alpha = .66$, child-focused $\alpha = .68$) was comparable with what was found in Suchman and colleague's (2010) previous study. Zero-order correlations revealed that parents' self- and child-focused RF were positively associated (see Table 3).

Goal 2: Demographic Factors and Parental RF

Zero-order correlations suggested that neither form of parental RF was significantly associated with the number of children in the family, birth order of the target child, parent educational attainment, or family income. Independent samples *t* tests did not reveal significant differences in RF among parents on the basis of child sex (self-focused RF: $t[106] = 0.28$, $p = .78$; child-focused RF: $t[106] = -1.45$, $p = .15$) or parent sex (self-focused RF: $t[106] = -0.01$, $p = .99$; child-focused RF: $t[106] = -0.34$, $p = .73$). Married parents had significantly higher self-focused RF, $t(106) = -2.35$, $p = .02$, but marital status was not associated with child-focused RF, $t(106) = -0.43$, $p = .67$. Analyses of variance revealed that

parent race/ethnicity was significantly associated with child-focused, $F(5, 101) = 2.45$, $p = .04$, but not self-focused RF, $t(5,101) = 2.08$, $p = .07$. Parents who self-identified as White (non-Hispanic) had higher child-focused RF than parents who self-identified as Hispanic ($p = .01$) or African American ($p = .002$). When we statistically controlled for annual family income, parent race/ethnicity was marginally significantly associated with child-focused RF, $F(5, 101) = 2.19$, $p = .06$.

Goal 3, Hypothesis 1: Association Between Parents' Attachment Style and Their RF

We conducted hierarchical regressions in which both parent attachment variables (anxiety and avoidance) were entered in a single step. In a first regression, after controlling for child age and sex on a first step ($R^2 = 0.06$, $p = .09$), the step containing parent attachment anxiety and avoidance contributed nonsignificantly to child-focused RF ($\Delta R^2 = 0.01$, $p = .64$). Older child age was associated with lower self-focused RF ($b = -0.12$, $SE = .05$, $p = .03$), but neither parent attachment avoidance ($b = -0.08$, $SE = .08$, $p = .36$) nor anxiety ($b = .03$, $SE = .08$, $p = .74$) was significantly associated with self-focused RF.

In a second regression, after controlling for child age and sex on a first step, $R^2 = 0.04$, $p = .24$, the step containing parent attachment anxiety and avoidance contributed nonsignificantly to child-focused RF, $\Delta R^2 = 0.03$, $p = .22$. Neither parent avoidance, $b = -0.14$, $SE = .08$, $p = .08$, nor anxiety, $b = .05$, $SE = .08$, $p = .50$, was significantly associated with child-focused RF. Thus, Hypothesis 1 was not supported: Self-reported parent attachment security was not associated with either RF dimension.

Goal 3, Hypothesis 2: Association Between Parents' RF and Children's Attachment Security

First, we conducted a series of zero-order correlations to examine the associations between parents' RF and CAI subscales. Further, child-focused RF was positively associated with the following CAI scales—Emotional Openness, Use of Examples, and Narrative Coherence. Child-focused RF was negatively associated with CAI Dismissal toward mother and father figures (see Table 3).

Next, we conducted a hierarchical regression in which both parental RF variables (self-focused and child-focused RF) were entered in a single step predicting children's CAI narrative coherence. After controlling for child age and sex on a first step, the step containing self- and child-focused RF contributed significantly to child coherence. Female child sex and higher child-focused RF were associated with greater attachment security (see Table 4). In follow-up analyses, we discovered that controlling for parent race/ethnicity and family income did not change the effect; further, parent race/ethnicity did not moderate the association between parent child-focused RF and narrative coherence ($p = .54$).

Next, we conducted ANCOVAs with CAI attachment category with respect to mother figure as the independent variable and parental RF as the dependent variable. After controlling for child age and gender, attachment category was significantly associated with parental RF, $F(1, 114) = 1.67$, $p = .04$, $\eta_p^2 = .7$.[2] The results of a least significant difference test revealed that dismissing children's primary caregivers had significantly lower RF than that of secure

children (p = .006) and nonsignificantly lower than preoccupied children (p = .05), and disorganized children (p = .09). When we repeated the analysis with parental self-focused RF as the dependent variable, CAI attachment classification was not a significant predictor, $F(1, 114) = 1.43$, p = .23. Therefore, Hypothesis 2 was partly supported: Child-focused RF only was positively associated with child attachment security (CAI coherence), but neither RF dimension was associated with children's narrative coherence.

Goal 3, Hypothesis 3: RF as a Mediator of the Association Between Parent and Child Attachment

Finally, we evaluated whether child-focused RF acted as an indirect effect in the link between parent and child attachment. We did not evaluate self-focused RF as an indirect effect because of the fact that it was not significantly associated with parent or child attachment. We conducted two models, one for each of the parent attachment variables (attachment avoidance and anxiety)—in each model, we used one parent attachment variable as the independent variable and the other as the covariate. It is important to note that the results remained the same if we omitted the other attachment variable as a covariate.

In the first model, we examined whether parents' child-focused RF was an indirect effect in explaining the nonsignificant association between parents' attachment avoidance and children's narrative coherence. Controlled for the same covariates as above plus parents' attachment anxiety, the indirect effect in this pathway was significant (point estimate = −0.07, SE = 0.04, 95% CI: = −0.18, −0.01). Thus, child-focused RF acted as an indirect effect of the association between parent attachment avoidance and child attachment security.

A parallel model in which attachment anxiety was the independent variable revealed that the indirect effect in this pathway was not significant (point estimate = 0.02, SE = 0.03, 95% CI: = −0.04, 0.10), suggesting that child-focused RF was not an indirect effect in the association between parent attachment anxiety and child narrative coherence. Therefore, Hypothesis 3 was partially supported—child-focused RF was an indirect effect explaining the negative link between parent attachment avoidance (but not anxiety) and CAI coherence.

Discussion

The concept of RF has reinvigorated the field of attachment, adding a new dimension to our understanding of the factors that underlie the transmission of attachment security from parent to child. And yet despite the promise of RF in predicting attachment security in young children and in adults, the construct has yet to be rigorously examined for its association with outcomes in other developmental stages. This study provides the first examination of the association between attachment and parental RF among primary caregivers of school-age children, yielding mixed support for our hypotheses, which we review in turn here.

[2]Note that when we repeated the analyses using CAI classification with respect to father figure, the p value dropped below statistical significance (p = .08).

Structure and Correlates of Parental RF

First, we found that parental RF conforms to a similar two-factor structure as we had previously observed among parents of toddlers (Suchman et al., 2010), including both self- and child-focused RF. Though the specific items retained in the factor structure varied slightly across the samples, the basic dichotomy of self- versus parent-focused RF was retained. These findings provide preliminary evidence that parental RF on the PDI can be differentiated into self/child elements among parents of school-age children as it can among parents of young children.

In our sample, parental RF was lower than what has been observed in studies involving community samples of parents of young children (e.g., Slade, Grienenberger, et al., 2005, who studied a “highly educated, stable, middle class population,” p. 287), though it is not much lower than what was found in studies examining parents of older children (Benbassat & Priel, 2012: community sample of Israeli parents of adolescents, Esbjørn et al., 2013: clinically referred Dane children and their parents), and is higher than RF as observed in adult clinical samples (e.g., Suchman et al., 2010, mothers of young children with drug use disorders from the United States). Because this is one of the first investigations of RF among parents of school-age children, in future work it will be important to assess whether RF is lower in general among parents of school-age children than infants/toddlers, or whether the relatively lower scores obtained here speak to the fact that the sample was more disadvantaged than samples included in other studies (e.g., Slade, Grienenberger, et al., 2005). If the former is true, this may speak to the difficulty parents have considering their children’s internal experiences later in their development, when more individuation and a greater ability to mask emotional experience has occurred (Mayseless, 2005; Saarni, 1984). If the latter is true, the lower mean RF scores could be explained by lower stability and fewer resources of the sample, further underscoring the importance of promotion of RF among low-income parents.

Unlike previous work finding a positive association between parental education and RF among parents of young children (Pajulo et al., 2012), in our sample, parental RF was not associated with parent educational attainment or many other demographic variables of interest. In general, these results are encouraging in the sense that they underscore that, like AAI classification and CAI classifications (Bakermans-Kranenburg & van IJzendoorn, 1993; Hesse, 2008; Sagi et al., 1994; Shmueli-Goetz et al., 2008), RF is not significantly associated with many potential confounds.

However, we did find some differences in RF as a function of parent demographics, which we hope will be further explored in future studies. Self-focused RF was higher among parents who were currently married or partnered. Tentatively, we speculate that parents who are currently partnered have higher self-focused RF as a result of having more social support than nonpartnered parents, though this hypothesis should be tested directly in subsequent work. It could also be that higher self-focused RF enables adults to find and retain long-term romantic partners. In future studies it would be interesting to examine whether the ability to mentalize is relationship-specific or indicative of a more general tendency toward greater reflectiveness across relational contexts. Further, it would be interesting to examine spillover

effects from one relationship to another, for example, by evaluating bidirectional associations between parental RF and romantic relationship quality and satisfaction.

We also found that child-focused RF was higher among parents identifying as White/non-Hispanic than among parents identifying as African American or Hispanic, though this difference was only marginally significant after controlling for family income ($p = .06$). Self-focused RF did not differ as a function of parent race/ethnicity. Importantly, we urge researchers to continue to examine racial/ethnic group differences in parental RF in future investigations, as well as to continue to evaluate whether the associations between parental RF and child outcomes vary as a function of parent race/ethnicity.

Parental RF and Attachment Security

In our previous work, we identified that self-focused, but not child-focused RF, was significantly associated with sensitive caregiving behavior (Suchman et al., 2010). In this study we did not measure caregiving behavior, so it is possible that the self-focused RF would still be associated with caregiving among parents of school-age children. However, we found that child-focused RF alone was significantly associated with child attachment security, whereas neither child-focused nor self-focused RF was associated with parent self-reported attachment-security (avoidance and anxiety).

The observed cross-sectional association between parental child-focused RF and child attachment security is consistent with our predictions and with developmental models of attachment (Fonagy et al., 1991; Suchman et al., 2010). It is also interesting to note that child-focused RF is most strongly positively associated with the CAI scales of emotional openness and use of examples, and negatively associated with scales closely tied to dismissing attachment (idealization, dismissal). Further, zero-order correlations revealed that self-focused RF was significantly negatively associated with some CAI scales related to dismissing attachment, but was not significantly associated with the overall summary narrative coherence scale.

That child-focused but not parent-focused RF was associated with child attachment security may speak to the importance of understanding one’s specific child, as well as the unique experiences the child has outside of the realm of the parent–child relationship. It would be illuminating in future work to further differentiate child-focused mentalization into that which occurs for situations during which the parent was physically present (e.g., conflicts with parents) as opposed to situations not involving the parent (e.g., conflicts with peers). Further, it would also be interesting to examine whether parental RF differs when parents mentalize in positive versus negative emotional contexts. It is possible that different dimensions of parental RF are more or less strongly associated with child attachment security and that this association varies by the child’s developmental stage.

In this sample, neither dimension of parental RF was significantly associated with parent attachment avoidance or anxiety. This result is difficult to interpret for several reasons. First of all, for parents, attachment was measured from their self-reported romantic attachment style on the ECR-R. To date there is no self-report measure of parenting attachment style available, and although theoretically, attachment style is thought to generalize to all types of

attachment relationships (Bowlby, 1988; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000), this proposal is untested within the attachment style literature. Therefore, it is unclear the extent to which parents' attachment avoidance and anxiety in the context of romantic relationships translates to their mental representations of their relationships with their children or their parenting behavior. Further, though preliminary evidence suggests that parents' romantic attachment style is associated with caregiving-related constructs (e.g., Jones et al., 2015), including parental empathy and child attachment security on the CAI (Stern et al., 2015), in this sample ECR was not associated with narrative coherence on the CAI or parental RF. In future work, it will be important to evaluate the association between parental RF and parents' AAI-derived attachment.

Second, our method of assessing parent attachment security differed from the method we used to assess child attachment security. Parents completed self-report assessments of attachment style and children completed semistructured interviews which trained coders then rated for attachment security. Although self-report measures are commonly used to assess attachment security and have an extensive base of empirical support (e.g., Bernier & Dozier, 2002; Brennan, Clark, & Shaver, 1998; Roisman et al., 2007), this method requires that individuals have the ability to consciously appraise their behaviors (Jacobvitz, Curran, & Moller, 2002). Interview-based or representational measures of attachment security, on the other hand, can reveal variability in psychological states that exists outside of conscious awareness and, as behavioral samples, are not susceptible to the limitations of self-report (Jacobvitz et al., 2002). It is important to note that self-reported assessments of attachment are typically only weakly related to interview-based assessments of attachment, leading researchers to conclude that each form of measurement (self-report, interview) assesses important but distinct constructs (Crowell, Fraley, & Shaver, 1999; Riggs et al., 2007; Roisman et al., 2007). The method we employed for assessing parental RF in this study derives from the research tradition in which interview-based assessments are emphasized; therefore, it should not be any surprise that parental RF was significantly associated with child, but not parent, attachment security. In future work it will be essential to evaluate whether RF among parents of school-age children is associated with parents' attachment as assessed on the AAI, as well as whether self-reports of parental RF are associated with self-reported attachment style.

Perhaps our most intriguing finding was that child-focused RF was an indirect effect in the link between parent attachment avoidance and child attachment security—that is, when parent avoidance was associated with child attachment insecurity, this association was explained through low levels of child-focused RF. This finding adds to accumulating evidence that parental RF explains the association between parent and child attachment security (Slade, Grienenberger, et al., 2005), building upon theoretical models suggesting that RF explains this attachment security transmission (Fonagy et al., 2002). Although cross-sectional, these findings are exciting in extending previous work among parents of young children to parents of school-age children, which we hope will inspire longitudinal studies examining parental RF as a mediator of the link between parent and child attachment security.

Our findings provide an initial glimpse into the interrelations between attachment and RF among parents of school-age children, and, as such, generate exciting new research questions. For instance, in future work it will be important to evaluate the association between parents' RF during the school-aged years and children's attachment security after statistically controlling for parents' RF during children's infancy and toddlerhood. It is possible that the cross-sectional associations between parental RF and child attachment actually mask a more powerful prospective association between parental RF during the child's younger years and school-age children's attachment security. On the other hand, perhaps parental RF during this developmental stage uniquely contributes to the prediction of children's attachment security, or that different aspects of parental RF (i.e., child-focused as opposed to self-focused) become more strongly associated with child attachment security during this stage.

Limitations and Strengths

It is important to interpret our findings in the context of the study's design. First, the study was cross-sectional and correlational, obfuscating our ability to infer causality or temporal precedence. Longitudinal investigations will be invaluable in continuing to build developmental models of RF and attachment security. In future work it will be interesting to examine the directionality of the association between parental RF and child attachment security. Our cross-sectional design only permits us to ascertain that the two are correlated, but knowing whether the association is unidirectional (i.e., parental RF prospectively predicts child attachment security but not the other way around, or child attachment security prospectively predicts parental RF but not the other way around) or bidirectional at this stage will help to inform developmental theories. It is possible that secure children facilitate the parent's ability to mentalize on their behalf and make this type of RF more rewarding for parents, but this is as yet untested.

Second, our sample consisted mostly of mothers (83%), which precluded us from being able to ascertain the links between paternal RF and attachment security. Although this discrepancy is not surprising since our recruitment strategy specifically focused on primary caregivers, it does limit our ability to speak to parental RF among fathers. Understanding the links between paternal RF and attachment security is an important next step, and we hope that future studies will consider the role of paternal RF across children's development.

Further, it will be interesting to examine whether the association between parental RF and child attachment security varies as a function of parent and child sex, as well as whether this association varies as a function of the child's developmental stage. For instance, RF of the gender-matched parent may become increasingly important to the child as the child nears adolescence and undergoes sex-specific physical changes, such that the association between the sex-matched parent may be more strongly associated with child attachment security than sex-mismatched parents. This type of finding could speak to the importance of proximal factors in influencing current child attachment security.

A final limitation is that the CAI measure has only been in existence for 12 years. Although evidence of the CAI's validity is increasing over time (e.g., Borelli et al., 2015; Venta, Shmueli-Goetz, & Sharp, 2014), additional evidence is needed to bolster its validity and

stability. Further, as stated above, the use of a self-report measure to assess parental attachment style may have precluded our ability to find associations between parent attachment and parental RF.

The strengths of our study include the use of an ethnically and socioeconomically diverse sample. To date, studies on RF have used mostly homogeneous samples (e.g., Grienenberger et al., 2005; Slade, Grienenberger, et al., 2005); our use of a diverse sample strengthens the generalizability of the findings. Further, the diversity of the sample enabled us to examine differences in parental RF among parents of different racial/ethnic groups. The fact that child-focused RF differed across these groups renders inclusion of a diverse sample of parent–child dyads an important part of a comprehensive examination of parental RF. Further, our use of gold-standard, time-intensive assessment tools for parental RF and child attachment increases confidence in our findings. Finally, the fact that we differentiated between two different components of parental RF and examined their associations with parent and child attachment enables us to be more specific in the conclusions we draw about parental RF.

Implications for Prevention, Intervention, and Policy

Our findings, if replicated and extended using longitudinal designs, have significant implications for prevention, intervention, and policy. Policymakers are constantly in search of factors that prevent risk or promote mental health in children, oftentimes with a focus on enhancing parent–child relationships. Refining theoretical conceptualizations regarding the role of different parental capacities in promoting psychological adjustment in children is an important part of this process.

For instance, many existing parenting programs focus more centrally (or even exclusively) on enhancing parental sensitivity rather than RF (Klein Velderman et al., 2006; Marvin et al., 2002). However, given that the parenting behaviors that constitute sensitivity change form across a child's development, and given that parental RF may itself innervate sensitive responding across the child's development, promoting RF may be a higher priority than promoting behavioral sensitivity. Further, Grienenberger has developed a group therapy protocol for promoting parental RF among parents of young children (Grienenberger et al., 2004); as opposed to individual psychotherapy, this format reaches more parents at one time and conserves costs. Currently, the Reflective Parenting Program is implemented in multiple community mental health settings in the Los Angeles area. We believe that our findings add to the body of research suggesting that efforts such as these ought to receive high priority for funding, and that similar programs for parents of older children would also be a valuable addition to existing services for at-risk parents.

Further, given the emerging evidence for the importance of parental RF in early and now middle childhood, creative ideas for enhancing RF that can reach at-risk parents using low-cost methods ought to be pursued. For instance, can RF be promoted in primary care settings? Well-baby check-ups involve asking about health behaviors of parents and infants; could these assessments also involve asking questions or making statements about the child's and parent's emotional worlds (e.g., [following an immunization] Your child must have been scared when that happened—no wonder he was grabbing on to you so tightly;

How are you feeling now that she is teething—that can frazzle any parent—are you holding up okay?). Further, these same methods of inquiring about the child's mental states could be pursued via public service messages. Though we would not expect these methods to be as powerful in enhancing parental RF as targeted prevention or intervention programs, given the established link between parental RF and children's psychosocial adjustment, any improvement could be valuable. In sum, we believe our results uphold the argument for continuing to support existing parental RF programs and to think of novel ways of expanding access to such programs.

Conclusion

In this study, we provide the first report of self- and child-focused RF among parents of school-age children, documenting a concurrent positive association between parents' child-focused RF and children's attachment security. Further, child-focused RF is an indirect effect explaining the relationship between parent attachment avoidance and child attachment security. Our work extends prior studies on RF among parents of toddlers to a new developmental stage and raises myriad questions for future investigation.

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References

Ainsworth MD. Infant—mother attachment. American Psychologist. 1979; 34:932–937. http://dx.doi.org/10.1037/0003-066X.34.10.932. [PubMed: 517843]

Ainsworth, MDS.; Blehar, M.; Waters, E.; Wall, S. Patterns of attachment: A psychological study of the Strange Situation. Lawrence Erlbaum; Hillsdale, NJ: 1978.

Allen, JG.; Fonagy, P.; Bateman, AW. Mentalizing in clinical practice. American Psychiatric Press; Washington, DC: 2008.

Ammaniti M, Dazzi N. Attaccamento e processi di mentalizzazione. Presentazione [Attachment and mentalizing processes]. Psicologia Clinica dello Sviluppo. 1999; 3:101–107.

Aureli T, Presaghi F. Developmental trajectories for mother–infant coregulation in the second year of life. Infancy. 2010; 15:557–585. http://dx.doi.org/10.1111/j.1532-7078.2010.00034.x.

Bakermans-Kranenburg MJ, van IJzendoorn MH. A psychometric study of the Adult Attachment Interview: Reliability and discriminant validity. Developmental Psychology. 1993; 29:870–879. http://dx.doi.org/10.1037/0012-1649.29.5.870.

Beebe B, Jaffe J, Markese S, Buck K, Chen H, Cohen P, Feldstein S. The origins of 12-month attachment: A microanalysis of 4-month mother-infant interaction. Attachment & Human Development. 2010; 12:3–141. http://dx.doi.org/10.1080/14616730903338985. [PubMed: 20390524]

Bell RQ. A reinterpretation of the direction of effects in studies of socialization. Psychological Review. 1968; 75:81–95. http://dx.doi.org/10.1037/h0025583. [PubMed: 4870552]

Benbassat N, Priel B. Parenting and adolescent adjustment: The role of parental reflective function. Journal of Adolescence. 2012; 35:163–174. http://dx.doi.org/10.1016/j.adolescence.2011.03.004. [PubMed: 21497896]

Bernier A, Dozier M. Assessing adult attachment: Empirical sophistication and conceptual bases. Attachment & Human Development. 2002; 4:171–179. http://dx.doi.org/10.1080/14616730210157457. [PubMed: 12467509]

Borelli, JL.; Ramsook, KA.; Smiley, P.; Bond, DK.; West, JL.; Buttitta, KV. Linguistic matching among mother–child dyads. 2015. Manuscript submitted for publication

Borelli, JL.; Somers, J.; West, J.; Coffey, JK.; Smiley, P.; Salim, R.; Shmueli-Goetz, Y. Divergent validity of the child attachment interview. Invited lecture in K. A. Kerns (Chair), Attachment in middle childhood: Signs of maturity. Paper presented at the International Attachment Conference; New York, NY. Aug. 2015

Bowlby, J. Attachment and loss: Separation: Anxiety and anger. Vol. Vol. 2. Basic Books; New York, NY: 1973.

Bowlby, J. The making and breaking of affectional bonds. Tavistock; London, England: 1979.

Bowlby, J. A secure base. Basic Books; New York, NY: 1988.

Brennan KA, Clark CL, Shaver PR. Self-report measurement of adult attachment. Attachment theory and close relationships. 1998:46–76.

Burkhart M, Borelli JL, Rasmussen HF, Sbarra DA. Cherish the good times: Relational savoring in parents of infants and toddlers. Personal Relationships. 2015 Advance online publication. http://dx.doi.org/10.1111/pere.12104.

Cohn JF, Tronick EZ. Mother—infant face-to-face interaction: Influence is bidirectional and unrelated to periodic cycles in either partner's behavior. Developmental Psychology. 1988; 24:386–392. http://dx.doi.org/10.1037/0012-1649.24.3.386.

Crowell, JA.; Fraley, RC.; Shaver, PR. Measurement of individual differences in adolescent and adult attachment. In: Cassidy, J.; Shaver, PR., editors. Handbook of attachment: Theory, research, and clinical applications. Guilford Press; New York, NY: 1999. p. 434-465.

Cummings EM, Davies PT. Maternal depression and child development. Journal of Child Psychology and Psychiatry, and Allied Disciplines. 1994; 35:73–112. http://dx.doi.org/10.1111/j.1469-7610.1994.tb01133.x.

De Wolff MS, van Ijzendoorn MH. Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. Child Development. 1997; 68:571–591. http://dx.doi.org/10.1111/j.1467-8624.1997.tb04218.x. [PubMed: 9306636]

Esbjørn BH, Pedersen SH, Daniel SI, Hald HH, Holm JM, Steele H. Anxiety levels in clinically referred children and their parents: Examining the unique influence of self-reported attachment styles and interview-based reflective functioning in mothers and fathers. British Journal of Clinical Psychology. 2013; 52:394–407. http://dx.doi.org/10.1111/bjc.12024. [PubMed: 24117912]

Fonagy, P.; Gergely, G.; Jurist, EL.; Target, M. Affect regulation, mentalization, and the development of the self. Other Press; New York, NY: 2002.

Fonagy P, Steele H, Steele M. Maternal representations of attachment during pregnancy predict the organization of infant—mother attachment at one year of age. Child Development. 1991; 62:891–905. http://dx.doi.org/10.2307/1131141. [PubMed: 1756665]

Fonagy P, Steele M, Steele H, Moran GS, Higgitt AC. The capacity for understanding mental states: The reflective self in parent and child and its significance for security of attachment. Infant Mental Health Journal. 1991; 12:201–218. http://dx.doi.org/10.1002/1097-0355(199123)12:3s<201::AID-IMHJ2280120307>3.0.CO;2-7.

Fonagy P, Target M. Attachment and reflective function: Their role in self-organization. Development and Psychopathology. 1997; 9:679–700. http://dx.doi.org/10.1017/S0954579497001399. [PubMed: 9449001]

Fonagy P, Target M. Mentalization and the changing aims of child psychoanalysis. Psychoanalytic Dialogues. 1998; 8:87–114. http://dx.doi.org/10.1080/10481889809539235.

Fonagy, P.; Target, M.; Steele, H.; Steele, M. Reflective-functioning manual, Version 5.0, for application to adult attachment interviews. University College London; London, England: 1998.

Fraley RC, Waller NG, Brennan KA. An item response theory analysis of self-report measures of adult attachment. Journal of Personality and Social Psychology. 2000; 78:350–365. http://dx.doi.org/10.1037/0022-3514.78.2.350. [PubMed: 10707340]

Gardner F, Burton J, Klimes I. Randomised controlled trial of a parenting intervention in the voluntary sector for reducing child conduct problems: Outcomes and mechanisms of change. Journal of Child Psychology and Psychiatry. 2006; 47:1123–1132. http://dx.doi.org/10.1111/j.1469-7610.2006.01668.x. [PubMed: 17076751]

George, C.; Kaplan, N.; Main, M. Adult Attachment Interview protocol. University of California; Berkeley, CA: 1996. Unpublished manuscript

Grienenberger JF, Kelly K, Slade A. Maternal reflective functioning, mother-infant affective communication, and infant attachment: Exploring the link between mental states and observed caregiving behavior in the intergenerational transmission of attachment. Attachment & Human Development. 2005; 7:299–311. http://dx.doi.org/10.1080/14616730500245963. [PubMed: 16210241]

Grienenberger, J.; Popek, P.; Stein, S.; Solow, J.; Morrow, M.; Levine, N.; Lehman, J. The Wright Institute reflective parenting program workshop training manual. The Wright Institute; Los Angeles, CA: 2004. Unpublished manual

Hayes AF. Beyond Baron and Kenny: Statistical analysis in the new millennium. Communication Monographs. 2009; 76:408–420. http://dx.doi.org/10.1080/03637750903310360.

Hayes, AF. PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. 2012. Retrieved from http://www.afhayes.com/public/process2012.pdf

Heinicke CM. Toward generic principles of treating parents and children: Integrating psychotherapy with the school-aged child and early family intervention. Journal of Consulting and Clinical Psychology. 1990; 58:713–719. http://dx.doi.org/10.1037/0022-006X.58.6.713. [PubMed: 2292621]

Hesse, E. The Adult Attachment Interview: Protocol, method of analysis, and empirical studies. In: Cassidy, J.; Shaver, P., editors. Handbook of attachment: Theory, research, and clinical applications. 2nd ed. Guilford Press; New York, NY: 2008. p. 552-598.

Jacobvitz D, Curran M, Moller N. Measurement of adult attachment: The place of self-report and interview methodologies. Attachment & Human Development. 2002; 4:207–215. http://dx.doi.org/10.1080/14616730210154225. [PubMed: 12467514]

Jaffe J, Beebe B, Feldstein S, Crown CL, Jasnow MD. Rhythms of dialogue in infancy: Coordinated timing in development. Monographs of the Society for Research in Child Development. 2001; 66(2):1–132.

Jones JD, Cassidy J. Parental attachment style: Examination of links with parent secure base provision and adolescent secure base use. Attachment & Human Development. 2014; 16:437–461. http://dx.doi.org/10.1080/14616734.2014.921718. [PubMed: 24897927]

Jones JD, Cassidy J, Shaver PR. Parents' self-reported attachment styles: A review of links with parenting behaviors, emotions, and cognitions. Personality and Social Psychology Review. 2015; 19:44–76. http://dx.doi.org/10.1177/1088868314541858. [PubMed: 25024278]

Kerns, KA.; Schlegelmilch, A.; Morgan, TA.; Abraham, MM. Assessing attachment in middle childhood. In: Kerns, KA.; Richardson, RA., editors. Attachment in middle childhood. Guilford Press; New York, NY: 2005. p. 46-70.

Klein Velderman M, Bakermans-Kranenburg MJ, Juffer F, Van Ijzendoorn MH, Mangelsdorf SC, Zevalkink J. Preventing preschool externalizing behavior problems through video-feedback intervention in infancy. Infant Mental Health Journal. 2006; 27:466–493. http://dx.doi.org/10.1002/imhj.20104.

Kopp CB. Antecedents of self-regulation: A developmental perspective. Developmental Psychology. 1982; 18:199–214. http://dx.doi.org/10.1037/0012-1649.18.2.199.

Kopp CB. Regulation of distress and negative emotions: A developmental view. Developmental Psychology. 1989; 25:343–354. http://dx.doi.org/10.1037/0012-1649.25.3.343.

Koulomzin M, Beebe B, Anderson S, Jaffe J, Feldstein S, Crown C. Infant gaze, head, face and self-touch at 4 months differentiate secure vs. avoidant attachment at 1 year: A microanalytic approach. Attachment & Human Development. 2002; 4:3–24. http://dx.doi.org/10.1080/14616730210123120. [PubMed: 12065027]

Landry SH, Smith KE, Swank PR, Guttentag C. A responsive parenting intervention: The optimal timing across early childhood for impacting maternal behaviors and child outcomes. Developmental Psychology. 2008; 44:1335–1353. http://dx.doi.org/10.1037/a0013030. [PubMed: 18793067]

Marvin R, Cooper G, Hoffman K, Powell B. The Circle of Security Project: Attachment-based intervention with caregiver-pre-school child dyads. Attachment & Human Development. 2002; 4:107–124. http://dx.doi.org/10.1080/14616730252982491. [PubMed: 12065033]

Mayseless, O. Ontogeny of attachment in middle childhood: Conceptualization of normative changes. In: Kerns, KA.; Richardson, RA., editors. Attachment in middle childhood. Guilford; New York, NY: 2005. p. 1-23.

Mikulincer M, Shaver PR, Pereg D. Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. Motivation and Emotion. 2003; 27:77–102. http://dx.doi.org/10.1023/A:1024515519160.

Pajulo M, Pyykkönen N, Kalland M, Sinkkonen J, Helenius H, Punamäki RL, Suchman N. Substance-abusing mothers in residential treatment with their babies: Importance of pre-and postnatal maternal reflective functioning. Infant Mental Health Journal. 2012; 33:70–81. http://dx.doi.org/10.1002/imhj.20342. [PubMed: 22899872]

Raffaelli M, Crockett LJ, Shen YL. Developmental stability and change in self-regulation from childhood to adolescence. The Journal of Genetic Psychology: Research and Theory on Human Development. 2005; 166:54–76. http://dx.doi.org/10.3200/GNTP.166.1.54-76.

Riggs SA, Paulson A, Tunnell E, Sahl G, Atkison H, Ross CA. Attachment, personality, and psychopathology among adult in-patients: Self-reported romantic attachment style versus Adult Attachment Interview states of mind. Development and Psychopathology. 2007; 19:263–291. http://dx.doi.org/10.1017/S0954579407070149. [PubMed: 17241494]

Roisman GI, Holland A, Fortuna K, Fraley RC, Clausell E, Clarke A. The Adult Attachment Interview and self-reports of attachment style: An empirical rapprochement. Journal of Personality and Social Psychology. 2007; 92:678–697. http://dx.doi.org/10.1037/0022-3514.92.4.678. [PubMed: 17469952]

Rubin, K.; Bukowski, W.; Parker, J. Peer interactions, relationships, and groups. In: Damon, W.; Eisenberg, N., editors. Handbook of child psychology: Vol. 3. Social, emotional, and personality development. 5th ed. Wiley; New York, NY: 1998. p. 621-700.

Saarni C. An observational study of children's attempts to monitor their expressive behavior. Child Development. 1984; 55:1504–1513. http://dx.doi.org/10.2307/1130020.

Sagi A, van IJzendoorn MH, Scharf M, Koren-Karie N, Joels T, Mayseless O. Stability and discriminant validity of the Adult Attachment Interview: A psychometric study in young Israeli adults. Developmental Psychology. 1994; 30:771–777. http://dx.doi.org/10.1037/0012-1649.30.5.771.

Sher, KJ.; Grekin, ER. Alcohol and affect regulation. In: Gross, JJ., editor. Handbook of emotion regulation. Guilford Press; New York, NY: 2007. p. 560-580.

Shmueli-Goetz, Y.; Target, M.; Datta, A.; Fonagy, P. Child Attachment Interview (CAI) coding and classification manual, Version V. Department of Clinical Health Psychology, University College London; London, England: 2004. Unpublished manuscript

Shmueli-Goetz Y, Target M, Fonagy P, Datta A. The Child Attachment Interview: A psychometric study of reliability and discriminant validity. Developmental Psychology. 2008; 44:939–956. http://dx.doi.org/10.1037/0012-1649.44.4.939. [PubMed: 18605826]

Slade A. Parental reflective functioning: An introduction. Attachment & Human Development. 2005; 7:269–281. http://dx.doi.org/10.1080/14616730500245906. [PubMed: 16210239]

Slade, A.; Aber, JL.; Berger, B.; Bresgi, I.; Kaplan, M.; Borelli, JL. Parent Development Interview-Revised: Adapted for use with parents of school-aged children (PDI-R-SC). 2009. Unpublished manuscript

Slade, A.; Aber, JL.; Bresgi, I.; Berger, B.; Kaplan, M. The Parent Development Interview—Revised. City University of New York; New York, NY: 2004. Unpublished protocol

Slade A, Grienenberger J, Bernbach E, Levy D, Locker A. Maternal reflective functioning, attachment, and the transmission gap: A preliminary study. Attachment & Human Development. 2005; 7:283–298. http://dx.doi.org/10.1080/14616730500245880. [PubMed: 16210240]

Slade A, Sadler L, De Dios-Kenn C, Webb D, Currier-Ezepchick J, Mayes L. Minding the baby: A reflective parenting program. The Psychoanalytic Study of the Child. 2005; 60:74–100. [PubMed: 16649676]

Stern JA, Borelli JL, Smiley PA. Assessing parental empathy: A role for empathy in child attachment. Attachment & Human Development. 2015; 17:1–22. http://dx.doi.org/10.1080/14616734.2014.969749. [PubMed: 25373381]

Suchman N, Decoste C, Castiglioni N, Legow N, Mayes L. The Mothers and Toddlers Program: Preliminary findings from an attachment-based parenting intervention for substance-abusing mothers. Psychoanalytic Psychology. 2008; 25:499–517. http://dx.doi.org/10.1037/0736-9735.25.3.499. [PubMed: 20057923]

Suchman NE, DeCoste C, Leigh D, Borelli J. Reflective functioning in mothers with drug use disorders: Implications for dyadic interactions with infants and toddlers. Attachment & Human Development. 2010; 12:567–585. http://dx.doi.org/10.1080/14616734.2010.501988. [PubMed: 20931415]

Target M, Fonagy P, Shmueli-Goetz Y. Attachment representations in school-age children: The development of the child attachment interview (CAI). Journal of Child Psychotherapy. 2003; 29:171–186. http://dx.doi.org/10.1080/0075417031000138433.

Tice DM, Bratslavsky E, Baumeister RF. Emotional distress regulation takes precedence over impulse control: If you feel bad, do it! Journal of Personality and Social Psychology. 2001; 80:53–67. http://dx.doi.org/10.1037/0022-3514.80.1.53. [PubMed: 11195891]

van IJzendoorn MH. Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the Adult Attachment Interview. Psychological Bulletin. 1995; 117:387–403. http://dx.doi.org/10.1037/0033-2909.117.3.387. [PubMed: 7777645]

Venta A, Shmueli-Goetz Y, Sharp C. Assessing attachment in adolescence: A psychometric study of the Child Attachment Interview. Psychological Assessment. 2014; 26:238–255. http://dx.doi.org/10.1037/a0034712. [PubMed: 24188145]

Waters E, Merrick S, Treboux D, Crowell J, Albersheim L. Attachment security in infancy and early adulthood: A twenty-year longitudinal study. Child Development. 2000; 71:684–689. http://dx.doi.org/10.1111/1467-8624.00176. [PubMed: 10953934]

Weinfield, NS.; Sroufe, LA.; Egeland, B.; Carlson, E. Individual differences in infant-caregiver attachment: Conceptual and empirical aspects of security. In: Cassidy, J.; Shaver, P., editors. Handbook of attachment: Theory, research, and clinical applications. 2nd ed. Guilford Press; New York, NY: 2008. p. 78-101.

Zhao X, Lynch JG Jr. Chen Q. Reconsidering Baron and Kenny: Myths and truths about mediation analysis. Journal of Consumer Research. 2010; 37:197–206. http://dx.doi.org/10.1086/651257.

Table 1

Means (Standard Deviations) of Attachment and Emotion Related Variables by Child Gender

	Total	Boys	Girls
Measures	***N* = 117**	***n* = 56**	***n* = 61**
Parent age	37.61 (6.33)	38.49 (6.28)	36.81 (6.32)
Child-focused RF	3.63 (.77)	3.55 (.70)	3.70 (.83)
Self-focused RF	3.44 (.77)	3.38 (.64)	3.32 (.88)
ECR-R anxiety	2.81 (1.13)	2.71 (1.12)	2.90 (1.14)
ECR-R avoidance	2.71 (1.10)	2.73 (1.26)	2.69 (.94)
Child age	9.73 (1.50)	9.34 (1.48)	10.08 (1.43)
CAI narrative coherence[a]	5.53 (1.40)	5.15 (1.36)	5.85 (1.38)

Note. RF = reflective functioning; ECR-R = Experiences in Close Relationships–Revised; CAI = Child Attachment Interview.

[a]Narrative coherence = a continuous measure of attachment security on the CAI.

Table 2

Rotated Factor Loadings for Analysis of PDI-R-SC Items

RF questions	Factor 1: (41.49% variance)	Factor 2: (13.56% variance)
Mentalization re: self		
How has having child changed you?	.78	−.48
Have you ever felt needy as a parent?	.50	.22
Have you ever felt angry as a parent?	.82	−.15
What gives you the most pain or difficulty as a parent?	.65	−.54
Mentalization re: child		
Tell me about a time when you and your child really clicked.	.44	.66
Tell me about a time when you and your child really weren't clicking.	.17	.64
Tell me about recent time when your child was really upset.	.51	.80
Describe a recent time when your child needed your attention.	.22	.61

Note. PDI-R-SC = Parent Development Interview–Revised for School-Aged Children; RF = reflective functioning.

Table 3

Correlation Matrix for Key Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Child-focused RF	—															
2. Parent-focused RF	.70**	—														
3. Parent age	−.11	−.07	—													
4. ECR-R anxiety	.01	.00	−.17	—												
5. ECR-R avoidance	−.13	−.07	−.12	.55**	—											
6. Child age	−.11	−.18*	.15	−.03	−.05	—										
7. CAI Emotional openness	.31**	.19*	−.07	−.03	−.13	.15	—									
8. CAI balance	.13	.06	−.11	.21*	.05	.10	.60**	—								
9. CAI use of examples	.29**	.15	−.09	−.09	−.13	.17	.86**	.55**	—							
10. CAI anger with mother	.03	−.04	−.09	.17	.08	−.04	−.09	.12	−.02	—						
11. CAI anger with father	−.06	−.07	.01	.06	.01	−.04	−.09	.20*	−.07	.53**	—					
12. CAI idealization of mother	−.21*	−.14	.09	.10	.13	−.17	−.60**	−.47**	−.66**	−.09	−.08	—				
13. CAI idealization of father	−.11	−.06	−.04	.04	.02	−.22*	−.52**	−.55**	−.52**	.03	−.14	.68**	—			
14. CAI dismissing of mother	−.28**	−.19*	.05	.01	.07	.03	−.79**	−.47**	−.70**	−.01	−.05	.37**	.30**	—		
15. CAI dismissing of father	−.31**	−.19*	.06	.00	.08	−.01	−.77**	−.46**	−.71**	.01	.00	.35**	.35**	.93**	—	
16. CAI conflict resolution	.20*	.10	.06	−.19*	−.28*	.20*	.60**	.29**	.57**	−.59**	−.38**	−.40**	−.43**	−.37**	−.40**	—
17. CAI coherence	.29**	.17	−.08	−.05	−.14	.20*	.88**	.58**	.86**	−.28**	−.19*	−.63**	−.59**	−.70**	−.73**	.75**

Note. RF = reflective functioning; ECR-R = Experiences in Close Relationships–Revised; CAI = Child Attachment Interview.

* $p < .05$.

** $p < .01$.

Table 4

Hierarchical Regression Examining the Association Between Parental RF and Child Attachment Security

	b	*SE*	*t*	CI
Step 1				
Child gender	.60	.26	2.29*	[.08, 1.11]
Child age	.14	.09	1.59	[−.03, .31]
Δ R^2	.08*			
Step 2				
Child-focused RF	.47*	.20	2.38*	[.08, .85]
Parent-focused RF	.07	.20	.36	[−.32, .46]
Δ R^2	.08*			

Note. RF = reflective functioning; CI = 95% confidence interval.

* p < .05.