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The Intergenerational Transmission of Mentalization: How Parental Reflective Function on the Parent Development Interview relates to Child Mentalization on the Thematic Apperception Test

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The Intergenerational Transmission of Mentalization:
How Parental Reflective Function on the Parent Development Interview relates to Child Mentalization on the Thematic Apperception Test

By

Kira Boesch

A dissertation submitted to the Graduate Faculty in Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy,
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2018
THE TRANSMISSION OF MENTALIZATION: HOW PARENT REFLECTIVE FUNCTIONING ON THE PARENT DEVELOPMENT INTERVIEW RELATES TO CHILD MENTALIZATION ON THE THEMATIC APPERCEPTION TEST

by

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This manuscript has been read and accepted for the Graduate Faculty in Psychology to satisfy the dissertation requirement for the degree of Doctor of Philosophy.

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THE CITY UNIVERSITY OF NEW YORK
ABSTRACT
The Transmission of Mentalization: How Parental Reflective Function on the Parent Development Interview Relates to Child Mentalization on the Thematic Apperception Test

By Kira Boesch

Chair: Steven Tuber, Ph.D.

Mentalization is defined as the metacognitive ability to think about one’s own and other’s thoughts and feelings, with the goal of comprehending behavior (Benbassat & Priel, 2012). Mentalization is associated with secure attachment, and is both directly and indirectly linked to multiple social and emotional outcomes. This study looked at the correlation between parent and child mentalization as a means of exploring the impact of parent reflectiveness on children’s’ mentalization capacities.

Methods: This study utilized archival data collected at The Psychological Center, a community mental health clinic at the City College of New York. The sample consisted of 15 parent-child dyads. Data was collected as part of the intake process for children beginning treatment at The Psychological Center. The children in this clinical population ranged in age from 4.5 to 15.

Parent reflective function (RF) was measured using Fonagy’s RF scale (Fonagy, Target, Steele & Steele, 1998) as applied to the Parent Development Interview (Aber, Slade, Berger, Bresgi & Kaplan, 1985). Child mentalization was measured in an original way, using a composite measure of seven scales of the Social Cognition and Object Relations Scale (SCORS; Westen, 2002) as applied to the Thematic Apperception Test (Morgan & Murray, 1935).

Results: This study did not yield any statistically significant results. However, the effect sizes of the correlations indicated a trend by which parent and child mentalization
capacities did appear to be positively associated with one another, with parent reflective function also appearing to be related to various aspects of child object relations.

*Discussion:* Methodological limitations are discussed so as to shed light on directions for future research on this important topic.
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TABLE OF CONTENTS

ABSTRACT .............................................................................................................................. iv
ACKNOWLEDGEMENTS ..................................................................................................... vi
TABLE OF CONTENTS ...................................................................................................... vii
LIST OF TABLES ............................................................................................................... viii
INTRODUCTION ............................................................................................................. 1
LITERATURE REVIEW ..................................................................................................... 3
  Attachment ...................................................................................................................... 3
  Conceptualizations of Parent Reflectiveness ................................................................. 9
  Reflective Function ....................................................................................................... 16
  Attachment and Mentalization ..................................................................................... 19
  Mentalization and Psychopathology ........................................................................... 28
  Mentalization and Self-Development .......................................................................... 30
  Parental Mentalization and Child Theory of Mind/Mentalization Capacities .......... 31
  Present Research ....................................................................................................... 34
METHODS .......................................................................................................................... 35
  Participants .................................................................................................................... 35
  Measures ....................................................................................................................... 36
  Data Analysis ............................................................................................................... 42
  Aims and Hypotheses ................................................................................................. 42
RESULTS ............................................................................................................................. 43
  Demographics ............................................................................................................. 43
  Individual Outcome Measures .................................................................................... 44
  Relationship between Outcome Measures: ............................................................... 46
DISCUSSION ......................................................................................................................... 49
  Hypothesis 1 .............................................................................................................. 50
  Hypothesis 2 .............................................................................................................. 58
  Hypotheses 3 ............................................................................................................. 61
  Hypothesis 4 .............................................................................................................. 61
  Hypothesis 5 .............................................................................................................. 62
  Limitations ................................................................................................................ 67
  Future Directions ....................................................................................................... 69
  Conclusion .................................................................................................................. 72
REFERENCES ....................................................................................................................... 74
LIST OF TABLES

Table 1. Interrater Reliabilities for Raters of TAT with SCORS, using intraclass correlations, average measures, with 95% confidence interval reported..........................45

Table 2. Correlation between Child Age and Composite SCORS value .........................45

Table 3. Correlations between Individual SCORS Scales and Child Age.........................46

Table 4. Correlation between Composite SCORS value and Parental RF on the PDI .....47

Table 5. Correlations between Individual SCORS scales and Parental RF on the PDI....48
INTRODUCTION

For the first many months of a child’s life, he* is literally dependent upon those around him to interpret his needs, wants, desires, and wishes. His inability to express his inner states is not for his want of having them, as anyone who has spent time with a young child can attest. He can think and feel and desire, and yet his ability to express those things remains primitive for several years. Not only can he not yet meet his own needs or satisfy his own wants, he also cannot express them unequivocally. It could be argued that the job of the caretaker of a young child is almost entirely comprised of construing the child’s meanings. Even caring for an infant’s most basic, most physical needs requires this process of interpretation of his inner states. Is that sharp cry indicating the feeling of hunger, of discomfort due to a wet diaper, or the desire for a cuddle?

One can only imagine that in each and every parent-child dyad, this process of interpretation looks a little bit different—that no two caregivers would construe a child’s expressions identically. Luckily, as Winnicott captured in his concept of the “good enough mother” most parents’ versions of responsiveness to their children’s expressions result in a child’s physical and emotional needs being met sufficiently well (Winnicott, 1960). But what are the individual differences that result from the distinct ways in which caregivers’ interpret a young child’s expressions?

It has now been well-documented that parents’ interactions with their children strongly influence children’s social and emotional competencies, including their understanding of their own and others’ minds (e.g. Kårstad, Wichstrøm, Reinfjell, Belsky

* For ease of reading, the male pronoun is used here to represent children of both genders.
& Berg-Nielsen, 2015; Doan & Wang, 2010; Ereky-Stevens, 2008; Taumoepeau & Ruffman, 2008; Racine, Carpendale & Turnbull, 2006; Symons, Fossum & Collins, 2006; Shipman & Zeman, 2001; Ruffman, Perner & Parkin, 1999; Eisenberg, Cumberland & Spinrad, 1998; Gottman, Katz & Hooven, 1996; Denham, Zoller & Couchoud, 1994; Dunn, Brown & Beardsall, 1991a; Dunn, Brown, Slomkowski, Tesla & Youngblade, 1991b; Dix & Lochman, 1990.) As Main (1991) stated, children’s early relationships with their caregivers not only help to shape the content of the child’s mind—what they know—but also ability of the child to use this knowledge. This observation highlights the importance of the emotional tenor of the child’s earliest and most important relationships with his caregivers. It is not just how a caregiver treats ‘emotion’ as a construct, but how the caregiver treats the child, and responds to the child’s emotions, that influence the child’s budding relationship to himself, to others, and to the world of feelings. It is therefore critical to study the way in which parents think about their children and their feelings in the context of the parent-child relationship. The current study proposes to do just that. The extent to which parents reflect on their children’s internal states will be investigated in terms of its effect on their children’s capacity to consider the thoughts and feelings of others. Parent interviews about their children, coded for reflectiveness about their child’s minds, will be correlated with the extent to which children reflect on the minds of others as measured by a storytelling test.

The literature review below will first briefly introduce the construct of attachment, as the backdrop against which the measure of parental reflectiveness used in the current study (reflective function) was developed. It will then introduce the principal constructs that have been used to study the impact of parent reflectiveness on parent-child
relationships. The reciprocal relationship between reflective function and attachment will then be reviewed. The importance of reflective function as an outcome variable will be illustrated through the literature linking reflective function to the creation of a robust sense of self, as well as research that establishes the connection between poor reflective function and risk for psychopathology. Finally, the current research will be presented in the context of recent studies that provide preliminary evidence for the primary hypothesis that parent reflection of the child’s internal states facilitates the development of this same capacity in the child.

LITERATURE REVIEW

Attachment

The attachment system was initially conceptualized by John Bowlby, who viewed it primarily as a means through which human infants receive the protection that they require (Bowlby, 1969.) Bowlby viewed the infant’s attachment behavior with his caregiver as evolutionarily-driven, yet nevertheless experienced by the infant as a more or less satisfying emotional relationship. Bowlby and the attachment theorists who succeeded him suggested that children internalize elements of their earliest relationships, forming “internal working models” or mental representations of what close relationships are like (Bowlby, 1969; Bretherton, 1992).

Mary Ainsworth’s pioneering research established a system for identifying individual differences in infant’s attachment patterns in the context of the relationship with their primary caregivers (Ainsworth, Blehar, Waters & Wall, 1978). Ainsworth developed the research paradigm commonly referred to as “strange situation” in which an
infant’s behavior is observed over a series of separations and reunions with her caregiver (Ainsworth, 1970). Ainsworth’s empirically-derived classification system remains in use today. In this system, secure attachment is contrasted with three types of insecure attachment— insecure avoidant, insecure resistant and disorganized attachment. Secure, insecure avoidant and insecure resistant attachments describe organized patterns of response to separations from the primary caregiver. In contrast, the category of disorganized attachment represents a lack of a systematic response to separation distress on the part of the infant (Main & Hesse, 1990.) In the case of a secure attachment, the infant can trust that his needs will be met by his caregiver. The parent has been reliably present for the infant in a predictable fashion. This allows for the infant’s use of the parent as a secure base from which to explore the surrounding environment with maximal freedom and flexibility (Ainsworth & Bell, 1970). In contrast, babies classified as insecure avoidant are thought to be overregulating their needs for closeness, comfort and security (Slade, 2000). Behaviorally, they favor an interest in the world of objects over expression of their needs for connection with others. Infants classified as insecure resistant demonstrate ambivalent feelings toward their mothers upon reunion in the strange situation, a manifestation of dysregulated emotions in which a need for closeness is manifest alongside anger at the mother for leaving (Slade, 2000).

Based on Bowlby’s original notion of internal working models, Main, Kaplan and Cassidy (1985) argued for individual differences in attachment organization to be viewed instead as individual differences in the mental representation of attachment. This reconceptualization opened the door to empirically studying attachment classifications in
adults by analyzing their narratives about relationships. Main et al., (1985) introduced the Adult Attachment Interview in order to do just that.

*The Adult Attachment Interview.*

The AAI is a semi-structured interview that asks adults 15 standardized questions pertaining to their relationships with their parents. The interview asks that adults report on aspects of their relationships to their parents when they were children, yet it demands that parents reflect on their memories from their present perspective (van IJzendoorn, 1995). Adults are prompted to provide specific memories to support their more general statements (Main et al., 1985).

The AAI does not measure the security of the adult’s attachment relationship to their parents per se. Rather, it was designed to assess the adult’s *present* state of mind with respect to attachment, or in other words, her mental representation of how information about close relationships is internally organized, approached, or avoided (van IJzendoorn, 1995). The AAI was developed for use with parents under the assumption that individual differences in parents’ mental representations of attachment would affect their response to their child’s attachment signals and thus have a large affect on the nature of the child’s attachment relationships (Slade, Grienenberger, Bernbach, Levy & Locker, 2004). As a result, the three major classifications of adult mental attachment representations are based upon the organized categories of infant attachment.

The classification of *secure* is given to adults who provide clear narratives that are well-supported by their examples and memories, and thus are deemed to be coherent in their evaluation of their past experiences, regardless of the nature of those experiences or early relationships themselves (Van IJzendoorn, 1995). The *dismissing* classification is
assigned to narratives in which the participant seems to minimize their attention to attachment-related feelings and experiences, and often reports difficulty remembering things pertaining to their attachment relationships (Slade, Grienenberger, Bernbach, Levy & Locker, 2005; Main et al., 1985.) A participant classified as dismissive may provide descriptions of parents that either lack support or are even directly contradicted within the narrative, without the conscious realization of this by the interviewee (Slade et al., 2005b). Finally, the preoccupied classification is reserved for participants who seem to be attending too much to attachment-related phenomena, demonstrating preoccupation with attachment figures and sometimes displaying heightened affect with regard to their caregivers. Their narratives tend to be long and to digress from the issue at hand, at times even appearing nonsensical. Adults whose narratives are categorized as dismissing and preoccupied are considered to have insecure mental representations of attachment relationships (Main et al., 1985). Following Main et al.’s (1985) initial qualitative study, a fourth classification was established, which is usually referred to as unresolved. This classification is assigned to parents who cannot be classified in any of the other three categories (Main & Hesse, 1990).

These adult attachment classifications have been shown to be stable over time. Ward Carlson and Altman (1992, as cited in Benoit & Parker, 1994) demonstrated that the AAI classifications remained stable for adolescent mothers between pregnancy and a second AAI administration 18 months later. Bakermans-Kranenburg and Van IJzendoorn (1993) found that 78% of AAI classifications from AAI’s administered two months apart were concordant in a sample of mothers in the Netherlands. Benoit and Parker (1994) replicated this result with a sample of Caucasian mothers from middle to upper middle
class homes. They found that when mothers were administered the AAI during the last month of pregnancy and again when their babies were 12 months old, the concordance between the two classifications assigned was 77%. Furthermore, when looking only at the three resolved categories of attachment classifications, the authors observed a 90% concordance rate within individuals. In this last sample, Benoit and Parker (1994) found that a secure attachment classification was more likely to endure than an insecure classification.

One of the main demonstrations of the empirical strength of the AAI has been its consistent ability to predict the attachment classification of infants based on the AAI classification of their parents. The following section will review this robust literature.

*The Intergenerational Transmission of Attachment*

Numerous studies performed across diverse countries and populations have demonstrated that secure attachment is transmitted across generations. Main et al., (1985) first demonstrated this in a longitudinal study. In a sample of mothers drawn from the Berkeley Social Development Project, they found that parent-infant attachment status when the child was 12-18 months old was significantly correlated with their parents’ attachment classification on the AAI 5 years later. This finding was stronger for mothers, with a correlation of $r = .62$, but significant for both parents nevertheless (father AAI classification was correlated with infant-father attachment security with a Pearson correlation of $r = .37$).

Van IJzendoorn, Kranenburg, Zwart-Woudstra, and Van Busschbach, (1991) replicated this finding on a sample of parents in the Netherlands. Like Main et al., (1985), they administered the AAI to parents *following* the assessment of attachment security of
parents to their infants, in this case two years later. They found a very strong association between the AAI classification of mothers and the attachment security of their infants. 77% of the infants could be classified as either secure or insecure as a function of their mother’s AAI classification as autonomous or nonautonomous. In contrast, only 62% of infants could be classified on the basis of paternal AAI classification, a number that only approached statistical significance (van IJzendoorn et al., 1991).

Benoit and Parker (1994) again replicated this finding but with the important difference of the mother’s AAI classification being assessed during her pregnancy, prior to the assessment of her infant’s attachment status more than one year later. The authors found that the concordance rate was 68% when all four AAI classifications were utilized and 81% using only the original three resolved categories of attachment organization. The researchers furthermore found a significant concordance between grandmothers’ and mothers’ AAI classifications in 81 dyads using the 3-category classification system.

Ward and Carlson (1995) extended these findings to a sample of economically disadvantaged adolescent women primarily of minority status. In this study the AAI was administered during the 3rd trimester of pregnancy, and infants were observed in the strange situation at 15 months of age. There was a correspondence rate of 78% between autonomous/nonautonomous classification on the AAI for the adolescent mothers and secure/insecure infant attachment. Furthermore, 73% of moms classified as dismissing had avoidant infants, 86% of moms classified as autonomous had secure infants, 60% of moms classified as preoccupied had resistant infants, and 43% of moms classified as unresolved had disorganized infants.
Finally, in his extensive review, van IJzendoorn (1995) further established that the effect size for the relationship between parental and child attachment was impressively large, with an effect size of 1.06 for the secure/insecure split in a sample of 854 dyads across 18 studies, including some of those detailed above. These strong findings present the question of what the mechanism for the transmission of attachment may be. In his review, Van IJzendoorn (1995) not only looked at the transmission of attachment across generations, but also performed a meta-analysis of studies linking the AAI to parental sensitivity/responsiveness given that sensitivity has often been theorized to be an important mechanism through which attachment may be transmitted. However, van IJzendoorn found unconvincing evidence for parent responsiveness as a mediator of attachment transmission. In subsequent studies, parental reflective function has emerged as a strong contender. These studies will be detailed below in the section on mentalization and attachment, following an introduction of mentalization and related concepts.

**Conceptualizations of Parent Reflectiveness**

There are several constructs that have been developed as lenses through which to examine parental responsiveness to their children’s internal states. Three such constructs are Mind-Mindedness (MM), developed by Meins (1997), Parental-Meta-Emotion Philosophy (PMEP), developed by Gottman and colleagues (1996), and Mentalization, developed by Fonagy and colleagues (1991). These three constructs can be seen as measuring discrete but overlapping concepts. Given their overlap, each of these constructs is sometimes referred to as “mentalization” within studies, even though that
name originally was within the theoretical terminology developed by Fonagy and colleagues.

*Mind-mindedness*

Mind-mindedness refers to “the proclivity to treat one’s infant as an individual with a mind, capable of intentional behavior” (Meins et al., 2002, p. 1716). It is operationalized during the infant’s first year of life as the parent’s propensity to comment accurately and to not comment inappropriately on the infant’s internal states assumed to underlie behavior. Mind-mindedness has been measured in two principal ways. In some studies, parents were simply asked, “Can you describe [child] to me?” (e.g. Meins & Fernyhough, 1999; Meins, Fernyhough, Russell & Clark-Carter, 1998). Attributes of the child given in response to this question were then coded as “mental,” “behavioral,” “physical” and “general.” Higher levels of “mental” responses were interpreted as higher levels of mind-mindedness. Mind-mindedness has concurrently been measured through the coding of parent vocalizations to their infant during observed parent-child interactions (Meins & Fernyhough, 1999; Meins, Fernyhough, Fradley & Tuckey, 2001; Meins et al., 2002).

One of the main areas of mind-mindedness research has been its effect on parents’ interpretations of children’s developing language. For example, Meins and Fernyhough (1999) found that mothers who were more likely to describe their children in terms of mental characteristics at age 3 were also more likely to have attributed meaning to their children’s earliest vocalizations in infancy. The authors viewed this as a demonstration of the continuity of maternal mind-mindedness of the first three years of life.
Mind-mindedness has also been linked to attachment. Meins et al., (2001) found that mothers who administered more appropriate mind-related comments with infants aged 6 months were significantly more likely to have infants classified as secure in the strange situation at 12 months. Meins et al., (2002) replicated this result and also found that attachment security was negatively correlated with mother’s inappropriate mind-related comments. This pattern of differential effects of appropriate and inappropriate mind-related comments have led Meins and other researchers to separately consider the independent effects of attuned and unattuned mentalistic comments as theoretically distinct constructs.

Several studies have also linked mind-mindedness to theory of mind development in children. Meins et al., (1998) found that mothers’ tendency to describe their three year olds in mentalistic terms was positively correlated with their children’s performance on two theory of mind tasks one year later. Meins et al., (2002) and Meins et al., (2003) also found positive associations between mothers’ appropriate mind-minded comments when children were six months old and theory of mind performance between 4-5 years of age. Given the direct implications of these studies for the present research, they are presented in greater detail in a subsequent section of this literature review.

Parent Meta-Emotion Philosophy

Parent meta-emotion philosophy (PMEP) is conceptually distinct from mind-mindedness in that it encompasses a parent’s thoughts and feelings about emotions- not just their own but their children’s as well (Gottman, Katz & Hooven, 1996). PMEP involves elements of parental beliefs and behaviors. The researchers noted in pilot studies that certain parents displayed a comfort with and willingness to engage with emotion
(especially negative emotion) that amounted to their acting as emotion coaches with their children. The concept of PMEP was derived from these observations to include a parent’s awareness of his own and his child’s emotion, and a stance that his child’s expression of negative emotion is an opportunity for closeness or coaching. It also includes validation of his child’s emotion, the behavior of helping the child to label his feelings, and problem-solving aimed at understanding the situation surrounding the negative emotion.

In the foundational study of PMEP, Gottman et al., (1996) conducted a “meta-emotion interview” with parents in which parents were asked about their experiences of sadness and anger, their philosophy of emotional expression and control, and their feelings and behavior with regard to their children’s anger and sadness. Parents and children (aged 4-5) were then observed engaged in two tasks, one in which the parent taught the child a game, and a second in which the parent tried to elicit a story from the child that the child had just been told. The children were later shown emotionally explicit film clips while measures of their physiological arousal were measured. Three years later, teachers, parents and children completed multiple scales assessing a range of child outcomes including indicators of internalizing and externalizing behaviors, affect expression, peer aggression, affect achievement, emotion regulation and physical health (Gottman et al., 1996). The authors found support for PMEP in that meta-emotion (as measured by the parent interview) was related to parenting behavior (less derogation and more scaffolding-praising) and the child’s regulatory physiology during the first phase of the study. Meta-emotion as assessed in this first phase of the study was also significantly able to predict greater inhibitory control, lower levels of behavior problems, higher levels
of academic achievement and better physical health in children in the second phase of the study (Gottman et al., 1996; Katz Maliken & Stettler, 2012).

PMEP has since been linked to a variety of psychosocial child outcomes. It has been studied in terms of how it affects children’s peer relationships and social competence, and has been shown to be related to superior social skills in both preschoolers and latency-aged children (Katz et al., 2012). Various studies have established its connection with risk for psychopathology. For example, in a sample of families with children in middle childhood from diverse socioeconomic backgrounds, Lunkenheimer, Shields and Cortina (2007) looked at how emotion coaching and emotion dismissing by parents related to child externalizing problems. In this study, emotion coaching and dismissing were coded from a family interaction in the laboratory as opposed to being coded from a parent interview as in Gottman et al., (1996). The authors found that emotion dismissing was significantly negatively correlated with children’s externalizing behaviors, but emotion coaching did not directly predict fewer externalizing behaviors, contrary to the hypothesis. These authors also found that in families where parents engaged in both emotion coaching and dismissing, emotion coaching was related to lower internalizing problems for children, and less emotional lability. This effect was specifically driven by the coaching of negative emotions (Lunkenheimer et al., 2007).

Other studies have also found evidence for the relationship between PMEP and both externalizing and internalizing behaviors. Shortt, Stoolmiller, Smith-Shine, Eddy & Sheeber (2010) studied a large community sample comprised of sibling pairs with one child in late elementary school and one child in middle school. They administered the Parent Meta-Emotion Interview (Katz & Gottman, 1986) to mothers and found that
mothers’ emotion coaching of anger was linked to better anger regulation in the adolescent sibling, and fewer externalizing behaviors three years later in the younger sibling (Shortt et al., 2010). Finally, Katz and Hunter (2007) found that mothers who were more accepting and expressive of their own emotions (as assessed in the Parent Meta-Emotion Interview) were more likely to have adolescents with lower levels of depressive symptoms, higher self-esteem and fewer externalizing problems. 

*Mentalization*

Finally, there is the concept of mentalization, which encompasses important elements of mind-mindedness and PMEP. Mentalization is the preconscious process by which people view and interpret behavior as being caused by mental states. It entails imagining what others might be thinking or feeling while keeping in mind that even with regard to oneself, one cannot definitively know the contents of someone’s mind (Fonagy, 2006). Like PMEP, it is believed to require metacognitive processes, that is, an ability to monitor, assess, and generally observe one’s own thought processes. Mentalization has been defined as the metacognitive ability to think about one’s own and others’ thoughts and feelings, with the goal of comprehending behavior (Benbassat & Priel, 2012).

Mentalization encompasses both self-reflective and interpersonal aspects (Benbassat & Priel, 2012; Slade, 2005). With regard to the self, mentalization involves the processes of being open to emotional experience and to the process of making meaning of emotional experiences non-defensively (Slade, 2005). Simultaneously, mentalizing includes an effort to understand the thoughts, feelings, intentions, beliefs and desires of others and is considered to be a necessary and foundational prerequisite to productive significant relationships (Benbassat & Priel, 2012; Slade, 2005). As a means
of better understanding the distinct mental processes at play in various situations, some researchers have recently begun to separate mentalization processes dedicated to the understanding of the self and those directed toward the other (e.g. Ensink et al., 2015).

Mentalization is thought to be an emotional process as well as a cognitive one. In addition to requiring the cognitive practices of insight and perspective-taking, it entails the emotional processes of fully experiencing and regulating emotions (Slade, 2005; Benbassat & Priel, 2012). This simultaneous emotional and thoughtful commitment to self and other understanding is what makes mentalization such an inherent part of attachment relationships.

Mentalization has been more broadly researched than either mind-mindedness or PMEP. The greater ubiquity of mentalization in the empirical research can be partly understood by its theoretical breadth. Like PMEP but unlike mind-mindedness, it is viewed as a capacity that includes a way of relating to the self as well as to the other, and includes an emotional component as well as a cognitive one. As a result, it is a process that has been found attractive to researchers in diverse niches of the field, ranging from neuroscientists to psychoanalysts (Bateman & Fonagy, 2013).

Furthermore, unlike both mind-mindedness and PMEP, it does not refer only to the parent-child relationship, but to a more broad-ranging capacity to view others as intentional beings. As a result, it has emerged as a potential core process in a variety of therapies and its role in the treatment of various psychopathologies has been a fruitful topic of investigation for the last two decades. This makes it a particularly useful construct in that where deficits in mentalization are discovered, there can be the direct and immediate hope of addressing this deficit through therapies that have been
empirically demonstrated to increase mentalization capacities (e.g. Minding the baby, Slade et al., 2005a; Mentalization Based Therapy, Bateman & Fonagy, 2013).

Another potential reason for the relative popularity of mentalization is its empirical relationship to other established measures and constructs. The operationalization of mentalization in attachment contexts, termed Reflective Function (RF) has been shown to be correlated with the Adult Attachment Interview in studies where mind-mindedness was not (Fonagy, Steele & Steele, 1991; Rosenblum, McDonough, Sameroff & Muzik, 2008). As a result, mentalization has emerged as a major factor in explaining the transmission of attachment from one generation to the next (Benbassat and Priel, 2012; Rosenblum et al., 2008; Slade et al., 2005b) a crucially important budding area of research.

Some of the primary arenas of mentalization research- attachment, self development, and the risk for psychopathology- will be presented below, following a full introduction of Reflective Function as the measure of mentalization.

**Reflective Function**

Reflective function refers to the extent that people can mentalize with regard to their internalized representations of their attachment relationships. It is measured in two ways. Adult reflective function is measured with a coding system that is applied to the AAI, and parental reflective function is now measured utilizing the Parent Development Interview.

Adults have been found to differ extremely in the extent to which they mentalize about their attachment relationships. When asked to examine 200 AAI transcripts of
mothers and fathers, raters found distinct levels of evidence for reflectiveness across individuals. Several subjects displayed only the lowest level of reflectiveness, such as platitudes and general statements such as “one must try to appreciate others’ point of view” (Fonagy et al., 1991b, p. 210). Other individuals’ AAI transcripts evidenced moderate evidence of reflectiveness, such as genuine psychological statements that were nevertheless generalized and not unique to the individuals in question. Finally, some demonstrate evidence of reflectiveness including understanding of both conscious and unconscious thoughts and feelings influencing the behavior of both self and others (Fonagy et al., 1991b). These observations are what led to the development of the Reflective Function scale by Fonagy and colleagues. The existence of a range of reflective capacities among individuals is supported by the consistent observation of a normal distribution of scores on the RF scales and high interrater reliabilities in studies utilizing the RF scale (e.g. Benabassat & Priel, 2012; Gergely & Unoka, 2008; Slade et al., 2005b). Fonagy et al., (1991b) in the pioneering study, found an interrater reliability of .7 for mothers’ transcripts and .75 for fathers’ transcripts.

The Reflective Function scale that is applied to the AAI focuses on the individual’s ability to think about his/her own feelings, as well as those of his/her parents. It specifically considers an adult’s awareness of how mental states work and his/her application of mental state explanations of behavior, among other factors (Slade, 2005).

As the study of Reflective Function in parents per se has become increasingly popular, researchers have turned to what is believed to be a more direct measure of parental reflective functioning, the Parent Development Interview (Aber et al., 1985). This interview, like the AAI, is a semi-structured interview that measures a parent’s
internal working models of relationships. Consisting of 45 questions, the PDI specifically addresses parent’s representations of their relationships with their children, of their children as individuals, and of themselves as parents (Slade, 2005). The application of the RF scale to the PDI is believed to shed light on individual differences in mentalizing within the parent-child relationship that are general and stable. Quite distinct from the measures of mind-mindedness and parental meta-emotion philosophy that measure parent behavior in a given interaction, reflective function measures mentalization taking place not in that moment but rather, ‘off-line’ (Sharp & Fonagy, 2008). The RF Scale applied to the PDI is intended to measure a parent’s principal stance toward their child as an intentional or psychological being. It is assumed that this general attitude thus informs the parent’s behavior toward the child across multiple interactions over time (Sharp & Fonagy, 2008).

A normal distribution of parent reflectiveness was observed by Slade et al., (2005b) in using the modified RF scale applied to the PDI. In applying the RF Scale to parent narratives about their children, Slade et al. (2005b) observed the following manifestations of different levels of reflectiveness. Parents who were classified as low in RF spoke about their child in such a way that suggested that the parent was unaware of the fact that their child even had thoughts and feelings. Other examples of low RF included discussion of a child’s behavior in terms of stable personality traits rather than internal states. Parents considered to have low RF also demonstrated low levels of awareness about and reflection upon their own internal states (Slade, 2005). Parents who evidenced moderate levels of RF recognized the existence of their children’s internal states but did not connect those states to their own behavior and interaction with the child.
(Slade, 2005). Finally, on the high RF end of the spectrum, parents showed keen awareness of their children as intentional beings. These parents drew connections between their own internal states, their behavior, and the mental states and behavior of their children.

The drastically different stances adopted by parents with different levels of parental RF have a large impact on their children’s socio-emotional development. The following sections will explore the ways in which parental RF has been linked to both parent and child attachment status, as well as child risk for psychopathology and self development.

**Attachment and Mentalization**

Attachment and mentalization support one another in a reciprocal relationship. This relationship is further buffered by neural associations, and by the assumption that attachment relationships have the evolutionary function of facilitating social cognitive skills (Fonagy, 2006). The nature of this reciprocal relationship is a complex one, but one that is bolstered by a significant amount of empirical evidence as well as common-sense theory. The key elements of the interrelationship between attachment and mentalization are presented in this section.

*Parental Reflective Function and Adult Attachment Classification*

Parents who are rated high in Reflective Function have been shown to be more likely to receive a secure/autonomous classification on the AAI. Fonagy et al. (1991b) in their pioneering study of Reflective Function, found that RF was related to the dimensions that are used to rate the AAI. The strongest correlation was between RF and
coherence, which has been found to be the best single indicator of AAI classification, as well as of child attachment status (Fonagy et al., 1991c; Ainsworth & Eichberg, 1990; Main et al., 1985). Arnott and Meins (2007) replicated Fonagy’s result, showing that in a sample of mothers and fathers from the northeast of England, both mothers and fathers who were classified as autonomous on the AAI had significantly higher RF scores than mothers and fathers classified as non-autonomous. In both of these studies, AAI and RF were both coded using the same data set of AAI transcripts.

Slade et al., (2005b) further demonstrated a connection between RF and AAI classification, and in this case RF was established using the PDI. They found that autonomous mothers had significantly higher RF scores than mothers classified as dismissing, preoccupied, and/or unresolved. Furthermore, both dismissing and preoccupied mothers had higher RF scores than mothers in the unresolved group. ANOVA analyses of the RF differences between mothers were significant both for the four attachment categories and the dichotomous autonomous/nonautonomous categorization. These findings established that a mother’s attachment status assessed during pregnancy was strongly able to predict maternal reflective functioning as measured by the PDI when the infant was 10 months old.

*Parental Mentalization and Parent-Infant Attachment*

In multiple studies, parental mentalization has also been shown to predict secure attachment between the parent and infant in the strange situation at one year (Fonagy et al., 1991c; Slade et al., 2005b; Meins et al., 2001; Karen-Korie et al., 2002 as cited in Fonagy & Target, 2005). This connection is consistent across multiple measures of parental mentalization, including RF measured with both the AAI and PDI, as well as
mind-mindedness measured in live interactions between mothers and children (Meins et al., 2012; Meins et al., 2002; Meins, 1997). Furthermore, parental mentalization has been shown to predict secure attachment in both mothers and fathers (Arnott & Meins, 2007).

Grienenberger, Kelly and Slade (2005) found that the relationship between maternal RF and infant-mother attachment security was mediated by the affective communication between mother and infant. This sheds light on one of the potential mechanisms through which RF is linked to secure attachment. More insight into the parent behaviors that could be responsible for the connection between parent mentalization and infant attachment is provided by the finding that mothers’ appropriate/accurate mind-related comments were positively correlated with infant attachment security while mothers’ inappropriate/inaccurate comments were negatively correlated with infant attachment security. In other words, parents who rate higher in mentalization may promote secure attachment relationships with their infants by more accurately commenting on their infants’ minds (Arnott & Meins, 2007). Later studies have replicated this finding. For example, Meins et al., (2012) found that both maternal appropriate mind-related comments and non-attuned mind-related comments in a free-play session with their 8-month old infants each independently predicted mother-infant attachment security when the infants were 15 months old.

Other studies linking parent mentalization with parent-infant attachment have focused on parental sensitivity as a potential mechanism for the effects. Cheung (2015, as cited in Zeegers, Colonna, Stams & Meins, 2017) demonstrated that mentalization predicted attachment security independently of parent sensitivity, although more strongly so when parent sensitivity was not controlled for.
These findings do not only tell a story about attachment security and how to predict it. They also shed light on less favorable attachment classifications, including disorganized attachment. For example, Slade et al. (2005b) found that a group of infants classified as disorganized had mothers whose RF scores were a standard deviation below those whose infants were classified as secure. Similarly, Schechter et al. (2005) found that in a traumatized population, relatively poor maternal reflective function predicted negativity and distortions in attributions about the infant. This finding was independent of the extent of interpersonal violence suffered by the mothers in the study, and also of the extent of maternal PTSD. Finally, parents with disorganized attachments to their children have been shown to depict their children as not having thoughts and feelings that can be taken into account (Slade, 2005).

Although there is a strong case for mentalization and attachment going hand in hand, there is also some evidence that the relationship may be more complex. Arnott and Meins (2007) found that in the case of parents with non-autonomous AAI classifications, infants were more likely to be securely attached to their parents if the parents demonstrated high levels of mind-mindedness. As such, parental mind-mindedness could be a buffer against poor child outcomes such as insecure attachment (Arnott & Meins, 2007).

*Parent-Infant Attachment and Child Mentalization/ Theory of Mind*

Secure attachment is theorized to be conducive to the development of mentalization in the child. Empirical findings indeed demonstrate that secure attachment may facilitate developmental achievements in the social-emotional domain. Securely attached infants have been shown to develop theory of mind earlier (Meins, 1997) and to
demonstrate more signs of having a reflective self in early childhood, including engaging in more self-talk during toddlerhood and making more spontaneous self-reflective comments at six years old (Main, Hesse & Kaplan, 1995).

Steele, Steele, Croft & Fonagy (1999) found that children who were securely attached at 12 months of age demonstrated better understanding of mixed emotions five years later, at the age of 6, than did children who had been insecurely attached at 12 months. In fact, when entered into a regression analysis with other factors including the child’s age, only attachment status with mother significantly predicted mixed-emotion understanding. Fonagy, Redfern and Charman (1997) also established a link between attachment status and reflective functioning. In their study, attachment was measured using the semi-projective Separation Anxiety Test (SAT) in children aged 3-6. They found that the children with secure SAT attachment were more likely to pass a belief-desire reasoning task (a measure of theory of mind) than those with ambiguous and insecure SAT attachment status. Again, the attachment status was the only significant predictor of theory of mind when entered into a regression analysis with other factors- in this case verbal IQ and a teacher’s relative ranking of social maturity. Finally, de Rosnay and Harris (2002) looked at the performances of children aged 3-6 on two emotion-understanding tasks along with their concurrent SAT attachment status. They found that overall attachment security as assessed on the SAT made a significant contribution to emotion understanding.

It is important to mention that it is not universally believed that theory of mind development can be influenced by attachment relationships. Baron-Cohen (1995) and Avis & Harris (1991) suggest that theory of mind development is fixed and universal, and
therefore impervious to influences from the social environment. However, one large twin study found that environmental factors indeed explained much of the variance in children’s performance in a theory of mind task (Hughes et al., 2005). Additionally, there have been countless empirical studies linking factors related to the social environment to children’s emotion understanding, including family emotion talk (e.g. Dunn et al., 1991a; Dunn, Brown, Slomkowski, Tesla & Youngblade, 1991), mother-child emotion talk (Farrant, Maybery & Fletcher, 2013); and parental emotional availability (e.g. Denham et al., 1994; Eisenberg et al., 1998) just to name a few. Nevertheless, some more recent empirical studies that have considered both the effects of parent mentalization (mind-mindedness) and attachment security on children’s theory of mind performance have found that attachment was not, in fact, a strong predictor of child theory of mind performance (Laranjo, Bernier, Meins & Carlson, 2010; Laranjo, Bernier, Miens & Carlson, 2014). Alongside the controversy in the empirical literature, theoretical knowledge about the processes through which mentalization develops posits that secure attachments are conducive to emotion understanding and mentalization.

**The Development of Mentalization in the Child**

While the ability to develop mentalization is present in all human infants, the social environment determines the course of its development (Fonagy, 2002). The infant comes to think of others’ minds through the process of being understood and responded to as a person with a mind in his own right (Fonagy & Target, 2005). Specifically, when a caregiver holds in her mind the reasons for her infant’s behavior, she represents these in her behavior toward the infant. Through these interactions the child learns that mental states exist, and comes to recognize them in himself and then in others (Slade, 2005). In
this way, the development of mentalization goes hand in hand with the consolidation of a sense of self, as will be further explicated below. It is noteworthy, too, that in addition to appreciating her child’s mental state, a parent must be able to contain her child’s emotional experiences in order for mentalization to develop successfully (Benbassat & Priel, 2012).

Parents’ ability to mentalize must be seen as existing on a continuum. As Fonagy et al., (1991b) observed, individuals vary in their overall proclivity to interpret their child’s behavior in terms of internal states. However, at the same time, there are inevitably variations within the individual that are influenced by a wide range of contextual factors, emotional, situational, and otherwise. For parsimony, the research findings presented in this and other sections refer to parents’ mentalization capacities as low, moderate or high. These categorizations refer to the preponderance of either adaptive or poor mentalizing within an individual.

Parents who are well-attuned to their children’s internal states are able to more accurately interpret their children’s intentions and express interest in doing so (Fonagy, 2006). Consistent with this notion, mothers with higher RF scores have been shown to utilize more mind-minded comments about their child’s mind (Rosenblum et al., 2008). Parents who are accurately tuned in to their children’s mental states also will have thoughts that are more benign, such that the children can have a healthy interest in and fearlessly come to know the content of their caregiver’s minds (Fonagy, 2006). These highly reflective parents are also more likely to engage in mentalizing-promoting activities such as pretend play (Fonagy, 2006.)
On the other end of the spectrum, parents with less developed mentalizing capacities may not be able to mirror their children’s affect in a way that is conducive to containment or to the development of mentalizing capacities in the child. Slade (2005) identified two ways that this may commonly occur. Parents may respond to the infant’s fear with fear of their own, which can make fear unsafe to experience and hard to symbolize in words. Parents may also inaccurately interpret an infant’s intention (for example imagining that the child is trying to manipulate the parent) leading the parent to enact a response that does not match the child’s actual intention. In this situation, the child does not come to know the actual content of his own mind, undermining his eventual ability to mentalize. Similarly, parents who have been the victims of relational trauma may have shut down their own thinking about their own and other’s mental states, because doing so has at times been dangerous (Fonagy, 2006). Research supporting these ideas has shown that children with histories of sexual abuse had mentalization difficulties (Ensink et al., 2015). Furthermore, maltreating parents have been shown to have difficulties understanding their children’s emotions (Shipman & Zeman, 2001) and may engage their children less often in emotional discussions (Edwards, Shipman & Brown, 2005).

In sum, mentalization in children is supported by parent behaviors that are indicative both of parent reflective capacities and conducive to the creation of a secure and safe attachment to the child. This is part of the reason why mentalization has recently been put forth as a potential mechanism for the transmission of attachment from parent to child.

*RF as a mediator in the Intergenerational Transmission of Attachment*
Given that attachment has been shown in twin studies to have minimal heritability, it appears that environmental factors are largely responsible for the transmission of secure attachment from parent to child (Fonagy & Target, 2005). Moreover, parents can be understood to be more responsible for the nature of the parent-child relationship than are children, leaving the question of how parents transmit their mental representations of attachment to their children of paramount importance (van IJzendoorn, 1995.)

Slade (2005) has provided strong evidence for the potential role of mentalization in transmitting attachment from parent to child. She found that maternal RF was related both to adult attachment assessed during pregnancy and infant attachment assessed at one year of age. Preliminary analyses supported the hypothesis that parental RF is a crucial mediator in the intergenerational transmission of attachment. Arnott and Meins (2007) replicated this, in finding that all infants in their study who had a parent that was both classified as secure/autonomous and shown to be high in mind-mindedness was securely attached to their parent. On the other side, most infants whose parent was non-autonomous and low in mind-mindedness were insecurely attached. It is hypothesized that secure attachment status for the mother allows her to feel safe and able to explore her own mind, and that of her infant. In turn, the mother’s awareness of her infant leads the way for interactions that help the infant to develop his own stable psychological self (Fonagy & Target, 2005.)

Unfortunately, since 2005 there have not been any new studies looking at mentalization as a possible mechanism for the intergenerational transmission of attachment (Sette, Coppola & Cassibba, 2015). Those studies that have considered
potential mechanisms for the transmission of attachment have predominantly focused on parental sensitivity and other parenting behaviors (Verhage et al., 2016).

**Mentalization and Psychopathology**

Studies show that inaccurate or absent parent mentalizing is correlated with poor child outcomes. Inaccurate mentalizing in parents can set off a chain reaction of events. One study found that mothers whose inaccurate mentalization led them to interpret their children’s negative behavior as willful and indicative of negative personality dispositions were themselves more upset about this negative behavior (Dix & Lochman, 1990). In turn, this would have affected the mother’s own intrapersonal emotional response and the part of her emotional response directed toward her child (Sharp & Fonagy, 2008). It is known from Gottman’s research on PMEP that parent affect and affect regulation influence a parent’s mentalization of their child’s mind (e.g. Gottman et al., 1996). In short, inaccurate parent mentalizing can lead to parent upset, which then could set the stage for further limitations in mentalizing of the child’s mind.

Another example of the potential ill effects of inaccurate parent mentalizing can be found in the literature on the hostile attribution bias- showing that mothers who have this bias and are more likely to interpret their children’s intentions as hostile are also more likely to have aggressive children (Strassberg, 1997).

In addition to inaccurate mentalization, it is known that an absence of mentalization by attachment figures is also detrimental to children. In cases of abuse and neglect in which caregivers are not available for interpreting their children’s mind, children show poor emotion discrimination (Edwards et al., 2005; Pollak, Cicchetti,
Hornung, & Reed, 2000) and delays in theory of mind development (Cicchetti, Rogosch, Maughan, Toth, & Bruce, 2003; Pears & Fisher, 2005) and emotional understanding (Camras, Sachs-Alter, & Ribordy, 1996; Rogosch, Cicchetti, & Aber, 1995; Shipman & Zeman, 1999). In the case of abuse by a caregiver, the attempt to know that caregiver’s mind, including their intentions, thoughts and feelings, can be fear-inducing and dangerous, leading children to flee from any attempt at doing so (Tuber, Boesch, Gorkin and Terry, 2014; Fonagy et al., 2002). Consistent with this, in her dissertation research, Srinivasan (2006) found that survivors of severe child abuse had poor reflective functioning as adults.

As this body of literature shows, there are risks associated with the absence of a caregiver who can mentalize the child’s mind with good-enough accuracy. However, it is not necessarily the case that the more reflective the parent, the more positive outcomes we can expect for the child. Indeed, Benbassat and Priel (2012) found that paternal reflective function levels, specifically, were positively correlated with the internalizing problems of their adolescent-aged children. Although in this study the internalizing problems reported did not reach the clinical range, it is important to consider that there are implications for psychopathology on both ends of the mentalization spectrum.

Recent studies have established associations between lower levels of mentalization and various psychopathological conditions. In their review, Jewell et al. (2015) found strong evidence for an association between problems with mentalization and eating disorder pathology. They also found that adolescents with anorexia appear to be challenged in the skill of emotion recognition. Similarly, Kuipers, van Loenhout, van der Ark & Bekker (2016) found that compared with healthy controls, eating disorder
patients demonstrated a lower level of mentalization. Furthermore, within the clinical population of patients with eating disorders, self-injurious behavior was associated with lower mentalization.

The long-theorized link between deficits in mentalization and borderline personality disorder (BPD) was recently empirically supported by Petersen, Brakoulias & Langdon, 2015. They found that while people diagnosed with BPD did not differ from healthy controls in performing simple mentalization tasks, patients with BPD showed mentalization deficits in comparison with healthy controls when performing complex mentalization tasks that required the integration of multiple components. Furthermore, as the childhood experiences of punishment increased, adult mentalization ability decreased.

The importance of mentalization as a predictive factor for psychopathology is further supported by Chiesa and Fonagy (2014)’s finding that RF mediated the relationship between childhood adversity and psychiatric distress later in life, with higher RF decreasing the likelihood of later psychiatric distress.

**Mentalization and Self-Development**

It would be remiss to present an overview of the important implications of mentalization capacities without including the formative role that mentalization plays in the development of a secure sense of self. Because the self develops in close conversation with attachment figures, it is reflective function in particular that is crucial for self development. High reflectiveness on the part of the mother is believed to foster both autonomy and self-regulation in the child (Fonagy et al., 2002). Several practices that can be believed to occur within relationships where mentalization is strong may lend
themselves to successful self-development. For example, the co-construction of narratives about emotionally significant events has been shown to facilitate autobiographical memory, which is known to be crucial for self development (Bettens, Favez & Stern, 2003; Laible, Murphy & Augustine, 2013; Prebble, Addis, & Tippett, 2013, as cited in Ensink et al., 2015).

As stated above, a child learns to know his own mind by being treated as someone with a mind. In other words, his caregiver’s mirroring and reflection of his inner states become the basis for his understanding that he has a mind and for beginning to know its inner workings. From these early glimpses into his own mind, a core self develops (Fonagy & Target, 2006).

The importance of mentalization for self-development is underscored by the deficits in self-development that occur in the absence of mentalization within the attachment relationship. For example, children who suffer abuse and neglect have been shown to have delays in self-recognition in the mirror between 18 and 30 months of age (Schneider-Rosen & Cicchetti, 1991). Furthermore, there is a prevalence of dissociation in children who have suffered relational trauma in the context of their early attachment relationships, and dissociation is a threat to an integrated sense of self and well-established subjectivity (Tuber et al., 2014).

**Parental Mentalization and Child Theory of Mind/Mentalization Capacities**

There is a significant body of research that suggests that the way parents interact with their children vis a vis emotions can have important effects on children’s emotion knowledge and related factors. Early studies by Carole Dunn and her colleagues
demonstrated that family environments in which feelings were more openly discussed and causal state language was used were conducive to Theory of Mind development in children (Dunn et al., 1991a; Dunn et al., 1991b). Others have similarly shown that parental discussion, rather than avoidance, of emotions, can facilitate children’s understanding of their own and others’ minds (Ruffman, Slade, & Crowe, 2002; Taumoepeau & Ruffman, 2008). In a crucial study in this area, Meins et al., (1998) found that 3 year-old children whose mothers were more likely to describe them in terms of their mental states rather than their behavior or physical appearance were more successful on mentalizing tasks at the ages of 4 and 5. Additionally, children who anticipate a non-supportive parental response to their expression of negative emotions have been shown to evidence lower social and emotional competencies (Gergely & Unoka, 2008; Denham et al., 1994; Eisenberg et al., 1998).

Four recent studies in particular have found preliminary evidence for the main hypothesis of the current research- that mentalization capacities are linked in parents and children. Benbassat and Priel (2012) found a correlation between the RF levels of parents and their adolescent children. This association was observed both for mothers and fathers. In this particular study, RF was assessed in parents using the PDI and RF scale, and in the adolescent population RF was measured using the Child Attachment Index (CAI) (Target, Fonagy & Shmueli-Goetz, 2003). Benbassat and Priel (2012) also found that several of the other outcome variables that they considered were moderated by parental RF. Specifically, parental warmth was associated with high levels of social self-perception in adolescents only in the presence of high parental RF. Furthermore, paternal control was
linked to lower levels of adolescent self-perception and high levels of externalizing, but only in the case where paternal RF was also low.

Another study that lends direct support to the present hypothesis was performed by Ensink et al. (2015). Like Benbassat and Priel (2012) Ensink et al. (2015) used the PDI and RF scale that will be used in the present research. They used a newly developed RF scale for children in conjunction with the CAI. As predicted, Ensink et al. (2015) found a correlation between the RF levels of parents and children aged 9 and 10. From this they concluded: “it is possible to reliably measure mentalization in children aged 7-12 from the narratives they produce regarding themselves and their relationships with attachment figures” (p. 212). The present research aims to replicate this result with a different measure of child reflective function.

In a longitudinal study, Meins et al. (2002) investigated the transmission of mentalization from parents to children. They found that the use of appropriate mental state commentary by mothers in interactions with their children when they were 6 months old predicted children’s theory of mind performance at age 4. Meins et al., (2002) found that only appropriate mental state language by parents predicted better theory of mind scores by children, as opposed to simply the more frequent use of mental state language in general. In other words, it is not enough for parents to simply use mental state language; mental state language must also be attuned to the child’s actual internal world. This suggests that studying mentalization in the context of attachment relationships is particularly worthwhile and important. Finally, Meins et al. (2013) replicated this result in a second longitudinal study, finding that appropriate mind-minded comments made during a free-play session when children were 8 months old predicted children’s theory
of mind performance at 51 months of age. The present research may be able to shed light on the mechanism through which these powerful effects may occur.

**Present Research**

In the vein of the studies presented above, the present research proposes to investigate the transmission of mentalization capacities from parent to child. Much of the research looking at mentalization in the context of attachment has focused on very young children. However, there is evidence for the transmission of mentalization from parents to children in middle childhood (Ensink et al., 2015) and adolescence (Benbassat & Priel, 2012). The current research is unique in examining the mentalization capacities of ranging in age from early childhood to adolescence.

The population of this study is also remarkable in that it represents a child clinical population. There is a dearth of research looking at mentalization in children presenting with psychological distress. Given the established role of mentalization as a mediating factor between adversity and psychopathology, an investigation of mentalization in a child clinical population is important for its potential to shed light on this phenomenon.

As discussed above, mentalization involves two distinct aspects, one that involves self-understanding and regulation and another that has to do with taking the perspective of others. There is some evidence for the fact that self-understanding is considered a more complex developmental achievement, and recent evidence that self and other understanding involve distinct, although proximal, neural networks (Bogdan, 2004 and Lieberman, 2007 as cited in Ensink, 2015). For example, Ensink et al. (2015) found that while maternal RF was associated with both self and other RF in children, it only
independently contributed to explaining the variance in self RF in their sample of sexually abused children. This powerful finding showed that maternal RF has important predictive validity related to self-RF in children even when mentalization development is disrupted by something like sexual abuse. Given these findings, children’s mentalization capacities with regard to the self and those that pertain to the other will each be separately considered, in addition to overall mentalization capacities.

In the present study, as in several of the studies cited above, parental mentalization will be assessed using the Reflective Function (RF) scale applied to the Parent Development Interview (PDI). Children’s mentalization capacities will be measured on the basis of their narrative descriptions of thoughts and feelings as part of a storytelling task. The concordance of mentalization capacities within a parent-child dyad can thus be considered. It is hypothesized that parent reflective function and child mentalization capacities will be shown to be positively correlated with one another, demonstrating that in dyads where the parent exhibits a higher level of mentalization about the child, the child also is better able to mentalize.

**METHODS**

**Participants**

Participants in this study were 15 parent-child dyads taken from a larger sample of patients at The Psychological Center, a community mental health clinic that serves as the training clinic for doctoral students in clinical psychology at City College. The larger sample includes all children who underwent an intake process at The Psychological Center during the years from 2009-2016, as well as their parents. The participants for the
current research study were selected from the larger sample exclusively on the basis of
data availability. All dyads in which both data measures of interest were completed have
been included in the present study. The children represent a clinical population in that at
the time of data collection they were undergoing an intake at The Psychological Center, a
community mental health clinic.

**Procedure**

Data utilized for this study belongs to a pre-existing data set collected by Arietta
Slade and Steve Tuber at the City College of New York. All measures were administered
to children and their parents as part of the intake procedure for children entering
treatment at The Psychological Center at City College. Consent was obtained by the
intake clinician, who also completed the parent interview (The Parent Development
Interview- PDI). A second student therapist conducted the Thematic Apperception Test-
TAT- with the child. This measure was given following the administration of two other
measures- the Ravens Progressive Matrices Test and the Rorschach Inkblot Method.

**Measures**

*Parent Development Interview (PDI)*

The Parent Development Interview is a 45-question semi-structured clinical
interview. Questions range from asking for descriptions of the child to aspects of the
child that are particularly enjoyable or difficult for the parent. Parents are also asked to
describe themselves as parents and to compare and contrast their parenting to that of their
own parents. As such, the PDI measures a parent’s mental representation of their
children, of themselves as parents, and of their relationships with their children. The PDI has been shown to have strong construct, predictive and convergent validity (Slade, Belsky, Aber & Phelps, 1999; Aber et al., 1999). It also has very strong reliability (Slade et al., 2005b).

Reflective Function Scale

Parental reflective function will be measured utilizing The Addendum to the Reflective Functioning Scoring Manual, which was developed for specific use with the PDI (Slade et al., 2004b). The addendum accompanies the RF coding manual developed by Fonagy and colleagues for use with the AAI (Fonagy et al., 1998). The RF scale is an 11-point scale ranging from -1 (negative RF) to 9 (exceptional RF). Scores below 5 indicate negative, absent or low RF while scores above 5 provide clear evidence of mentalizing capacities (Slade et al., 2005). RF on the PDI is assessed in the following four categories: 1. Awareness of the nature of mental states, 2. The effort to identify the mental states that pertain to behavior, 3. Recognition of the developmental aspect of mental states, and 4. Mental states as they arise in connection to the interviewer (Slade et al. 2005b).

RF scores are ascertained for 21 questions on the PDI, and an overall score is given to each interview as a whole. Answers characterized as having high RF involve recognition of mental states both within the self and the child. These answers also demonstrate an awareness of how mental states and behavior interact, and an appreciation of the child’s developmental stage and limitations. Answers characterized as having low RF may be concrete, superficial, or banal, and tend to disavow the importance or the existence of internal states (Fonagy & Target, 2005).
Scoring was applied to verbatim transcripts created from audio files of the interviews. Interviews were coded by an expert coder with extensive experience applying the RF scale to the PDI.

**Thematic Apperception Test (TAT)**

The TAT (Morgan & Murray, 1935) is a projective storytelling test. Participants are presented with black and white pictures depicting various scenes, many of which are morose in nature. Participants are asked to state five things about each picture: (1) what is happening in the picture, (2) what happened prior to the scene shown in the picture, (3) what will happen in the future, (4) what the characters are thinking, and (5) what the characters are feeling. The TAT is used by clinicians as a means of ascertaining information about the individual’s internal representations of self, other, as well as their primary affects and defensive constellations (Tuber, 2012).

The TAT is a measure that may be particularly conducive to the study of mentalization. As Tuber (2012) pointed out, the demands that the TAT makes on the participant are remarkably similar to those required by the AAI (and the conceptually related PDI). Like the AAI, the TAT necessitates that the subject create a story that coherently links the present to the past. Furthermore, the clinical index of psychological health on the TAT is unrelated to the *content* of the stories per say. Just as a secure classification on the AAI does not indicate a happier childhood or even a secure relationship with caregivers in childhood, a healthy TAT story is not defined by whether its resolution is happy and positive (Tuber, 2012). Finally, given that the TAT also requires that participants discuss the internal states of the characters, it can be seen as a task that inherently assesses “psychological mindedness” and the participant’s ability to
engage in “emotional problem solving” (Tuber, 2012, pp. 118-119). All of these factors combine to make the use of the TAT with the SCORS a recommended measure for the present research.

Social Cognition and Object Relations Scale (SCORS)

The SCORS (Stein, Hilsenroth, Slavin-Mulford & Pinsker, 2011; Westen, 2002) is a coding system that is applied to the TAT and used to index both cognitive and affective components of an individual’s object relations. The SCORS was conceptualized on the basis of object relations and attachment theories. It was developed to assess dimensions of internal representations of relationships using narratives such as TAT stories (Niec & Russ, 2002). Given that the PDI measures internal representations of relationships, the SCORS is believed to measure a comparable construct. Furthermore, by assessing both emotional and cognitive elements of representations, the SCORS encompasses both dimensions addressed by the RF Scale as applied to the PDI. The SCORS has been shown to be a reliable and valid measure for use with clinical populations and with children, and is therefore appropriate for the present sample (Stein, Slavin-Mulford, Sinclair, Siefert & Blais, 2012; Niec & Russ, 2002; Ordnuff & Kelsey, 1996.) Finally, the SCORS has been chosen as a measure for this study because it was developed for use with the TAT.

The SCORS is comprised of 8 clinician-rated variables. Each variable is scored on a 7-point rating scale, with lower scores indicating greater pathology and high scores indicative of better overall psychological health. The 8 variables are: ‘Complexity of Object Relations,’ ‘Affective Quality of Representations,’ ‘Emotional Investment in Relationships,’ ‘Emotional Investment in Moral Standards,’ ‘Understanding of Social
In past research, the SCORS has often been utilized as a measure of individual differences, focused on differentiating clinical and nonclinical groups (Kelly, 2007). For example, Westen, Lohr, Silk, Gold & Kerber (1990) identified patterns of SCORS responses that could distinguish adolescents diagnosed as having Borderline personality disorder from adolescents diagnosed with depression, and from those not carrying a psychiatric diagnosis. Similarly, Defife, Goldberg & Westen (2015) found that adolescents who met criteria for a personality disorder diagnosis had more pathological scores on the SCORS scales than peers. A SCORS composite variable was able to discriminate adolescents carrying a personality disorder diagnosis from those who did not.

In addition to discriminating among clinical and nonclinical children/adolescents, other studies have turned to comparing groups of children on the basis of exposure to risk factors for psychopathology. A series of studies by Ornduff and colleagues found that children and adolescents who had suffered physical and sexual abuse demonstrated impairments in object relations (lower scores on the SCORS scales) compared to non-abused peers (Ornduff, 1997) and that the SCORS could meaningfully distinguish between abused and nonabused children and adolescents (Ornduff, 1996; see also Ornduff, 2003). Furthermore, Ornduff and colleagues were able to identify consistent differences in SCORS performance on the basis of type of abuse. While physically abused children achieved lower scores on all SCORS scales, sexually abused children
demonstrated a particularly impaired performance on affective aspects of object relations measured by the SCORS (Kelly, 1997).

A separate body of research using the SCORS with children and adolescents has worked to establish that the SCORS can be used not only to demonstrate between individual differences but also as a developmental measure. When developing the SCORS, Westen (1991) believed that in theory the scales should be developmental in nature, with the exception of the ‘Affective Quality of Relationships’ scale. Indeed, several studies have validated this, finding for example that 4\textsuperscript{th} graders outperform 3\textsuperscript{rd} graders on all scales other than the Affect scale (Niec & Russ, 2002) and that 12\textsuperscript{th} graders outperform 9\textsuperscript{th} graders, and 5\textsuperscript{th} graders outperform 2\textsuperscript{nd} graders (Westen et al., 1991). Taken together, these studies demonstrate that object relations develop beyond early childhood, and thus should be studied in later childhood and even early adolescence, as is done in the current research.

As stated above, the SCORS has been shown to be psychometrically sound. Niec and Russ (2002) found that all of the scales of the SCORS, as predicted, were significantly intercorrelated. The authors furthermore demonstrated convergent validity in showing that three of the dimensions of internal representations were correlated with measures of empathy and the quality of pretend play in 8-10 year-old children (Niec & Russ, 2002). Further extending the validity of the SCORS to a clinical population, Stein et al., (2012) demonstrated that the SCORS displayed good internal consistency as well as high interrater reliability in a sample of 59 patients referred to a hospital for assessment. Stein et al., (2012) also demonstrated that the SCORS components were appropriately related to various aspects of cognitive and personality functioning.
Data Analysis

The relationship between the two variables in this study will be measured using a correlation analysis. It is hypothesized that parent and child reflective function will be positively and significantly associated as demonstrated by positive correlations between parent reflective functioning and child scores on each of the SCORS scales.

Aims and Hypotheses

1. The primary hypothesis is that parents who score higher on the RF Scale applied to the PDI will have children who score higher on the SCORS as applied to the TAT. In other words, there will be a significant correlation between parent RF and child performance on a composite value of the individual SCORS scales, representing both child mentalization capacities and overall child object relations functioning.

2. Secondary quantitative analyses will be directed toward answering the question of whether parental RF is more strongly related either to mentalization processes directed toward the self or those directed toward understanding the other.

3. On the basis of prior research, it is anticipated that some of the 8 variables considered on the SCORS may be more likely than others to be significantly correlated with parental RF. In particular, the ‘Affective Quality of Representations’ scale has been shown to be related to attachment status (Handelzalts, Fisher & Naot, 2014), which is strongly correlated with mentalization. As a result, it is predicted that parental RF will be correlated with
child affective quality on the SCORS. This is further bolstered by the finding that
‘Affective Quality of Representations’ was the variable that was found to be
disrupted both in children who had suffered physical abuse and those who
suffered sexual abuse, suggesting that this variable may be a particularly adept
measure of child emotional functioning.

4. As detailed in the literature review, parental RF is strongly linked to children’s
development of a sense of self. Therefore, the ‘Identity and Coherence of Self’
scale is also predicted to correlate with parental RF.

5. Parental RF is also hypothesized to correlate with the SCORS scale
‘Understanding of Social Causality,’ given the established connection between
parent mentalization and child emotion understanding/theory of mind, which
bears much conceptual overlap with the ‘Understanding of Social Causality’
scale.

RESULTS

Demographics

The present research analyzed archival data from 15 parent-child dyads. Thirteen
of the 15 parent interviews were completed with the child’s mother, one interview was
completed with a custodial father, and one with a custodial grandmother. The children
ranged in age from 4.5 to 15. The sample is representative of the larger Psychological
Center population, which is comprised of mostly working class or lower income families
of minority ethnic status.
Individual Outcome Measures

(1) Reflective Function Scores on the Parent Development Interview

One expert coder with prior established reliability coded reflective functioning on the PDI. This is the standard for measurement of RF in PDI and AAI interviews. The coder was blind to the research hypotheses and to participant identifying information.

The RF scale can produce ratings ranging from -1 to 9. In the current sample, the data range was limited to only half of the possible scale points, lacking extreme scores on both sides of the scale spectrum and mostly distributed at or below the Average RF marker. RF scores of parents ranged from 2-6, with the most common scores being 2, 4, and 5. An overall score of 2 lies between the diagnostic markers of 1 (Lacking in RF) and 3 (Questionable or Low RF). An overall score of 5 connotes “Ordinary RF” and indicates that the interviewee has a model of their own mind and their child’s mind that is integrated and coherent. In the current sample, only one interview was scored a 6. All others earned scores demonstrating average or below average RF.

(2) Social Cognition and Object Relations Scale on the Thematic Apperception Test

Seven of the eight SCORS scales were utilized in this study. The eighth scale, ‘Emotional Investment in Values and Moral Standards’ was excluded because the coders were not trained in scoring that subscale. Furthermore, both empirical and theoretical support for a potential relationship between parent RF and child performance on this scale was lacking. The seven remaining scales were scored on a scale ranging from 1 to 7 by two expert coders, each of whom independently coded 15 TAT protocols, consisting of a total of 164 individual stories. Coders were blind to the research hypotheses, to
participant information other than an ID number, and to each other’s scores. Interrater reliability was calculated for each dimension of the SCORS, and was consistently in the good to excellent range (Peters, Hilsenroth, Eudell-Simmons, Blagys & Handler, 2006). Reliabilities were similar to or better than those reported in the SCORS literature. All reliability coefficients are reported in Table 1.

**Table 1. Interrater Reliabilities for Raters of TAT with SCORS, using intraclass correlations, average measures, with 95% confidence interval reported**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation</th>
<th>Lower bound</th>
<th>Upper bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complexity of representation of people</td>
<td>.735</td>
<td>.640</td>
<td>.806</td>
</tr>
<tr>
<td>Affective quality of representations</td>
<td>.795</td>
<td>.758</td>
<td>.827</td>
</tr>
<tr>
<td>Emotional investment in relationships</td>
<td>.816</td>
<td>.750</td>
<td>.865</td>
</tr>
<tr>
<td>Understanding of social causality</td>
<td>.832</td>
<td>.771</td>
<td>.876</td>
</tr>
<tr>
<td>Experience, management of aggression</td>
<td>.872</td>
<td>.826</td>
<td>.906</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>.639</td>
<td>.509</td>
<td>.735</td>
</tr>
<tr>
<td>Identity and Coherence of Self</td>
<td>.660</td>
<td>.537</td>
<td>.750</td>
</tr>
</tbody>
</table>

Given the wide range of child ages in the present sample, and the fact that the SCORS has been ascertained to differentiate between children of different ages (Niec & Russ, 2002; Westen et al., 1991) statistical analyses were run to determine the effect of child age on the relationship between parent mentalization and child mentalization. As might be expected, child age correlated significantly with a composite value across all SCORS scales. Child age also correlated significantly with three of the seven individual SCORS scales utilized in this study. All correlations are presented in Tables 2 and 3 below.

**Table 2. Correlation between Child Age and Composite SCORS value**

<table>
<thead>
<tr>
<th>Child Age</th>
<th>Correlation (Spearman’s Rho)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite</td>
<td>.785**</td>
</tr>
</tbody>
</table>

45
Table 3. Correlations between Individual SCORS Scales and Child Age

<table>
<thead>
<tr>
<th>SCORS Scale</th>
<th>Correlation (Spearman’s Rho)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complexity of representation of people</td>
<td>.77**</td>
</tr>
<tr>
<td>Affective quality of representations</td>
<td>.2</td>
</tr>
<tr>
<td>Emotional investment in relationships</td>
<td>.65*</td>
</tr>
<tr>
<td>Understanding of social causality</td>
<td>.8**</td>
</tr>
<tr>
<td>Experience, management of aggression</td>
<td>-.05</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>-.36</td>
</tr>
<tr>
<td>Identity and Coherence of Self</td>
<td>-.012</td>
</tr>
</tbody>
</table>

** Significant at the p < .001 level  
* Significant at the p < .05 level

Relationship between Outcome Measures:

Spearman correlations were used in order to measure the quantitative relationships between parental Reflective Functioning and child performance on the SCORS. The data did not neatly fit the assumptions of normal distribution that ensure the validity of the Pearson correlation. The non-parametric Spearman correlations are therefore considered to be a more accurate representation of the relationships between the outcome variables (Myers & Sirois, 2006).

None of the Spearman correlations were statistically significant. However, the magnitude (effect size) of some of the correlations yielded values that are considered to indicate relationships of small and moderate clinical significance (Cohen, 1992). As such, what follows is a presentation of the specific results in terms of the magnitude of the correlations between variables.

Hypothesis 1: Parent RF scores will correlate with composite child SCORS values

The primary hypothesis was that there would be a positive correlation between parental Reflective Functioning scores and child values of the SCORS scales.
Past research using the SCORS has shown that the scales of the SCORS are correlated with one another (e.g. Niec & Russ, 2002, Ackerman, Hilsenroth, Clemence, Weatherill & Fowler, 2001). As a result, prior researchers have chosen to average the SCORS scales in order to create an overall SCORS composite score that can serve as a unified indicator of an individual’s functioning in the object relations domain (Defife et al., 2015; Stein, Hilsenroth, Pinsker-Aspen and Primavera, 2009; Peters et al., 2006; Calabrese, Farber and Westen, 2005; Eudell-Simmons, Stein, Defife and Hilsenroth, 2005; Ford, Fisher and Larson, 1997). Following the example of these prior studies, a reliability analysis was conducted with the seven scales of the SCORS to determine whether they were positively correlated with one another. The reliability analysis demonstrated that six of the scales were positively correlated with one another (excluding only self-esteem). Cronbach’s alpha for these six scales was .66, which approaches the lower limit of what is considered to be acceptable reliability (Santos, 1999). As such, a composite of the six scales was calculated as an overall SCORS score for each child. (The seventh scale (self-esteem) was excluded from the composite because it was not correlated with the other scales and so cannot be considered to be measuring the same construct, invalidating its inclusion in the composite.)

A correlation was run between parental RF and the overall composite SCORS value. The Spearman correlation value was .28 (see table 3.) This is a correlation of medium effect size and provides an alternative way of understanding the study outcomes, as will be further explained in the Discussion section.

| Table 4. Correlation between Composite SCORS value and Parental RF on the PDI |
|---------------------------------|------------------|
| SCORS Scale                     | Correlation (Spearman’s Rho) |
| Composite                       | .281              |
Hypothesis 2: Parent RF scores will correlate more strongly with those dimensions of mentalization that are directed toward the self rather than the other.

This hypothesis was not confirmed by the data. Of the six SCORS scales utilized in the present study, only “Self-Esteem” and “Identity and Coherence of Self” can be considered variables that strictly deal with the child’s relationship with the self. “Self-Esteem” correlated relatively strongly with parental RF, although not in the predicted positive direction. “Identity and Coherence of Self” correlated with parental RF with a magnitude of .2, which was not significantly different from the magnitude of correlations involving scales looking at factors related to others, or scales that encompass elements of both self and other-directed processes. The implications of this null finding will be further explored in the Discussion section that follows.

The next three hypotheses refer to correlations between parent RF and individual SCORS scales. Prior to addressing each individual hypothesis, it must be restated that none of the correlations between parent RF and individual scores scales were found to be statistically significant. However, most of the effect sizes were in the range in which they are considered to demonstrate either a small or moderate clinical relationship as per statistical convention (Cohen, 1992). All values are presented in table 5 below:

<table>
<thead>
<tr>
<th>SCORS Scale</th>
<th>Correlation (Spearman’s Rho)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complexity of representation of people</td>
<td>.160</td>
</tr>
<tr>
<td>Affective quality of representations</td>
<td>.149</td>
</tr>
<tr>
<td>Emotional investment in relationships</td>
<td>.348</td>
</tr>
<tr>
<td>Understanding of social causality</td>
<td>.217</td>
</tr>
<tr>
<td>Experience, management of aggression</td>
<td>.070</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>-.298</td>
</tr>
<tr>
<td>Identity and Coherence of Self</td>
<td>.197</td>
</tr>
</tbody>
</table>
Hypothesis 3: Parent RF will be positively correlated with child ‘Affective Quality of Representations’ on the SCORS.

The correlation between parent RF and the ‘Affective Quality of Representations’ scale can be considered to be small but not clinically insignificant, with a value of .15.

Hypothesis 4: Parent RF will be positively correlated with child ‘Identity and Coherence of Self’ on the SCORS.

A correlation with an effect size considered to be of small to moderate magnitude (.2) was found between parent RF and the ‘Identity and Coherence of Self’ scale.

Hypothesis 5: Parent RF will be positively correlated with child ‘Understanding of Social Causality’.

Parent RF and the child ‘Understanding of Social Causality’ scale were related with a value of .22, considered to be a small/medium effect size.

DISCUSSION

In this section, the results presented above will be reviewed in the context of relevant literature. Hypothesis 1 posited that a correlation would be found between parent RF on the PDI and the child composite SCORS value. The findings pertaining to this hypothesis will be discussed in relation to mentalization research, particularly considering what the present study brings to bear on the question of the intergenerational transmission of mentalization. Hypothesis 2 suggested that SCORS scales pertaining to the self would correlate more strongly with parent RF than SCORS scales having more to do with the other. The null results of this hypothesis will be analyzed. Hypotheses 3-5, concerning the relationships between parent mentalization and individual SCORS scales,
will be discussed. The results will then be explored in terms of how parent RF has been shown to relate to child object relations functioning. The theory behind each SCORS scale will be explained for a more comprehensive understanding of this aspect of the results. Finally, the study limitations and future directions will be presented.

**Hypothesis 1: Parental Reflective Function will correlate with child scores on the Social Cognition and Object Relations Scale**

As stated above, the correlation between parent RF and the child SCORS composite value was not statistically significant. This can be explained by two main factors: the small sample size, and the limited range of parental RF scores. Firstly, the small sample size inherently limits the chances of detecting statistically significant differences. Secondly, the limited variance found in parental RF scores constrained the extent to which parental RF could be found to co-vary with other factors. Although the RF scale theoretically spans 11 values from -1 to 9, in the present sample scores ranged only from 2 to 6, with the vast majority of scores ranging only from 2 to 5.

Despite the lack of statistical significance, the moderate magnitude of the correlation warrants further discussion of its potential meaning in the context of mentalization research.

**Evidence for Transmission of Mentalization**

One of the main objectives of the present study was to look at whether mentalization, or capacities related to mentalization, would be shown to have been transmitted from parent to child. As stated in the results section above, parent mentalization on the PDI demonstrated a correlation with the composite SCORS score

There is much theoretical support for the notion that these SCORS scales could together capture information about the individual child that is akin to the child’s capacity to mentalize. Westen et al. (1991) posited that the SCORS scales are able to assess the subject’s internalized representations of the self and others, and therefore to tap into the attachment information that is known to directly influence mentalization capacity. Furthermore, Westen et al., (1991) stated that participants’ SCORS values reflect their conscious and unconscious responses to social information in the context of both situational cues and their developmental background, and likened this mechanism to the internal working models of attachment theory. This description bears remarkable similarity to the definition of Reflective Function as an ability to implicitly and explicitly make sense of one’s own and other’s behavior as an expression of mental states (Fonagy et al., 2002). Furthermore, Westen’s analogous reference to attachment theory, the theory from which the concept of reflective function was derived, draws a clear theoretical parallel between values on the SCORS and reflective function abilities.

Indeed, much of the conceptual overlap between the measures of Reflective Function and the SCORS is based in the commonalities of the theories to which they correspond. Stein et al., (2011) point out three key similarities between attachment theory and object relations theory. Firstly, both theories suggest that early relationships with caregivers form the foundation to later experiences of the self and of others. Secondly,
both theories hypothesize that internalized mental representations are the mechanism through which early relationships influence later experience. Thirdly, both theories emphasize the roles of separations and reunions in forming and activating internalized mental representations. As these commonalities suggest, the theoretical mechanism through which early relationships affect later social interactions is shared by both Attachment theory and Object Relations theory. Both theories posit that children internalize the patterns of their interactions with caregivers and begin to direct their own behavior on the basis of the responses they have grown to expect from their caregivers. These internalized expectations of interactions are believed to impact the child’s interpersonal behavior throughout the life span (Niec & Russ, 2002.)

There are also empirically-based parallels that can be drawn between the Reflective Function scale and the SCORS. Firstly, Reflective Function is known to share considerable overlap with the construct of empathy (Katznelson, 2014). Likewise, Niec & Russ (2002) found that the SCORS scales of Complexity of Representations, Affective Quality of Representations, Emotional Investment in Relationships and Moral Standards, and Social Causality were all positively correlated with self and teacher-rater empathy in a sample of 2^{nd}-4^{th} grade children. Secondly, Slade (2005, p.271) states that “mentalization integrates ways of knowing that are at once cognitive and affective.” Similarly, the SCORS composite score is made up of both cognitive and affective components. Past research has demonstrated that the ‘Complexity of Representations’ and ‘Social Causality’ scales consistently correlate with cognitive measures while ‘Affective Quality of Representations’ and ‘Emotional Investment in Relationships’ are understood to be more affective in nature (Inslegers et al., 2012.)
In summary, it is reasonable to conclude that the SCORS composite measure may serve as a proxy for mentalization abilities in the child. Considering this, the correlation of moderate effect-size that was found between parental Reflective Function and the SCORS composite can be cautiously interpreted as pointing toward a transmission of mentalization, thereby supporting Fonagy’s (2006) assertion that parental mentalizing of the child stimulates mentalizing in the child. Of course, without statistically significant results, it is impossible to say that this has been conclusively demonstrated by the present research, and the significant correlation between the SCORS composite and child age further complicates interpretation of the results. Nevertheless, it is worth noting that the moderate effect size of the correlation is in line with that found by Ensink et al., (2015) in their study linking parent RF with child RF in middle childhood.

The proposed connection between parent and child mentalization is supported by a closer look at the data. The parent and child quoted below, referred to as Dyad A for ease of reference, both earned scores indicative of lower levels of mentalization. The parent’s PDI earned an overall score of ‘2’, which lies between the benchmarks of “Absent RF” and “Questionable/Low RF.” Excerpts from the parent interview and child TAT are quoted below:

**Parent Interview:**

I: Describe a time in the last week and you and your child really were not clicking.

P: ‘When she don’t listen. It’s like when- we don’t click when I tell her, “No, I’m not letting you do that.’ Okay, it was her friend’s birthday and she begged me and begged me and begged me that she could go… …she wants to sleep over at (friend’s) house. Her mother say yes and I say no. And (child) was very angry. She was very mad. She was ‘Ohhh! I don’t like you! I don’t like you!’

I: Why do you think she was angry?
P: She’s spoiled! Because I said no!

I: How did it make you feel?

P: It hurts me. Because you know why? I been there… by myself… without help from her father for a long time… and I tell her that. I tell her how I feel. I said, ‘Wow, (child), you are hurting my feelings.’ She goes, ‘So! I don’t care!’

Child TAT: (responding to a card with a picture of a boy in the foreground and a surgical scene in the background)

“Maybe he is having a flashback. Something happened in the past and he is thinking what happened in the past. Next he is going to forget about it. I can’t tell what happened before.”

In her interview, the parent at first leaves her own emotional experience out of the example, providing a moment of not clicking based entirely on her daughter’s behavior—“when she don’t listen.” When asked explicitly how she feels, the parent’s depiction of her own mental state lacks specificity and depth. She says she feels hurt but does not elaborate, instead quickly returning to providing a description of the exchange she had with her daughter rather than the feelings or thoughts informing the behavior. The parent also has difficulty reflecting upon her daughter’s internal states. She identifies that her daughter was mad and angry, but explains the feelings as caused by static traits - because her daughter is spoiled and did not get her way.

Interestingly, the child in the dyad omits a discussion of emotion from her TAT story. (This was consistent throughout this child’s TAT responses.) Furthermore, the thoughts that she attributes to her characters are extremely concrete, related as directly as possible to the action described, much like the mother’s narrative.

In contrast, the dyad below, referred to as Dyad B, is an example on the other side of the reflective functioning spectrum. The parent here scored a 6 on the PDI, the highest
score assigned in the current research sample. This score represents RF that is slightly above average, on its way to being what is referred to as “Marked RF” in which the parent’s narrative demonstrates a fairly consistent reflective stance indicative of a steady psychological model of one’s own and others’ minds. The same excerpt of the PDI and same TAT story are quoted for ease of comparison:

**Parent Interview**

I: Can you describe a time in the last week when you and (child) were not clicking, or did not click?

P: …A particular morning, he just, I pulled the covers off of him, he pulls it right back over him, he just doesn’t feel like wanting to get up, he just, um, questions every motive and every move I’m making- why do I have to wear those jeans? I want to wear the other jeans. Why do I have to put on that shirt? I don’t want to wear that, and I don’t want to brush my hair…

I: And how did you feel?

P: Frustrated, um, I felt my authority was being questioned, and… just um, disrespected.

T: And how do you think he felt?

P: He felt, um, he felt like I was just opposing on his sleep time opposing on what he wanted to wear, he wanted to wear something else. Um, he felt… frustrated as well, annoyed, and tired.

**Child TAT**

(Responding to card with a picture of a boy in the foreground and a surgical scene in the background).

Before I think the grandfather, I believe, was doing… was doing fine but maybe had something with him that was wrong. That he needed surgery. So the kid is like….um, now the grandpa is getting surgery, like three doctors, while the kid is waiting for it to see how he is. In the present I think the grandfather’s gonna be okay. And the kid’s gonna be like, really happy. And I think the kid is feeling like um, like worried about how his grandfather might be. And I don’t think the grandfather’s like, feeling anything right now because usually when you get surgery, you fall asleep. (What are they thinking?) He’s thinking about….he’s thinking about the future, like how, how happy he’s gonna be about seeing his grandpa okay.
Both the parent and child in Dyad B seem to have much to say about the emotional lives of themselves and others. The parent here is able to name her own frustrations about her son in a non-defensive manner that implicitly demonstrates that she takes ownership over her feelings. She is also able to imagine the feelings of her son. While she names frustration as an emotion that is present for both herself and her son, her nuanced thinking about each of their internal states allows her to differentiate the causes of the feeling such that her own feeling is distinguishable from that which she assigns to her son. Moreover, both feeling descriptions seem plausible and situationally appropriate.

The child in Dyad B includes a lot of information about what his TAT characters are thinking and feeling, in stark contrast to the child in Dyad A. This child grapples with the difficulty of a picture with two distinct parts but does not back away from wanting to detail not only the thoughts and feelings of the boy in the foreground but also those of the man on the surgical table. The people in this boy’s narrative come to life as he supplies information about the contents of their minds.

The consistency in mental state focus (or lack thereof) between parent and child within these two dyads, as well as the contrast between Dyad A and Dyad B, provide both support and an illustration of the finding that parent and child mentalization abilities are related to one another. Additionally, this excerpted raw data also invites consideration of the potential mechanisms for the quantitative findings. In Dyad A, the narrative suggests that the mother struggles to create room for thoughts and feelings alongside behaviors. Instead, actions subsume the internal states that precipitated them. It seems that in her relationship with her daughter, this mother has attached her own meanings to
her daughter’s behavior, unable to reflect on her daughter’s likely thoughts, feelings, desires, and other internal states. In turn, this has potentially impaired her daughter’s ability to know her own mind and to reflect upon others’ thoughts and feelings, as demonstrated by the daughter’s omission of internal states while telling stories on the TAT.

A different parallel process seems to have occurred in Dyad B. Here, the mother knows her own mind and can think clearly about her son’s mind. This mother has a nuanced understanding of feelings in which she knows them to be qualitatively affected by their root causes. One can only imagine that this mother’s responses to her child’s behavior are informed by her consideration of the content of his mind. It is no wonder, then, that her son, when faced with the task of telling a story about different characters, demonstrates an ability to think about the thoughts and feelings of the characters in the story. Just as his mother can differentiate her mind from his, he is careful to consider the thoughts and feelings of the different characters separately.

In summary, these excerpts of the data demonstrate the plausibility of the transmission of mentalization. They suggest that a parent’s interactions with her/his child are very much informed by that parent’s experience of the child’s mind. The two parents quoted here not only demonstrate different tendencies toward/away from considering their child’s internal states, they differ in terms of whether they see their child’s motivations as benign vs. malevolent and to what extent they can separate their child’s internal states from that child’s actions and from their own thoughts and feelings as parents. In turn, the children respond in unique ways to the task of telling a story about
characters in a picture, revealing disparate notions of what information is important to convey about people. *

**Hypothesis 2: Parental Reflective Function will be more related to scales pertaining to the self, rather than to the other:**

As reviewed above, theory and research have shown that mentalization plays a role in the development of a sense of self, and that parent mentalization is associated with higher self esteem (Katz et al., 2012). Furthermore, Ensink et al., (2015) found that maternal reflective function was an important predictor of Child self Reflective Function even when child reflective function was disrupted by something like abuse. Due to this prior research and theory, it was expected that scales on the scores that pertain more to the self might demonstrate stronger correlations with parental reflective function than scales pertaining to the other. On the basis of Westen’s (1995) scale descriptions, it was ascertained that the scales that refer to processes directed at the self are ‘Self Esteem’ (SE) and ‘Identity and Coherence of Self’ (ICS). The scales that are more other-directed are ‘Affective Quality of Relationships,’ ‘Emotional Investment in Relationships’ and ‘Social Causality,’ while ‘Complexity of Representations’ and ‘Experience and Management of Aggression’ deal equally with representations of the self and the other. On the basis of this delineation, scores on SE and ICS would be predicted to correlate more strongly with parental RF. This was not found in the present study. ICS correlated with Parental Reflective Function at a value that was consistent with those of other

* It must be noted that the dyads quoted for this example were selected because both parent and child RF were demonstrated to be toward the extremes of high or low for the sample. These are two particular dyads chosen to illustrate what transmission of mentalization can qualitatively look like; they are not indicative of the overall sample.
SCORS scales, and SE demonstrated a surprising moderately-sized *negative* correlation with Parental Reflective Function. Prior to exploring this surprising negative correlation, it is important to note that prior research that has detected a distinction between self-directed mentalization and other-directed mentalization utilized explicit self-report measures of child mentalization. The SCORS, in contrast, is applied to the TAT, in which the narratives that are generated are at once representations of the self and of others projected onto story characters. Therefore, it may be that it is not possible to tease apart self and other-related constructs using this measure.

Nevertheless, the unexpected result of a negative correlation between parent RF and self-esteem requires further exploration. The self-esteem scale on the SCORS assesses the individual’s self-concept (Stein et al., 2011). At the lowest scale values, the individual sees him/herself as evil, and as having negative effects on others. At slightly higher scale values the individual sees the self as inferior and inadequate, and demonstrates low self-esteem. As scores on the scale increase, representations begin to show a range of both positive and negative feelings about the self. At the high end of the scale the individual demonstrates reality-based positive feelings about the self (Hilsenroth, Stein and Pinsker, 2007).

There are various possible explanations for the unexpected result that self-esteem correlated negatively with parent RF. It may be that the lack of statistical significance and small sample size indicate that the negative correlation between parent reflective functioning and child self-esteem reported here is not indicative of a real relationship between these two variables. Alternatively, a measurement issue may have been at play. Westen (2002), as cited in Kelly (2007), stated that three of the scales of the SCORS-G-
(the version of the SCORS utilized here) are hard to score when TATs are the source of data. These three scales are ICS, SE and AGG (Experience and Management of Aggression). In the current data set, two of these three scales showed relationships with parent reflective function that were distinct from those of the other SCORS scales, with SE correlating negatively with parent RF and AGG being the only variable that correlated with parent RF with a negligible effect size. Future research may be able to clarify the veracity or erroneous nature of the negative correlation between parent mentalization and self-esteem found here.

Were future research to demonstrate that the finding between parent RF and child self-esteem on the SCORS was not a statistical accident, a non-statistical explanation for this finding would be warranted. One such explanation revolves around the fact that for this study the child population utilized was a clinical population. The exact diagnoses of the children in the study are not known. However, it can be hypothesized on the basis of the general child population at the Psychological Center and the fact that the main referral sources are neighborhood schools that the children in the sample likely suffered some internalizing difficulties such as depression, and some externalizing difficulties such as acting out or attention problems in school. With greater mentalization capacities comes greater self-awareness, greater knowledge of what one is thinking and feeling, and greater insight into what others’ think and feel, including about oneself. It may be, then, that in this clinical population, in which the children can assumed to have a good deal of negative affect and problematic relationships, greater insight into their own affect and others’ perceptions of the self could in fact lead to lower self-esteem. Indeed, this might be especially true given that the data was collected just as these children were presenting
for intake at the Psychological Center, with their psychological difficulties thus being front and center in their minds.

Hypotheses 3: There will be a positive correlation between parent RF and child SCORS values on the ‘Affective Quality of Representations’ scale.

The ‘Affective Quality of Representations’ scale assesses the general emotional tone of a child’s representations of people and relationships. Rather than moving along a developmental trajectory as do many of the other scales, progression on this scale is marked by the move from predominantly negative to predominantly positive object representations. (Indeed, this scale did not correlate significantly with child age). At the lowest point on the ‘Affective Quality of Representations’ scale, people are represented as violent or abandoning, and at the highest scale point interactions with others can be seen as not only benign but also valuable.

As was true of all correlations between outcome variables, the relationship between parent RF and child values on the ‘Affective Quality of Representations’ scale was not statistically significant. The effect size of the correlation (.15), was of a magnitude considered to be indicative of a small clinical relationship. This points toward the relationship between the variables that was expected, but must be replicated with statistically significant results in order for this relationship to be truly empirically established.

Hypothesis 4: There will be a positive correlation between parent RF and child SCORS values on the ‘Identity and Coherence of Self’ scale.
The correlation between parent RF and child values on the ‘Identity and Coherence of Self’ scale had an effect size of .197, indicating a small/moderate clinical relationship. Again, in order for this relationship to be definitively demonstrated, replication with statistical significance would be necessary. Nevertheless, this meaningful effect size suggests that as expected, there is some relationship between parent mentalization capacities and a measure of selfhood.

The ‘Identity and Coherence of Self’ scale measures the extent to which the sense of self is firmly established and integrated. Low scores on this scale depict a fragmented sense of self. Scores in the middle point to an unstable sense of self in which multiple aspects of selfhood can shift easily (including goals or emotions about the self). At the higher levels of this scale the individual’s representations suggest the achievement of a consistent and integrated sense of self complete with long-term aspirations and a sense of purpose (Hilsenroth et al., 2007). As summarized in the literature review, Fonagy’s theory of mentalization posits that parent reflective function is crucial in the development of a secure and integrated sense of self. The current findings lend tentative empirical support to that view.

**Hypothesis 5: There will be a positive correlation between parent RF and child SCORS values on the ‘Understanding of Social Causality’ scale.**

The ‘Understanding of Social Causality’ scale on the SCORS measures the accuracy, rationality, complexity and psychological-mindedness of the attributions that individuals make about the causes of other people’s behavior, thoughts and feelings (Westen, 1991). Low scores are earned when individuals give explanations of
psychological or interpersonal events that are either not based on the idea of causality at all, or that are illogical. At the scale’s midpoint, representations demonstrate accurate depictions of causality and rudimentary understanding of the ways in which thoughts and feelings affect behavior. At the highest scale point, not only is there a complex understanding of how thoughts, feelings and behaviors interrelate as causal factors in interpersonal interactions, there is also an understanding of unconscious motivations. On the level of face validity, this scale shares the most conceptual overlap with theory of mind, although there is no known empirically demonstration of a quantitative relationship between the two.

The correlation between parent RF and child scores on the ‘Understanding of Social Causality’ scale had an effect size of .2, another small-moderate clinical relationship. This finding echoes the studies that have demonstrated links between parent mentalization and child Theory of Mind development (Meins et al., 2013; Meins et al., 2002). However, unlike the prior two scales discussed, the ‘Social Causality’ scale had a strong significant correlation with child age (Rho= .8, p < .001). This significant correlation with age (in a sample with children of a wide range of ages) complicates the ability to say that it is parent mentalization, rather than merely child age, which affected child scores on the scale.

**Evidence for Effects of Parent Mentalization on Child Internal Representations of Object Relations**

Although initial hypothesis predicted that the three scales discussed in Hypotheses 3-5 would correlate most strongly with parent RF, the actual data showed similar effect
sizes for each of the individual SCORS scales, as well as the SCORS composite. Therefore, it is worth considering what the findings of small and moderate effect sizes can say about the relationship between parent mentalization and child object relations in the context of object relations research.

Firstly, it should be noted that the design of the current study is unique in the context of the existing SCORS literature. Past SCORS research has primarily been used to distinguish between clinical and nonclinical groups of children. The current study aims to go one step farther and consider how a child’s object relations are affected by a characteristic of their parents rather than a characteristic of the children themselves. Given the insignificant findings, it is not possible to say that it has been demonstrated that parent mentalization has been shown to be linked to child object relations. Nevertheless, it is noteworthy that the effect sizes in the present research point toward a meaningful result given that the variable of parental mentalization is far more subtle and less concrete than other factors studied with the SCORS to date, such as the presence of a diagnosis or the experience of abuse. This suggests that parental mentalization should be taken seriously as a factor that affects child and adolescent object relations.

Previous SCORS research also provides an alternative explanation for the results. As cited above, several studies have worked to establish the SCORS as a developmental measure. While some studies have shown no correlation between SCORS ratings and child age (Inslegers et al., 2012) others have found the scales to be able to discriminate among developmental levels in participants (Niec & Russ, 2002; Westen et al., 1990). In the current sample, the SCORS composite score and three of the individual SCORS scales correlated significantly with child age. This suggests that at least in the case of the
SCORS composite and these three scales, the relationship between parent RF and child Object Relations functioning was heavily influenced by child age. A closer look at the individual SCORS scales not discussed above will further shed light on what the results suggest about how parent mentalization might affect child object relations functioning.

Emotional Investment in Relationships

This scale considers the nature of the participant’s representations of relationships, and in particular, what can be gained from relationships with others. At the lower levels of the scale, considered to be consistent with earlier stages of development, the individual demonstrates concern only for himself, seeing relationships merely as a means of gratifying of his own needs. Increasing scores on this scale indicate increased investment in relationships, and increased mutuality, commitment, empathy and concern. At the highest scale point, individuals have representations that demonstrate an ability to maintain a strong sense of their autonomous self in the context of mutual relationships (Westen, 1991). The positive correlation of moderate effect size between parental RF and the ‘Emotional Investment in Relationships’ scale may suggest that children whose parents mentalize more are more able to differentiate self from other, and to consider relationships as mutually rewarding. However, the ‘Emotional Investment in Relationships’ scale was one of the scales that correlated significantly with child age. If future research were able to replicate this relationship while controlling for child age, this finding would be considered consistent with prior research finding that children whose parents engage in more emotion-coaching have better peer-relationships (Katz et al., 2012).

Complexity of Representations of People
This scale captures the extent to which representations of the other are differentiated from the self, complex, and able to integrate both positive and negative traits (Westen, 1991). Low values on this scale demonstrate representations of others that are undifferentiated from the self and focused on actions rather than personality. Furthermore, low scores on this scale are consistent with the assumption that traits are global and either all good or all bad. At the midpoint of this scale the individual is able to represent others as having a small amount of personality or internal mental life. High values on this scale connote representations of others in which subjective experience is grasped in a complex way and history and other factors are understood to inform personality. In many ways, this scale is able to measure some of the factors that were noted as distinct in the examples of Dyad A and Dyad B above. As discussed earlier, the mother in Dyad B demonstrated an ability to differentiate herself from her son in a way that was not as evident in the mother in Dyad A. Furthermore, it was noted that the characters in the story told by the child in Dyad B demonstrated a greater presence of internal life than the story told by the child in Dyad A. This scale also correlated significantly with child age.

Experience and Management of Aggression

The only scale that did not seem to relate to parental mentalization in any meaningful way was that of Experience and Management of Aggression. A bottom score on this scale is assigned when the participant’s representations are of people who have limitless aggression and no ability to control it, who are sadistic and violent. A slightly higher score is assigned when representations display anger, passive aggression, and an inability to stave off physical harm to the self. At a higher level anger is avoided through
the use of defense mechanisms, and at the highest level anger is appropriately expressed and people are able to practice appropriate self-assertion.

It may be that the fact that the present research drew children from a clinical population influenced the null finding of a relationship between parent mentalization and child management of aggression. In a clinical sample of predominantly male children in middle childhood, the aggression associated with much of the psychopathology of children of this age may have overpowered any connection between parent characteristics and child functioning in this particular domain of object relations.

Limitations

Several factors must be considered as limitations to the conclusions that can be drawn on the basis of the present research. There are certain aspects of the sample that bear mention. The sample size of the current study is small, which lowered the possibility of finding statistically significant results. Statistical significance provides a certain confidence in the findings that cannot be provided by effect sizes alone. Combined with the small sample size, the large range of child ages included in the study poses a particular difficulty in the interpretation of the results due to the significant correlation between child age and some of the SCORS scales. Future research should either use a sample of more homogenous age, or a larger sample size in which the effects of child age can be more easily measured. Finally, as mentioned previously, there was limited variability in the Reflective Function scores of the parents in the sample, with all scores falling in the middle range of Reflective Function, and a dearth of either particularly low
or particularly high RF values. This imposed yet another challenge to achieving statistically significant results.

Other aspects of the sample limit the generalizeability of the present research. Firstly, the vast majority of the parent participants in the study were mothers, also limiting the generalizeability of the results to fathers and other caregivers. With regard to the children included in the research, the current sample was culled from a clinical population, with all children in the study either receiving or seeking psychotherapy treatment at the time of testing. This may affect the generalizeability of the results to a non-clinical sample.

In addition to limitations pertaining to the sample, there are limitations related to the correlational methods utilized in the current study, namely that causality cannot be established. We cannot know if it is indeed parental reflective function that affects children’s performance on the SCORS scales, or if other factors are at play and influencing both variables. For example, maternal education level has been found to influence children’s performance on theory of mind tasks (Meins et al., 2002; Meins & Fernyhough, 1999). Similarly, parental education has inconsistently been found to influence parental reflection scores (Rosenblum et al., 2008; Fonagy et al., 1991c). Future research would benefit from measurement of parental education to better understand the ways in which this factor might play a role in the transmission of mentalization capacities. Likewise, two subscales of the SCORS- the ‘Understanding of Social Causality’ and ‘Complexity of Representation of People’ scales- have been found to be related to child verbal achievement (Pinsker-Aspen, Stein & Hilsenroth, 2007; Niec & Russ, 2002; Levy, Blatt & Shaver, 1998; Leigh, Westen, Barends, Mendel & Byers,
Since child verbal achievement was not measured as part of this research, it is not impossible that some connection between parent and child intelligence and/or child verbal skill is driving some of the connections observed here.

One final limitation of the present research is the lack of consistency in the administration of the PDI interview and the TAT. The interviews and TATs were administered by a diverse group of training therapists, some of whom were more practiced than others in the administration of these instruments. The quality and nature of the inquiry is therefore not uniform across data points, which may have affected the results. Although it is not logical that this would have affected the trends observed in any systematic way, it is nevertheless a methodical limitation of the present research that should be addressed in any future studies.

**Future Directions**

In order to address the limitations presented above, it would be beneficial for future research to replicate the present study with a larger sample so as to increase statistical power and possibility of generalization of the results. A larger sample size would also permit the direct measurement of the potential effect of child age on the relationship between parent and child mentalization. Future studies should also measure parent educational level and child verbal intelligence, given the mixed prior findings of the importance of these factors in influencing both of the outcome measures used in the present research. Finally, in the present study the SCORS has been used as a proxy for child mentalization. Future research might more explicitly measure child mentalization
alongside the SCORS to empirically demonstrate the utility of the SCORS in detecting aspects of child mentalization capacities.

Another important direction for future research would be a study looking simultaneously at both attachment and mentalization transmission, given the well-established reciprocal relationship between the two constructs, outlined in the literature review. While mentalization is considered to be one of the likely mechanisms for the intergenerational transmission of attachment, the reciprocal may also be true—attachment may mediate the transmission of mentalization across generations. As stated above, Arnott and Meins (2007) found that RF on the AAI predicted secure infant attachment for both mothers and fathers above and beyond narrative coherence, the major determinant of the autonomous attachment classification. Furthermore, attachment has been found to predict earlier Theory of Mind development (Meins, 1997) and performance on theory of mind tasks in early childhood (Fonagy et al., 1997). To the extent that Theory of Mind bears much conceptual overlap with mentalization, and with aspects of the SCORS such as Social Causality, these findings alongside those of the present research beg the question of how parental RF and attachment security work together to influence child Theory of Mind/mentalization abilities.

A new body of theoretical work also raises new questions about the role attachment may play in the transmission of mentalization. Fonagy and Campbell (2015) posit that one of the major evolutionary advantages of attachment is its provision of a context in which mentalization capacities are acquired and social understandings are achieved. Along with this notion comes the idea that within the attachment relationship epistemic trust is generated through ostensive cues. Ostensive cues are information that is
signaled as being an important communication of culturally relevant material (such as the infant’s expressions, which are marked and mirrored by the caregiver). Mind-oriented behaviors such as those involved in mentalization inherently provide an abundance of ostensive cues, leading to a dynamic between adult and child in which each one is receptive to new information and learning (Fonagy et al., 2017). Furthermore, where epistemic trust exists (within a secure attachment relationship) the recipient of the information is more likely to perceive information from the communicator as both relevant and generalizeable (Fonagy et al. 2017). Both of these ideas have implications for the development of mentalization capacities in the child, and the process of transmission of mentalization. If mind-minded behaviors provide an environment of receptivity to new information, then children in relationships with mentalizing caregivers may be more open to learn about internal states- their own and others’. Similarly, where more epistemic trust has been generated, the child marks information received about his own and others’ internal states as more relevant and able to be generalized, thus being perhaps more likely to continue to mentalize both himself and others. Epistemic trust is therefore an important potential mediator/moderator to be considered in future research on the transmission of mentalization.

Last but not least, in order to successfully tackle the question of mentalization transmission from an empirical standpoint, research must address the development of mentalization in childhood. As stated in the literature review, there is a rather nuanced and comprehensive theory about how mentalization develops, but little empirical literature to support it. Very recent theoretical developments may highlight a pathway forward in the study of mentalization development. In the present, researchers are
highlighting the multidimensional nature of mentalization with four main dimensions having been identified: (1) cognitive/affective (2) self/other (3) implicit/explicit and (4) inner/outer (pertaining to noticeable external cues like facial expressions versus unobservable inner cues like motivations or wishes) (Bateman & Fonagy, 2011). The acknowledgment of these four dimensions reinforces the merit of empirically studying the quality as well as quantity of mentalization. Furthermore, they help to delineate a pathway forward in studying how mentalization gone awry can inform development of psychopathology. For example, Sharp and Fonagy and colleagues (Bo et al., 2017; Fonagy et al., 2015; Sharp, 2104) posit a model of Borderline Personality Disorder in which patients with BPD are seen as having the propensity to hypermentalize- meaning that they attribute motivations, desires, beliefs, etc. to other people when there is no objective evidence to inform these attributions (Sharp et al., 2013 as cited in Bo et al., 2017). This hypermentalizing tendency is believed to result from an un-ideal interaction between the dimensions of mentalization in which cognitive and affective mentalizing are unintegrated, there is difficulty in distinguishing whether mental states belong to the self or the other, and implicit/explicit mentalization can not be flexibly alternated due to contextual demands. This example highlights the utility of considering variation among the four dimensions of mentalization in future research. Specifically, as models of mentalization development are empirically tested, the ways in which capacities along these four dimensions come into being will be profoundly informative for future understanding of mentalization transmission and the development of psychopathology.

Conclusion
In conclusion, the present study adds to a small body of research considering the ways in which parent and child mentalizing capacities are linked, as theory would predict. The current research extends this area of inquiry to a child clinical sample. By utilizing measures created from similar but distinct theoretical traditions, this study forges new ground in illustrating a connection between mentalization and object relations. Taken together, the study results highlight the importance of parent reflective functioning in the mentalization capacities and object relations functioning of children with psychological distress.
REFERENCES


Westen, D. (2002). Social cognition and object relations scale for TAT and projective stories (SCORS). Unpublished manuscript, Department of Psychology at Emory University, Atlanta, GA.
