MATERNAL MIND-MINDEDNESS AND REFLECTIVE FUNCTIONING IN RELATION TO MATERNAL SENSITIVITY: A CROSS-CONTEXTUAL EXAMINATION

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DECLARATION OF ORIGINALITY

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ABSTRACT

Maternal Mind-Mindedness and Reflective Functioning

in Relation to Maternal Sensitivity:

A Cross-Contextual Examination

Recent research on the infant-parent relationship emphasizes the importance of parental mentalization. In the present study, parental mentalization as a novel concept has been examined using different constructs with a sample of seventy-four infant-mother dyads in Turkey. Parental reflective functioning corresponds to parental mentalization on a representational level, whereas interactional mind-mindedness refers to parental mentalization in performance. This study aimed to investigate the relationship between these different constructs as well as their relationship with sensitivity. Parental reflective functioning was assessed with a questionnaire. Mind-mindedness and sensitivity were assessed via direct observations of the mother-infant interactions. Another aim of this study was to compare mind-mindedness assessed in stressful and non-stressful contexts. Thus, maternal mind-mindedness was observed in exploration, picture book, and the stressful reunion contexts in addition to traditionally used free-play. Results revealed that during the stressful episode, mothers made more mind-related comments on their infants' mental states than they did in non-stressful situations. Furthermore, the rate of appropriate and non-attuned mind-related comments across different contexts were differentially related with sensitivity measures. In terms of the relationship between parental reflective functioning and mind-mindedness, they were related to each other only when mind-mindedness was assessed in the exploration episode. In addition, a mediator effect of mind-related comments during exploration was found

in the relationship between parental pre-mentalization and sensitivity. These results were discussed with regard to different contextual needs and cultural effects.

ÖZET

Annenin Zihin Yönelimliliği ve Yansıtıcı İşleyişinin Anne Duyarlılığı ile İlişkisi: Bağlamlar Arası Bir İnceleme

Ebeveyn-çocuk ilişkisi üzerine yapılan son araştırmalar, ebeveyn zihinselleştirme kapasitesinin önemini vurgulamaktadır. Bu çalışmada, yeni bir kavram olan ebeveyn zihinselleştirme kapasitesi, farklı ölçüm teknikleri kullanılarak yetmiş dört anne-bebekten oluşan bir örneklemde incelenmiştir. Ebeveynin yansıtıcı işleyişi, temsil düzeyinde ebeveyn zihinselleştirme kapasitesine karşılık gelir. Oysa, etkileşimsel zihin yönelimlilik, performansta ebeveyn zihinselleştirme kapasitesini işaret eder. Bu çalışma, ebeveyn zihinselleştirme kapasitesinin bu farklı ölçümleri arasındaki ilişkiyi ve bunların duyarlılıkla ilişkisini incelemeyi amaçlamaktadır. Ebeveynlerin yansıtıcı işleyişi bir anket ile değerlendirildi. Zihin yönelimlilik ve duyarlılık, anne-bebek etkileşimlerinin doğrudan gözlemlenmesi ile değerlendirildi. Bu çalışmanın bir diğer amacı, stresli ve stresli olmayan bağlamlarda değerlendirilen zihin yönelimliliği karşılaştırmaktı. Böylece, geleneksel olarak kullanılan serbest oyuna ek olarak keşif, resimli kitap ve stresli yeniden birleşme bağlamlarında annenin zihin yönelimliliği gözlemlendi. Sonuçlar, stresli olay sırasında annelerin, bebeklerinin içsel durumları hakkında, stresli olmayan durumlarda yaptıklarından daha fazla zihinsel yorum yaptıklarını ortaya koydu. Ayrıca, farklı bağlamlarda çocuğun içsel durumuna uygun veya uyumlanmamış zihinle ilgili yorumların oranı, duyarlılık ölçüleriyle farklı şekilde ilişkili bulundu. Ebeveynlerin yansıtıcı işlevi ile zihin yönelimlilik arasındaki ilişki ise, yalnızca keşif bağlamında zihin yönelimlilik değerlendirildiğinde bulundu. Ek olarak, ebeveynlerin yansıtıcı işleyişlerinde zihinselleştirme öncesi biçimler ile duyarlılık arasındaki ilişkide, keşif sırasında zihinle ilgili yorumların aracı etkisi

bulunmuştur. Bu sonuçlar, farklı bağlamsal ihtiyaçlar ve kültürel etkiler açısından tartışıldı.

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ABBREVIATIONS

AMRC:	Appropriate Mind-Related Comments
AR:	Autonomy Respect
MM:	Mind-Mindedness
MRC:	Mind-Related Comments
NAMCR:	Non-Attuned Mind-Related Comments
PRF:	Parental Reflective Functioning
PRFQ:	Parental Reflective Functioning Questionnaire
PRFQ_PM/PM:	Parental Reflective Functioning Questionnaire Pre-Mentalizing Modes Subscale
PRFQ_CMS/CMS:	Parental Reflective Functioning Questionnaire Certainty of Mental States Subscale
PRFQ_IC/IC:	Parental Reflective Functioning Questionnaire Interest and Curiosity in Mental States Subscale
SP:	Supportive Presence

CHAPTER 1

INTRODUCTION

From the early months of life, it is important to regard children as having internal mental states like emotions, cognitions, and desires. Parental mentalization is defined as the capacity of parents to represent their children's activity in terms of internal mental states such as emotions, cognitions, or preferences (Sharp & Fonagy, 2008; Zeegers, Colonnesi, Stams, & Meins, 2017).

The sense of security in the relationship with the caregiver, which provides a basis for later relationships, is reinforced by the capacity of the parent to represent and reflect the child's inner world (Fonagy, Steele, Steele, Moran, & Higgitt, 1991). Mothers with better ability to mentalize are more likely to have securely attached children (Meins, Fernyhough, Fradley, & Tuckey, 2001; Arnott & Meins, 2007; Sharp & Fonagy, 2008; Zeegers et al., 2017). Furthermore, the parents' capacity to mentalize the child contributes to children's socioemotional development (Sharp & Fonagy, 2008). Furthermore, parents' mentalization ability predicts children's mentalizing capacities measured by the theory of mind tasks (Meins & Fernyhough, 1999; Meins et al., 2002; Meins et al., 2003; Rosso, Viterbori, & Scopesi, 2015; Camoirano, 2017) and behavioral adjustment (Smailing, Huijbregts, Van der Heijden, Van Goozen, & Swaab, 2016; Meins, Centifanti, Fernyhough, & Fishburn, 2013). Finally, this capacity contributes to parental sensitivity in the interaction with the child. This is because parents with this capacity can respond in a timely manner by interpreting their child's mental state appropriately while considering both physical and emotional needs of the child. Mothers who are high on this ability to

mentalize are more likely to be sensitive in their interactions with their children (Laranjo, Bernier, & Meins, 2008; Zeegers et al., 2017).

The capacity of parental mentalization is operationalized with three indices: mind-mindedness, parental reflective functioning, and parental insightfulness (Sharp & Fonagy, 2008; Zeegers et al., 2017). Of particular interest to the present study are two indices of parental mentalization, namely mind-mindedness and parental reflective functioning. Mind-mindedness is defined as the inclination of parents to approach their children as mental agents (Meins et al., 2001). On the other hand, parental reflective functioning is defined as the parents' capacity to represent their children's inner world by including internal mental states (Slade, 2005).

Parental sensitivity which relates to both mind-mindedness and parental reflective functioning is defined as a multifaceted attitude requiring parents to pick up their child's cues related to his/her needs and discomfort and social cues, first. Then, parents are required to comprehend those signs accurately and reply to those cues fast and properly to be characterized as sensitive (Ainsworth, 1967, as cited in Bretherton, 2013). In her definition of sensitivity, Ainsworth emphasized attunement to the infant's state and timing, and shared enjoyment during infant-mother interaction (Ainsworth, 1967, as cited in Bretherton, 2013).

To date, most studies on maternal mind-mindedness (maternal MM) have focused on free-play episodes (Meins et al., 2002; Meins et al., 2003; Laranjo et al., 2008). However, recent studies have started to explore maternal MM in activities other than free play (McMahon & Bernier, 2017; McMahon & Newey, 2018). It was even suggested that it would be meaningful to examine this capacity in stressful situations (Bigelow, Power, Bulmer, & Gerrior, 2015; Milligan, Khoury, Benoit, & Atkinson, 2015). Nevertheless, a comparison of the extent of maternal MM across

different contexts has not been done. To fill in this gap in the literature, the present study aimed to identify maternal MM not only in free-play, but also in picture book-reading, exploration and reunion upon separation episodes with a sample of Turkish infants and their mothers in a laboratory setting.

Second, the relationship between maternal MM and parental reflective functioning (PRF) was evaluated. Those two concepts associated with parental mentalization are conceptually very closely related to each other. Even, in some studies they were tackled together, combined under the name of parental mentalization (Sharp & Fonagy, 2008; Zeegers et al., 2017). However, empirical studies looking at the relationship between the two are very rare (Rosenblum, McDonough, Sameroff, & Muzik, 2008; Zeegers et al., 2017).

Finally, the relationship between mentalization indices (MM and parental reflective functioning) and parental sensitivity was examined. Based on previous research (Rosenblum et al., 2008; Stacks et al., 2014), it was expected that parental sensitivity would be correlated with both maternal MM and parental reflective functioning. Going beyond the available studies, a mediational model was tested to explore whether parental reflective functioning capacity contributes to maternal MM, which in return predicts maternal sensitivity.

CHAPTER 2

LITERATURE REVIEW

2.1 Parental mentalization

Parental mentalization refers to "parent's capacity to treat the child as a psychological agent" (Sharp & Fonagy, 2008, p.748). This capacity requires parents to see their children as intentional beings motivated through internal states such as feelings, desires, and wishes. This capacity was proposed as an alternative to sensitivity and other parenting constructs in the quest of factors that predict infant-parent attachment security (Meins et al., 2001; Fonagy, Steele, & Steele, 1991). Parental mentalization has been conceptualized with three indicators, namely parental MM, parental reflective functioning, and parental insightfulness (Sharp & Fonagy, 2008; Zeegers et al., 2017). Although these indicators refer to similar capacities of parental mentalization, their assessment methodologies and their emphasis differ.

First, MM was defined as "the proclivity to treat one's child as an individual with a mind" (Meins & Fernyhough, 1999, p.363). It is important to see the child as having internal states like emotions, cognitions, and desires. This is because this capacity contributes to infant-parent attachment security and children's later social emotional development and adjustment. Often the parents' capacity of mind-mindedness is inferred through their explicit statements about children's mental states during an interaction. Their statements suggest that parents represent their children as individuals who have internal states, and they make attributions to their children's behaviors by referring to those internal states. In addition, if parental attributions are appropriate to the child's ongoing activity (e.g., If the mother

comments “You like that toy” while the infant playing joyfully with a toy), such attributions would be seen as indicators of mind-mindedness capacity.

Maternal MM is typically assessed by examining the mother’s speech to her child during dyadic interactions. This method enables researchers to see whether the mother treats the baby as an individual with a mind in real life-interaction. Thus, this is an “online” measure of parental mentalization with an emphasis on parent’s explicit statements about the internal world of the child. Those statements that include words of emotions, cognitions, desires and preferences (e.g., “You feel happy”; “You want to have this ball” or “You like to look at this book”) or statements that include guesses of the mother about her child’s internal states (e.g., “As if you are saying that mommy I want this one”) are considered as examples of MM.

Second, parental reflective functioning was defined as “the parent’s capacity to hold the child’s mental states in mind” (Slade, 2005, p.284). Parent’s representations of their infant’s mind, how the parent relates to the infant’s mind, and their beliefs about mental processes are analyzed. The construct of parental reflective functioning focuses on parents’ representations of their children. For parental reflective functioning assessment, the parent’s interest and curiosity in the child's mind, how opaque the parent sees mental processes, whether he/she is aware of the separateness of his/her mind and the infant’s mind, and whether he/she has malevolent attributions for the child are substantial. There are two different methods for the assessment of parental reflective functioning: interview and questionnaire. Both methods include questions related to parents’ acceptance of their children as having an inner world of their own, parents’ level of awareness of their children’s mental processes and their ideas about the nature of the mental processes.

Third, insightfulness, on the other hand, refers to the capacity "to provide an emotionally complex, accepting picture of the child" and to evaluate the child's behavior in terms of underlying motives with an open and understanding manner (Oppenheim & Koren-Karie, 2009, p.268; Koren-Karie, Oppenheim, Dolev, Sher, & Etzion-Carasso, 2002; Zeegers et al., 2017). Insightfulness Assessment (IA) puts focus on parents' reflections on their children's internal world. To assess parental insightfulness, parents are asked specific questions about their children's behaviors and expressions that require parents to infer meanings in response to their children's cues. In other words, researchers are trying to assess the processes that implicitly operate inside the mother during interaction with their child by inviting mothers to monitor the baby's mind. The parents are expected to make these implicit processes explicit as in mind-mindedness assessment. However, insightfulness assessment is an offline process such that parents are asked questions regarding their child's mind after the interaction occurs. Parent-child interaction is recorded in three situations: play, teaching and caregiving. After the interaction, parents are shown clips from those recordings and invited to make attributions to their children's behavior by asking what the feelings or thoughts behind their children's behavior might be. In mind-mindedness assessment, on the other hand, parents are expected to spontaneously verbalize their inferences on their infant's mind without an invitation from the researchers and their expressions should be directed to their infant to be counted as mind-related.

In the present study, maternal MM during ongoing interactions and parental reflective functioning via a questionnaire were assessed as indicators of parental mentalization with a sample of Turkish mothers of infants. Maternal mentalization measured by online (mind-mindedness) and offline (parental reflective functioning)

measures were examined in relation to direct behavioral observations of maternal sensitivity in Free-Play.

2.1.1 Mind-mindedness

As noted above, mind-mindedness was defined by Meins and colleagues as “the proclivity to treat one’s child as an individual with a mind” (Meins & Fernyhough, 1999, p.363). This term suggests a capacity of the parent beyond attributing intentionality to one’s child. The attribution of a mind to the child includes to see the child as having an imagery of the world on one’s own and a separate judgment of reality (Meins et al., 2001; Sharp & Fonagy, 2008). Being mind-minded refers to the mothers’ ability to attribute emotions, cognitions, desires and preferences to one’s child (Meins & Fernyhough, 2015).

There are two qualitatively different measures of MM: representational and interactional measures. The former is used for the assessment of MM of the parents having children from preschool-age upward. In this method, parents are asked to describe their children during a short interview: “Can you describe [child’s name] for me?” Parents' attributions for their children are categorized as mental (e.g., She likes cats), behavioral (e.g., She plays football), physical (e.g., She has a freckled face) or general (e.g., She is very cute). The proportion of mental attributes among all descriptive words constitutes an index of MM (Meins & Fernyhough, 2015; Meins, Fernyhough, Russell, & Clark-Carter, 1998). The latter, however, assesses parents’ MM during an interaction with their infant. In the scope of the present study, interactional measures of MM were used because the sample consisted of mothers of infants.

Of particular interest to the present study are interactional measures of MM that require analysis of the mother's talk to her child during a dyadic interaction. By analyzing the mother's speech towards the child, MM researchers observe whether the mother treats the baby as an individual with a mind in real life-interaction. The coding system developed by Meins, Fernyhough, Fradley, and Tuckey (2001) requires some steps to assess MM. First, researchers need to transcribe mother's talk during interaction. Second, the talk of the mother should be separated into individual comments based on temporal or semantic discontinuities. Third, those individual comments should be classified as mind-related or not mind-related. Mind-related comments should include mental state terms which refers to infant's emotions (e.g., Are you excited?), cognitions (e.g., Do you remember this toy?), desires and preferences (e.g., Would you like to play with me?), or epistemic states like teasing. Besides, if the caregiver voices what the infant is saying or thinking (e.g., Mommy, give me the ball), this comment should also be counted as mind related. Finally, mind-related comments should be coded as appropriate or non-attuned in terms of the infant's state during interaction. Mind-related comments should be classified as appropriate if the parent correctly refers to the infant's mental state during ongoing activity. For example, if the mother asks, "Do you want the ball" while the infant is trying to reach the ball, then the mother's comment is counted as appropriate. In addition, if the parent links infant's ongoing activity to a past or future event using mental state terms (e.g., mother asks "Do you remember that you saw a giraffe like that in the zoo" while the infant is playing with a giraffe), then it should be counted as appropriate. If parents' comments do not match with the internal state of the child, then those comments, although they are mind-related, should be coded as non-attuned. For example, if the parent says that "You don't like it" when the child is

engaged with a toy playfully, then this comment is considered as non-attuned (Meins & Fernyhough, 2015).

Meins et al. (2002) found that appropriate maternal MM comments at 6 months predicted children's performance on the theory of mind tasks at age 4. The security of attachment assessed at age one and non-appropriate mind-related comments were not associated with children's performance on these tasks (Meins et al., 2002). The link between appropriate mind-related comments of mothers during infancy and children's theory of mind performance at preschool age was replicated by the subsequent studies (Meins, Fernyhough, Arnott, Leekam, & Rosnay, 2013; Laranjo, Bernier, Meins, & Carlson, 2010; Laranjo, Bernier, Meins, & Carlson, 2014; Hughes, Devine, & Wang, 2018; Meins et al., 2003; Lundy, 2013). Of those studies, Lundy (2013) found that both maternal and paternal MM were related to children's greater performance on theory of mind tasks.

Meins et al. (2013) also examined the relationship between maternal MM at infancy and children's behavioral problems at age 4 and 5. They found that maternal MM was inversely correlated with children's behavioral difficulties especially for the low SES group. Laranjo and Bernier (2013) found that maternal MM (especially maternal comments on infant's cognitions) was correlated with children's expressive language. Finally, Bernier, McMahon, and Perrier (2017) conducted a longitudinal study and found that the link between MM and school readiness was mediated through children's expressive vocabulary at age 2 and effortful control at ages 3 and 4.

In the first version of the coding system, Meins et al. (2001) have included five measures of MM: maternal responsiveness to change in the infant's direction of gaze, maternal responsiveness to the infant's object-directed action, imitation,

encouragement of autonomy, and appropriate mind-related comments. They found that the appropriate mind-related comments (i.e., comments which relate to the mind and ongoing activity of the infant) were the only predictor of attachment security.

To date, growing research has examined the relationship between appropriate mind-related comments and of attachment security. These studies have found that MM was positively correlated with attachment security (Arnott & Meins, 2007; Laranjo et al., 2008; Demers, Bernier, Tarabulsy, & Provost, 2010a; Meins et al., 2012). One study found that only adult mothers' MM, not adolescent mothers, was positively related to infant attachment security (Demers et al., 2010a). Finally, Meins and colleagues (2012) showed that appropriate and non-attuned mind-related comments independently predicted infant attachment security and disorganized attachment. Specifically, appropriate mind-related comments were related to attachment security, whereas non-attuned mind-related comments were related to attachment disorganization (Meins et al., 2012).

Existing research shows that MM is positively correlated with parental sensitivity (Meins et al., 2001; Meins et al., 2012; Demers et al., 2010a; Laranjo et al., 2008; Lundy, 2003; Rosenblum et al., 2008). Of those, some studies compared the relative contribution of sensitivity and MM to attachment security. For example, Meins et al. (2001) reported that the category of appropriate mind-related comments was a more powerful predictor of attachment security than maternal sensitivity (Meins et al., 2001). Laranjo et al. (2008) found that sensitivity was a mediator in the relationship between MM and infant attachment (Laranjo et al., 2008). Adult mothers' MM capacities were found positively related to maternal sensitivity (Demers et al., 2010a). Farrow and Blissett (2014) found that maternal MM was

correlated positively with maternal sensitivity in general and mothers' specific sensitivity in relation to feeding.

2.1.2 Mind-mindedness in different contexts

Ainsworth (1979) argued that maternal sensitive responsiveness was not dependent on contexts (feeding, close bodily contact, face-to-face interaction, or situations in which infant cries). On the other hand, Thompson (1997) suggested that parental sensitivity assessed during stressful situations for children might be more predictive of attachment security than parental sensitivity during non-stressful situations such as feeding, play, or routine care. He also argued that such an account could help to build a more thorough description of both sensitivity and other features of care promoting attachment security. In accordance with Thompson's suggestion, sensitivity to distress predicted attachment security as well as child socioemotional development better than other sensitivity dimensions (e.g., sensitivity to positive emotions or non-distress) (Del Carmen, Pedersen, Huffman, & Bryan, 1993; McElwain & Booth-LaForce, 2006; Leerkes, Blankson, & O'Brien, 2009).

Based on these findings, one might argue that MM as a predictor of attachment security should be assessed in different situations. However, most studies have examined maternal MM within the context of free play interactions (Meins et al., 2002; Meins et al., 2003; Laranjo et al., 2008). Only a few studies have assessed maternal MM comments in different contexts. For example, Rosenblum and colleagues (2008) assessed MM during free-play and two teaching episodes. However, they did not compare MM comments between these contexts and used a total score instead (Rosenblum et al., 2008).

Laranjo and colleagues (2010) found that maternal MM assessed in different contexts (free-play with toys and free-play without toys) was not related to each other. Furthermore, maternal MM in free play with toys (but not during free play without toys) context was associated marginally with children's attachment security. Furthermore, maternal MM in free play without toys was related to children's performance in understanding separate desires at four years of age, whereas maternal MM during free play with toys was related to children's performance on understanding visual perspectives and false beliefs (Laranjo et al., 2010). This difference was discussed in terms of particular maternal discourse triggered by different play contexts. In the free-play with toys context, because of its object-based qualities, children might be more prone to understand which objects are in their mothers' vision in the room. On the other hand, during free play without toys, the most frequent category coded in maternal speech was the comments on children's desires. Mothers' frequent comments on infants' desires in this particular context, might have contributed to children's understanding of separate desires (Laranjo et al., 2010).

The assessment of MM in stressful situations was also undertaken in a few studies. For example, Bigelow et al. (2015) assessed maternal MM using videotapes of the still face procedure consisting of three phases: initial interaction, still face and reunion. After the still face procedure was conducted, mothers were invited to reflect upon the ongoing state of the infant while viewing the videotapes of the episode with questions such as "What do you think was happening for your baby?" and "What do you think your baby was thinking or feeling?" They found that MM was significantly correlated with maternal mirroring. Furthermore, maternal MM was not affected by infants' behavior (e.g., attention, smiling, grimacing, non-distress vocalizations, and

negative vocalizations). However, it is important to note that maternal MM in this study was assessed from mother's reflections after the stressful situation disappeared. That is, mothers were not in direct contact to the infant's distress, unlike a real interaction.

McMahon and Newey (2018) also assessed MM using the Still Face Procedure. Unlike Bigelow et al.'s, they assessed MM during the still-face procedure, especially in the initial interaction and two-reunion episodes of the procedure. They found no differences in the frequencies of appropriate and non-attuned mind-related comments between those episodes and used two composite scores of MM obtained from the proportions of appropriate and non-attuned mind-related comments to the total number of mother's comments. They examined the relationships between MM and emotional availability and between MM and infant negative affect. Surprisingly, appropriate mind-related comments were not related to either emotional availability or infant negative affect. However, when they used the measure of non-attuned comments, they found that it was negatively correlated with emotional availability. They also found that the infants of the mothers who used non-attuned comments responded to the still face awkwardly (e.g., without any sign of negative affect) and manifested less recovery in reunion episodes (McMahon & Newey, 2018).

Finally, Milligan et al. (2015) assessed MM using the Empty Chair Technique in which they represented mothers with positive and negative emotion scenarios. They asked mothers to imagine their 6-month-old infant sitting in the empty seat in front. They were instructed to talk for thirty seconds about positive (e.g., the baby is excited) and negative emotion (e.g., the baby is crying) scenarios as if their babies are sitting in the chair and experiencing the scenario in question. They

did not find any significant difference in mother's mind-related comments between positive and negative emotion scenarios. This study also revealed that mothers classified as preoccupied were more likely to use emotion words than their dismissing counterparts in contexts that involved negative emotion scenarios (Milligan et al., 2015).

In conclusion, recent studies have started to explore maternal MM in contexts other than free play. However, a systematic comparison of the rate of maternal MM in different contexts and the differential predictive power in relation to maternal sensitivity has not been investigated to date. To fill in this gap in the literature, the present study aimed to investigate maternal MM in different contexts: (1) Exploration of the laboratory setting, (2) Free-Play, (3) Picture-Book reading, (4) Reunion upon a brief separation. These tasks were chosen because they were assumed to expose infants to different levels of stress. The traditional Free-Play episode, Picture-Book, Exploration contexts were assumed to present low levels of stress (low-stress contexts). On the other hand, the Reunion episode upon a brief separation was evaluated as stressful context (high-stress context).

2.1.3 Parental reflective functioning

Reflective functioning is defined as "the capacity for understanding mental states" (Fonagy, Steele, Steele, Moran, & Higgitt, 1991, p.201). This capacity includes reflection on one's own as well as on others' minds (Fonagy, Target, Steele, & Steele, 1998). Having this capacity allows the individual to see the motives, feelings, thoughts and intentions behind one's own and others' behaviors. The capacity for reflective functioning is assessed from the analysis of Adult Attachment Interview transcripts through the Reflective Functioning Scale (Fonagy et al., 1998). Using this

scale, one's awareness of the qualities of mental states (e.g., opaqueness), one's endeavor to find out about the mental states that may contribute to observable behaviors, and one's recognition of the developmental bases of mental states are assessed.

Parental reflective functioning, on the other hand, is defined as "a parent's capacity to represent and understand the breadth of her child's internal experience" (Slade, 2005, p.275). That is, the capacity of reflective functioning allows parents to conceive their children as individuals motivated by internal mental states (e.g., feelings, wishes, intentions, thoughts, etc.) and to interpret their children's behavior in light of this understanding. Although in MM assessment it is substantial to observe mothers' mentalization capacity in performance in the interaction with their children, parental reflective functioning refers to the awareness of mothers on their children's internal state on a representational level.

Parents who lack this capacity might be fixated on pre-mentalizing modes. Those modes of functioning may appear in the following ways. First, the parent may have difficulty in joining the infant's inner world (i.e., his/her separate mental states) as a result of lack of interest and curiosity in the other. Second, the parent might not acknowledge that the nature of the mind of the other is neither completely transparent nor completely unknowable. That is, the parent might be so certain about the mental states of the infant that he/she has no room to try a genuine understanding of the inner world of the infant. Or, if the parent is certain about the idea that mental states cannot be understood, again, he/she does not have willingness to even try to understand the underlying mental mechanisms behind the behavior of the infant. Third, the parent might have a distorted representation of the infant that is full of

extremely improbable malevolent attributions (e.g., “She is crying to make me feel ashamed in front of others”) (Luyten, Mayes, Nijssens, & Fonagy, 2017).

Parent Development Interview (PDI; Aber, Slade, Berger, Bresgi, & Kaplan, 1985) was developed to assess parents’ representations of themselves as parents and of their relationship with their children. To assess parental reflective functioning capacity, PDI transcripts were analyzed using an adapted version of Reflective Functioning Scale developed in 1998 (Fonagy et al., 1998; Slade, Grienenberger, Bernbach, Levy, & Locker, 2005). As an alternative to this interview measure, recently, Fonagy et al. (2016) have developed a functional questionnaire which is composed of eighteen statements categorized into three scales (1) pre-mentalizing modes (e.g., The only time I’m certain my child loves me is when he or she is smiling at me.), (2) certainty about mental states (e.g., I always know what my child wants), and (3) interest and curiosity in the mental states of the child (e.g., I am often curious to find out how my child feels) to assess parental reflective functioning. Parents need to rate to what extent they agree with the eighteen statements sampled above (Fonagy et al., 2016).

Existing research shows that mothers with high reflective functioning capacities were more likely to have securely attached children (Fonagy et al., 1991; Slade et al., 2005; Kelly, Slade, & Grienenberger, 2005; Stacks et al., 2014). It is assumed that mothers with higher levels of mentalization are likely to have infants with a belief in that they will be understood, and their internal processes are reflected by their mothers (Meins et al., 2001, Fonagy et al., 1991). Therefore, these infants are expected to exhibit less resistant and avoidant behaviors and are more likely to use the mother as a safe haven when their attachment systems are activated.

Parental reflective functioning was related to child socioemotional development (e.g., mentalizing abilities, social competence and behavioral problems). Growing evidence suggests that parental reflective functioning positively correlates with children's mentalizing assessed with interview (Rosso et al., 2015) and Child Reflective Functioning Scale (CRFS: Ensink et al., 2015; Slade, 2005; Camoirano, 2017). Besides, impairments in the capacity for parental reflective functioning was related to children's psychological and behavioral problems such as high anxiety levels (Esbjørn et al., 2013) and aggressive behaviors (Smaling et al., 2016). Ensink, Bégin, Normandin, & Fonagy (2017) found that parental reflective functioning inversely correlated with children's internalizing and externalizing behaviors with a sample of children aged 2-12 including the children experienced sexual abuse.

Existing research shows that mothers with high reflective functioning capacities were more likely to be classified as autonomous regarding their current state of mind assessed prenatally (Fonagy et al., 1991). The role of parental reflective functioning in the transmission of attachment across generations was also found by a number of studies (Slade, 2005; Kelly et al., 2005; Arnott & Meins, 2007). Parental reflective functioning was found as a mediator in the intergenerational transmission of attachment (Slade et al., 2005). They found that parental reflective functioning mediates the positive effect of parental prenatal secure attachment on the infant attachment security. Parental reflective functioning also mediates the relationship between attachment-related anxiety and avoidance level of parents and both parenting stress (Nijssens, Bleys, Casalin, Viegen, & Luyten, 2018).

In terms of caregiving quality, research mostly focused on the relationship between parental reflective functioning and parental sensitivity (Stacks et al., 2014).

Before moving to this topic, parental reflective functioning associated with parental satisfaction and involvement (Rostad & Whitaker, 2016) and tolerance to infant distress (Rutherford, Goldberg, Luyten, Bridgett, & Mayes, 2013).

Of particular relevance to the present study is the link between RF and maternal sensitivity. Parental reflective functioning was positively correlated with parental sensitivity (Stacks et al., 2014; Rosenblum et al., 2008; Suchman, DeCoste, Leigh, & Borelli, 2010; Camoirano, 2017). Parental sensitivity was found as a mediator in the relationship between attachment and parental reflective functioning (Stacks et al., 2014). Furthermore, Kelly et al. (2005) found that the relationship between poor maternal reflective functioning and insecure infant attachment was mediated through maternal behavior, specifically disruptions in mothers' affective communication with their infants (e.g., atypical behaviors on the mother's part such as enjoying when the infant is crying). In one study with adolescent and adult mothers of 3-month-olds, the association between parental reflective functioning and sensitivity was found for only adult mothers, not for adolescent mothers (Riva Crugnola, Ierardi, & Canevini, 2018).

2.1.4 Mind-mindedness and parental reflective functioning

The relationship between parental reflective functioning and MM was evaluated by few studies. Rosenblum et al. (2008) found a direct moderate association between parental reflective functioning and MM. That is, parents with high reflective functioning capacity explicitly expressed more appropriate mind-related comments for their infants during interacting with them than parents with lower capacities of reflective functioning. Two other studies investigated the link between general adult reflective functioning and MM. Arnott and Meins (2007) found a significant

association between reflective functioning and MM in interaction at six-months. That is, parents with high reflective functioning capacity made less non-attuned mind-related comments about their infants' internal state. Another study revealed distinct results for adult and for adolescent mothers regarding the relationship between reflective functioning and MM (Riva Crugnola et al., 2018). In adult group mothers, there was a significant positive correlation between reflective functioning and positive mental comments (e.g., thoughtful) and an inverse relationship with neutral mind-related comments (e.g., determined). However, in adolescent mothers there were no significant relations between reflective functioning and mind-related comments of any valence (Riva Crugnola et al., 2018). To replicate these few findings, the relationship between MM and parental reflective functioning was investigated in the present study.

2.2 Sensitivity

Rosenblum et al. (2008) revealed that mothers' higher capacity for reflective functioning was associated with more mind-minded comments during their dyadic interactions with infants. Furthermore, MM did not explain variance in mothers' sensitive behaviors beyond parental reflective functioning (Rosenblum et al., 2008).

Maternal sensitivity was investigated as a mediator in the relationship between parental mentalization and infant attachment (Stacks et al., 2014; Laranjo et al., 2008; as cited in Zeegers et al., 2017). Laranjo et al. (2008) showed that sensitivity is partially mediating the relationship between mind-related comments and infant's attachment. Stacks et al. (2014) reported a similar mediation of sensitivity between maternal reflectivity and infant attachment security (Zeegers et al., 2017).

Past research documented consistently that sensitivity predicts attachment security. Since the pioneering study of Ainsworth et al. (1978), sensitivity-attachment link has become a controversial subject of meta-analysis. Ainsworth et al. (1978) reported a quite large effect size for the association between attachment and sensitivity (r=.78). In the meta-analyses conducted in subsequent years (1987-2017) much weaker effect sizes were found ranging between *r*s of .24 and .35 (Goldsmith & Alansky, 1987; De Wollf & Van IJzendoorn, 1997; Atkinson, Paglia, Coolbear, Niccols, Parker, & Guger, 2000; Verhage et al., 2016; Zeegers et al., 2017). De Wollf and Van IJzendoorn also suggested that other dimensions of parenting should be considered in conjunction in the search for precursors of secure attachment. They indicated that mutuality and synchrony were as strongly related to attachment security as the sensitivity was. Accordingly, they concluded that "sensitivity has lost its privileged position as the only important causal factor" (De Wollf & Van IJzendoorn, 1997, p.585).

2.3 The purposes and the hypotheses of the present study

In this proposed study, parental mentalization was examined in terms of two indices: maternal MM in interaction and parental reflective functioning. Going beyond previous research, MM was investigated not only in mother-infant Free-Play but also during a Picture-Book task, as well as during Exploration and a stressful situation of Reunion after a brief separation based on direct behavioral observations. Due to the small number of available research, a specific hypothesis was not predicted about the rate of maternal MM in these different contexts. It was an exploratory question as to whether mothers would make more mind-related comments during the stressful

situation of Reunion compared to less stressful situations such as Free-Play, Picture-Book task or Exploration.

Next, it was predicted that the components of maternal reflective functioning (pre-mentalizing modes and interest and curiosity in mental states) would be related to MM in interaction. It was predicted that mothers having difficulty in mentalizing would make less mental comments during interactions with their children. That is, the Parental Reflective Functioning Questionnaire Subscale Pre-Mentalizing Modes would be negatively related to the proportion of mind-related comments mothers made. In addition, the subscale Interest and Curiosity in Mental States would be positively related to the proportion of mental comments. This is because if the mothers' interest in mental states increases, they might comment more on their children's minds.

Third, in light of previous research reviewed above, it was expected that mothers' MM in Free-Play would be related to sensitivity in the Free-Play context. It was also explored whether maternal MM aggregated across all contexts would be also related to maternal sensitivity in the Free-Play context.

Finally, it was expected that PRF as a measure of parental beliefs about their children's minds would relate to sensitivity through the mediation of MM comments.

CHAPTER 3

METHOD

3.1 Participants

The participants of this study were 74 infants (32 girls, 42 boys) and their mothers. These infant-mother dyads were a subset from an intervention project that aimed to support mothers of young children from disadvantaged neighborhoods in four different districts (Sarıyer, Sultanbeyli, Beyoğlu, and Maltepe) of Istanbul. Among this broad sample, all mother-infant dyads from Sarıyer were invited to the research laboratory due to the convenience of this district for the transportation. The families in this sample were contacted through the municipality of Sarıyer. The procedure of the study and its duration were explained. Families who accepted to participate were taken from their homes to the research laboratory on a mutually determined date and time. Thirty-nine of these mother-infant dyads were participants of a home visitation intervention program of parent coaching. The other thirty-five mother-infant dyads were from the control group of the broader intervention project who did not participate in the home visitation program. Intervention and control groups were combined in this study because they did not differ significantly in terms of demographic variables (maternal age, paternal age, infant age, years of education of mothers and fathers, marriage status, number of people at home or employment status of mothers or fathers) according to t-tests and chi-square difference tests (see Table 1). Among study variables, intervention and control groups did not differ in terms of MM variables. However, for the Autonomy Respect of Sensitivity and Parental Reflective Functioning Questionnaire Scales Pre-Mentalizing Modes and Certainty of Mental States, there were significant differences between intervention

and control groups (see Table 2). The analyses including those variables were conducted by taking the intervention as covariate.

Table 1. Sample Characteristics

		Intervention (n=39) (16 girls, 23 boys)	Control (n=35) (16 girls, 19 boys)	
Demographics		Mean (SD)	Mean (SD)	*t* / $\chi 2$
Infant age (months)		13.36 (0.47)	13.23 (0.37)	1.28
Maternal age (years)		32.46 (4.62)	33.21 (5.17)	.65
Paternal age (years)		37.49 (4.88)	35.94 (4.64)	1.4
Maternal years of education		9.90 (3.33)	10.09 (4.18)	-.21
Paternal years of education		9.13 (3.83)	10.29 (3.76)	-1.31
Number of people at home		4.31 (1.22)	4.34 (1.35)	-.12
Marital status	Married	100%	97.1%	1.13
Maternal employment	Employed	15.4%	31.4%	3.21
Paternal employment	Employed	97.4%	97.1%	4.10

Note: *t* / $\chi 2$ represents the values for the difference between the intervention and control groups assessed via independent samples t-test for continuous variables and chi-square tests for categorical variables. *$p < .05$.

Infants were between 12 and 14 months (*M*= 13.29 months, *SD* = 0.43). Participant mothers were on average 32.8 years old (*SD* = 4.89). Maternal age ranged from 21 and 45 years. Total years of maternal education ranged from 2 to 17 years (*M* = 9.99 years, *SD* = 3.73). Except for one divorced mother, all of the remaining mothers were married. Paternal age ranged from 25 to 49 (*M* = 36.78 years, *SD* =

4.80). Years of education of fathers were on average 9.67 (*SD* = 3.82). 23% of mothers and 97.3% of fathers were employed. Number of people living at home was on average 4.32 (*SD* = 1.27).

Table 2. Intervention and Control Group Differences for Study Variables

	Intervention	Control	
Variables	Mean (SD)	Mean (SD)	*t*
PRFQ_PM	1.89 (.85)	2.68 (1.37)	-2.91*
PRFQ_CMS	4.99 (.97)	5.51 (1.05)	-2.15*
PRFQ_IC	6.32 (.81)	6.33 (.69)	-.08
Supportive Presence	4.54 (1.17)	4.20 (1.37)	1.15
Autonomy Respect	4.49 (1.12)	3.89 (1.16)	2.27*
Sensitivity	4.51 (1.07)	4.04 (1.19)	1.79

Note: *t* represents the values for the difference between the intervention and control groups assessed via independent samples t-test. *$p < .05$. PRFQ_PM: PRFQ Pre-Mentalizing Modes, PRFQ_CMS: PRFQ Certainty about Mental States, PRFQ_IC: PRFQ Interest and Curiosity in Mental States.

3.2 Procedure

Each participant mother-infant dyad attended a laboratory visit at Boğaziçi University developmental psychology laboratory. Their transportation to the campus was provided for free by the district municipality of Sarıyer. Two graduate assistants accompanied the mothers and infants throughout the whole procedure to carry out the tasks, and one research assistant was in charge of videotaping all the tasks. At first, research assistants informed mothers about the activities in the laboratory and read out loud the consent form (see Appendix A & B). The procedures and videotaping started upon mothers' consent.

The procedure lasted approximately one and a half hours for each pair of mothers and infants. Activities consisted of the five-minute exploration of the laboratory followed by the introduction of a stranger, an eight-minute free-play session, two teaching episodes, separation and reunion episodes, a three-minute picture book episode, peek-a-boo, and introduction of a novel toy for three minutes and a three-minute forbidden toy episode (see Appendix C). Finally, a five-minute feeding task took place prior to the administration of an infant developmental screening based on an interview with the mother. Lastly, two questionnaires that measured parental reflective functioning and attachment-related avoidance and anxiety levels of mothers were read out loud to the mother, and mother's responses were recorded for each item.

Upon completion of all the tasks, a certificate was presented for the participation of the family and mothers received a gift voucher of 50 TL from a nearby grocery store. Furthermore, a debriefing form was given to the mothers to inform them about the rationale of the stressful episodes in the procedure such as the novel toy and the prohibited toy paradigms. Finally, a few weeks later, a short report based on the developmental screening measure was sent to families.

All activities in the laboratory were videotaped with the permission of the participants. Maternal speech was transcribed verbatim from the videotaped Free-Play, Exploration, Picture-Book and Reunion upon the separation episodes. Mothers' written discourse was divided into meaningful units based on their semantic integrity. Next, the comments were coded as mind-related or not mind-related according to the Mind-Mindedness Coding Manual Version 2.2 developed by Meins & Fernyhough (2015) by trained undergraduate students. The frequency of mind-related comments was recorded. According to the manual, each use of the same

mind-related comment throughout the activities counted independently. For the initial inter-rater reliability for the total number of mind-related comments, intraclass correlation coefficients (ICCs) ranged between .85 and .99. For ongoing reliability, ICCs ranged between .87 and perfect agreement between coders.

3.3 Measures

3.3.1 Mind-mindedness

Maternal MM was assessed using the interactional measures coding scheme developed by Meins and her colleagues (Meins et al., 2001). According to the Mind-Mindedness Coding Manual Version 2.2 (Meins & Fernyhough, 2015), mothers' comments in the interaction with their infants were analyzed in terms of their relatedness to the infant's mind. Mind-related comments included statements that reflected desires and preferences (e.g., like, want, hate), cognitions (e.g., remember, know, be interested), emotions (e.g., bored, surprised, angry), epistemic states (e.g., joking, teasing), and comments that are made on infants' behalf (e.g., Mother says "I miss you, mommy" to reflect the infant's mental state).

On the other hand, categories that are not mind-related were statements that reflected perception (e.g., listening, watching), talk (e.g., "What did you say"), unspecified references to infant's mental state (e.g., "Are you OK", "Is it good").

As noted in the manual, some comments were coded as mind-related or as not mind-related according to the context. For example, the comments like fun/funny were coded as mind-related when they were used in response to an infant's specific behavior. Similarly, the comments such as clever and cheeky were coded as mind-related if they were responses to the child's behavior. Comments about intentions were also evaluated according to the context.

After the decomposition of mind-related comments, the appropriateness of the comments was evaluated based on the criteria specified in the coding manual. First of all, coders should agree with the mother's interpretation of the infant's ongoing mental state. For example, if the mother says that "You liked that" when the infant is playing with a toy joyfully, then this comment should be counted as appropriate. Or, the mother might link a present activity to the past or future. For example, when the infant sees the picture of an elephant if the mother says that "Do you remember the elephant that you saw in the zoo yesterday?", then this comment was counted as appropriate. Another criterion for appropriateness is that the mother should make suggestions (e.g., What do you want to play next?) only when the infant does not attend anything at this time in the interaction. If the infant plays curiously with something when the mother makes such a comment, then this comment was classified as non-attuned. ICCs for appropriate and non-attuned mental comments ranged between .89 and .99 between coders.

3.3.2 Parental reflective functioning

Parental reflective functioning capacity was assessed with the Parental Reflective Functioning Questionnaire (PRFQ; Luyten, Mayes, Nijssens, & Fonagy, 2017). In the present study, the Turkish form of this questionnaire was used to assess three components of parental reflective functioning: Pre-Mentalizing Modes, Certainty about Mental States, and Interest and Curiosity in Mental States (see Appendix D&E). The PRFQ consists of 18 items with six items on each subscale. Mothers were asked to evaluate these items on a 7-point scale according to their agreement level to the content of each item from strongly disagree to strongly agree. The Pre-Mentalizing Modes (PM) subscale measures impairments in parental reflective

functioning such as parents' lack of the acknowledgement for the child's subjective world or parents' interpretation of the child's observed behavior with malevolent intentions. Items in this subscale include "My child sometimes gets sick to keep me from doing what I want to do" or "The only time I'm certain my child loves me is when he or she is smiling at me." The Certainty About Mental States (CMS) subscale measures parents' beliefs about the complex nature of mental states. It consists of items that reflect either being so certain about the child's mental states (i.e., hyper-mentalizing) or being very uncertain about the child's mind (i.e., hypo-mentalizing). For instance, items such as "I can always predict what my child will do" or "I always know why I do what I do to my child" characterize statements about the certainty about mental states. The Interest and Curiosity in Mental States (IC) subscale measures parents' willingness to understand and wonder about the subjective world of their child. High levels of this subscale might suggest intrusive hyper-mentalizing and low levels suggest no interest in mentalizing the child. Items such as "I try to understand the reasons why my child misbehaves" or "I try to see situations through the eyes of my child" are some examples for this subscale. Two items ("I can sometimes misunderstand the reactions of my child" for CMS and "I believe there is no point in trying to guess what my child feels" for IC) were reverse coded.

3.3.3 Parental sensitivity

Parental sensitivity was rated using the coding scales of supportive presence and respect for autonomy of the parents developed by Erickson, Sroufe, and Egeland (1985). The advisor of this thesis trained three graduate students to code maternal supportive presence and respect for autonomy from the videotapes of eight-minute

free-play sessions. Coders used a 7-point scale for supportive presence and respect for autonomy of the mothers. The interrater reliability coefficients (intraclass coefficients) ranged between .90 and .98. Supportive Presence Scale measures whether the mother attends and shows support to her child during play. A high score requires being aware of the child's needs as well as responding to those needs by maintaining close contact with the child. Besides, a mother who gets a high score on this scale recognizes the child's success as well as efforts and conveys confidence in him/her if the child experiences difficulty. On the other hand, lower scores describe mothers who fail to support their child and may even act in a hostile manner. Poor timing and inconsistency of the support are some of the factors that act to lower a parent's score on this scale. On the other hand, Respect for Autonomy Scale measures parental intrusiveness in the child's activity and/or their lack of acknowledgement for the child's individuality. High scores on this scale require parents respecting their child's individuality and having a mutually negotiated relationship with the child and verbalizing the child's perspectives or intentions. However, lower scores mean that the parent is likely to interrupt the child's activity, exert her perspective over the child and even intrude in a harsh manner.

CHAPTER 4

RESULTS

4.1 Descriptive statistics

Descriptive statistics for the study variables are presented in Table 3. To check the normality assumption, z-scores for skewness and kurtosis values were evaluated (Kim, 2013). Study variables having a z-score of 3.29 and above for the skewness and kurtosis statistics were subjected to log transformations. According to this criterion, variables including the percentages of mind-related comments during Exploration, Free- Play, Reunion and Picture-Book episodes; the percentages of appropriate mind-related comments during Reunion and Free-Play episodes; and Parental Reflective Functioning Questionnaire subscales Pre-Mentalizing Modes were log-transformed. In addition, Interest and Curiosity subscale of Parental Reflective Functioning Questionnaire was reversed and then log transformed because of the problem of negative skewness (Field, 2013).

The percentages for non-attuned comments of all types were extremely skewed. Therefore, they were coded dichotomously as present/absent and included in the analysis as categorical variables. In the Free-Play episode out of 74 mothers, 9 mothers made non-attuned comments at least one. On the other hand, in Reunion, out of 73 mothers, 13 mothers made non-attuned comments at least one. The reunion episode of one mother-infant dyad was not recorded due to a minor accident in the lab.

Table 3. Descriptive Statistics of the Study Variables

Variables	Mean	SD	N	Min.	Max.	Skewness/SE of Skewness	Kurtosis/SE of Kurtosis
MRC (Exploration)	2.07	2.57	74	.00	10.39	5.44	3.24
MRC (Free play)	2.54	3.71	74	.00	16.67	4.82	1.37
MRC (Reunion)	4.02	4.35	73	.00	18.18	3.86	1.79
MRC (Picture-book)	2.48	2.95	74	.00	12.37	4.50	2.54
MRC (Overall)	2.76	2.25	73	.00	9.74	2.51	.19
AMRC (Free play)	2.32	3.51	74	.00	16.67	7.94	10.48
NAMRC (Free play)	.22	.62	74	.00	2.78	10.04	12.40
AMRC (Reunion)	3.44	3.99	73	.00	15.38	3.83	1.11
NAMRC (Reunion)	.58	1.69	73	.00	11.76	16.65	49.11
Supportive Presence	4.38	1.27	74	1	7	-.92	-.81
Autonomy Respect	4.20	1.17	74	2	7	.43	-.22
Sensitivity (Overall)	4.29	1.15	74	1.5	7	.08	-.70
PRFQ_PM	2.27	1.19	71	1	5.33	3.58	.25
PRFQ_CMS	5.24	1.03	71	2.83	7	-.49	-1.08
PRFQ_IC	6.33	.75	71	4.5	7	-3.95	.06

Note: MRC: Mind-Related Comments, AMRC: Appropriate Mind-Related Comments, NAMCR: Non-Attuned Mind-Related Comments. All comments are percentage scores. PRFQ_PM: PRFQ Pre-Mentalizing Modes, PRFQ_CMS: PRFQ Certainty about Mental States, PRFQ_IC: PRFQ Interest and Curiosity in Mental States.

4.2 Correlations among study variables

4.2.1 Mind-mindedness variables

Correlations between the percentages of mental comments to total number of comments mothers made during ongoing interactions are found in Table 4. Mothers who made proportionately more comments on their infants' mental states during the Exploration episode were more likely to comment on their children's mind during the Reunion and Picture-Book episodes ($r = .48$, $p < .01$; $r = .29$, $p < .05$, respectively). Similarly, mothers who commented more on their infants' mind during the Free-Play episode were more likely to use mental state terms during the Picture-Book episode ($r = .38$, $p < .01$). Finally, mothers' mental comments in the Reunion episode were significantly and positively related to their comments in the Picture-Book episode ($r = .44$, $p < .01$). Hence, the mean of the percentages of mental comments to the total number of comments was taken to obtain an overall score for mothers' mind-related comments.

Table 4. Correlations between the Percentages of Mental Comments in Different Contexts

Measures	1	2	3
1. MRC (Exploration)	-	-	-
2. MRC (Free play)	.22	-	-
3. MRC (Reunion)	.48**	.24	-
4. MRC (Picture-book)	.29*	.38**	.44**

Note: MRC: Mind-Related Comments. All comments are percentage scores. *$p < .05$, **$p < .01$.

4.2.2 Sensitivity measures

Ratings on the Supportive Presence (SP) and Autonomy Respect (AR) were significantly and positively correlated ($r = .77$, $p < .001$). Hence, these two ratings were averaged to obtain a sensitivity composite score (Corapci et al., 2018).

4.2.3 Mind-mindedness variables and sensitivity

Correlations between percentages of mental comments during different situations and sensitivity were presented in Table 5. The mean score of the percentages of mental comments across all contexts was significantly correlated with sensitivity ($r = .24$, $p < .05$). Mothers who used more mental comments when interacting with their children across all episodes were more likely to be sensitive in their interactions.

Across different situations, the percentage of mental comments during the episode of Exploration was positively correlated with sensitivity ($r = .37$, $p < .01$). Similarly, the percentage of mental comments during the Reunion episode was significantly related to sensitivity ($r = .24$, $p < .05$). The percentage of mental comments to total comments during the Picture-Book task was correlated significantly with only the measure of Supportive Presence ($r = .23$, $p < .05$). However, the percentage of mental comments to total comments during the Free-Play episode was not correlated significantly with sensitivity measures of any kind.

To evaluate the impact of appropriateness of mental comments in stressful and non-stressful contexts on the sensitivity measures, appropriate and non-attuned mental comments in two episodes, namely Reunion and Free-Play, were coded. Reunion and Free-Play contexts were regarded as the representatives for stressful and non-stressful situations, respectively. The percentage of appropriate mental comments during the stressful episode of Reunion was positively correlated with

sensitivity (r = .24, p < .05). However, the percentage of appropriate mental comments during the Free-Play episode was not significantly correlated with sensitivity (p > .05).

Table 5. Correlations between Mind-Mindedness Variables and Sensitivity

Measures	1	2	3	4	5	6	7
1. Sensitivity	-	-	-	-	-	-	-
2. MRC (Overall)	.24*	-	-	-	-	-	-
3. MRC (Exploration)	.37**	.60**	-	-	-	-	-
4. MRC (Picture-book)	.18	.66**	.29*	-	-	-	-
5. MRC (Reunion)	.24*	.78**	.48**	.44**	-	-	-
6. MRC (Free play)	.08	.64**	.22	.38**	.22	-	-
7. AMRC (Reunion)	.24*	.69**	.44**	.34**	.90**	.14	-
8. AMRC (Free play)	.10	.64**	.21	.37**	.24*	.98**	.15

Note: MRC: Mind-Related Comments, AMRC:Appropriate Mind-Related Comments. All comments are percentage scores. *p < .05, **p < .01.

In terms of non-attuned comments, on the other hand, an opposite trend was observed. That is, whether mothers did any non-attuned comments in the Reunion episode was not related to any sensitivity measures (ps > .05). In the Free-Play episode, however, mothers who did not make any non-attuned comments got significantly higher scores for Autonomy Respect (M = 4.32, SD = 1.21) than the mothers who made at least one non-attuned mental comment (M = 3.44, SD = .73). The difference of .88 was significant, BCa 95% CI [.258, 1.39], t (69) = 2.11, p <.05. The effect size for this difference was close to large, d = .75 (Figure 1).

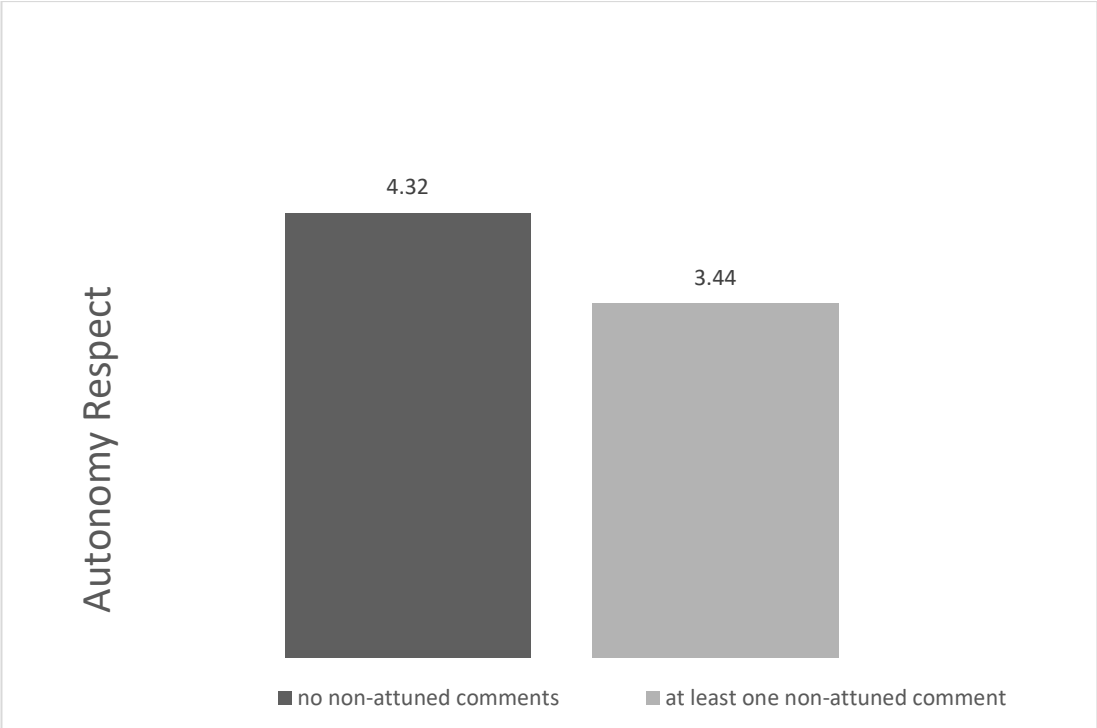

Figure 1. Autonomy Respect of mothers who made at least one non-attuned comment and mothers who did no non-attuned comments

4.2.4 The relation of maternal reflective functioning to mind-mindedness and sensitivity

Because a group difference was observed, to partial out the effect of the intervention, partial correlations were reported for the results including PRFQ subscales. The percentage of mind-related comments during the Exploration episode was negatively correlated with Pre-Mentalizing Modes subscale (r = .29 p < .05). Similarly, the percentage of appropriate mental comments in Reunion episode was significantly and negatively related to Pre-Mentalizing Modes (r =-.25, p < .05), but not related to Certainty of Mental States and Interest and Curiosity in Mental States (r = -.07, p > .05, r = -.07, p > .05, respectively) (see Table 6).

Table 6. Correlations between PRFQ Subscales and Mind-Mindedness Variables

Measures		1	2	3	4	5	6	7	8	9
1.	PRFQ_PM	-	-	-	-	-	-	-	-	-
2.	PRFQ_CMS	-.10	-	-	-	-	-	-	-	-
3.	PRFQ_IC (Reversed)	.09	.04	-	-	-	-	-	-	-
4.	MRC (Overall)	-.11	.08	-.09	-	-	-	-	-	-
5.	MRC (Exploration)	-.29*	-.16	-.23	.58**	-	-	-	-	-
6.	MRC (Picture-Book)	-.13	.20	-.22	.64**	.26*	-	-	-	-
7.	MRC (Reunion)	-.10	-.04	-.02	.73**	.40**	.30*	-	-	-
8.	MRC (Free-Play)	.00	.09	-.09	.65**	.22	.38*	.20	-	-
9.	AMRC (Reunion)	-.25*	-.07	-.07	.67**	.42**	.31*	.91**	.13	-
10.	AMRC (Free-Play)	.01	.07	-.10	.64**	.21	.36**	.21	.98**	.13

Note: All comments are percentage scores. PRFQ_PM: Pre- Mentalizing Modes, PRFQ_CMS: Certainty about Mental States, PRFQ_IC (reversed): Reversed version of Interest and Curiosity in Mental States, MRC: Mind-Related Comments, AMRC: Appropriate Mind-Related Comments. *$p < .05$, **$p < .01$.

As illustrated in Table 7, only the Pre-Mentalizing Modes subscale was related to maternal sensitivity ratings. Mothers who have difficulty in mentalizing their infants' minds were significantly less likely to respect their infants' autonomy ($r = -.24$, $p < .05$) and less likely to be sensitive in general ($r = -.23$, $p < .01$).

Table 7. Correlations between PRFQ Subscales and Sensitivity Measures

Measures	1	2	3	4	5
1. PRFQ_PM	-	-	-	-	-
2. PRFQ_CMS	-.08	-	-	-	-
3. PRFQ_IC (reversed)	.11	.04	-	-	-
4. Supportive Presence	-.20	.00	-.16	-	-
5. Autonomy Respect	-.24*	.04	.01	.77**	-
6. Sensitivity	-.23+	.02	-.09	.95**	.93**

Note. +$p < .1$ *$p < .05$, **$p < .01$. PRFQ_PM: Pre- Mentalizing Modes, PRFQ_CMS: Certainty about Mental States, PRFQ_IC (reversed): Reversed version of Interest and Curiosity in Mental States.

4.3 Differences between mental comments across contexts

Results of the paired samples t-test showed that there was a significant difference between the percentages of mental comments during Reunion (M = 4.02, SD= 4.35) and Free-Play (M = 2.72, SD= 3.13), t (72) = 2.36, $p < .05$ (two-tailed), BCa 95% CI [.33, 2.28]. However, the effect size for this difference was small, d = .28. Similarly, there was a significant difference between the percentages of mental comments during Reunion (M = 4.02, SD= 4.35) and Exploration (M = 2.08, SD = 2.58), t (72) = 3.94, $p < .05$ (two-tailed), BCa 95% CI [1.04, 2.91]. The effect size for this difference was moderate, d = .46. There was also a significant difference between the percentages of mental comments during Reunion (M = 4.02, SD = 4.35) and Picture-Book (M = 2.51, SD = 2.96), t (72) = 2.96, $p < .05$ (two-tailed), BCa 95% CI [.37, 2.57]. The effect size for this difference was also small, d = .35 (Figure 2).

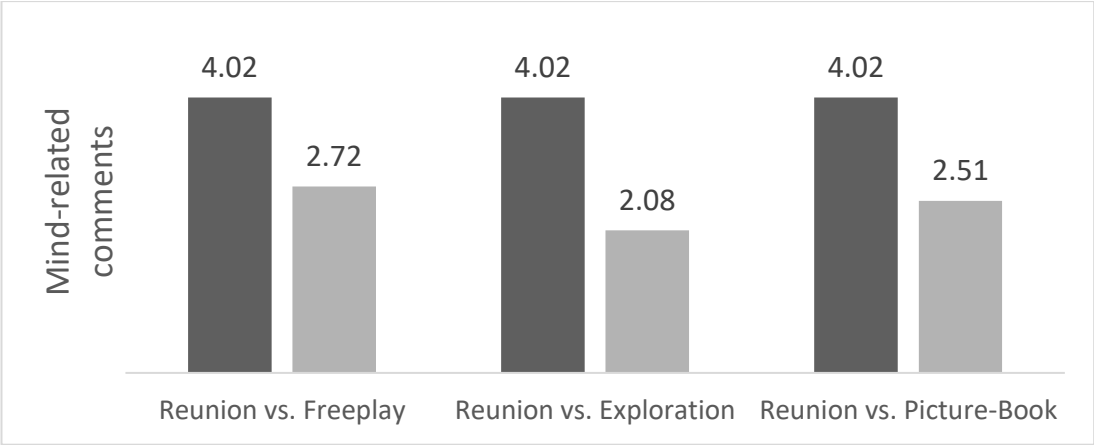

Figure 2. The mean differences for the percentages of mind-related comments between contexts

Results of the paired samples t-test also showed significant differences between the percentages of appropriate mental comments during Reunion (M = 3.44, SD = 3.99) and Free-Play (M = 2.26, SD = 3.16) episodes; t (72) = 2.01, p = .048 (two-tailed), 95% CI [.01, 2.35] (Figure 3). For non-attuned mental comments, results of the chi-square test of independence showed no significant differences between the episodes of Reunion and Free-Play, X^2 (1, N = 73) = .315, p > .05.

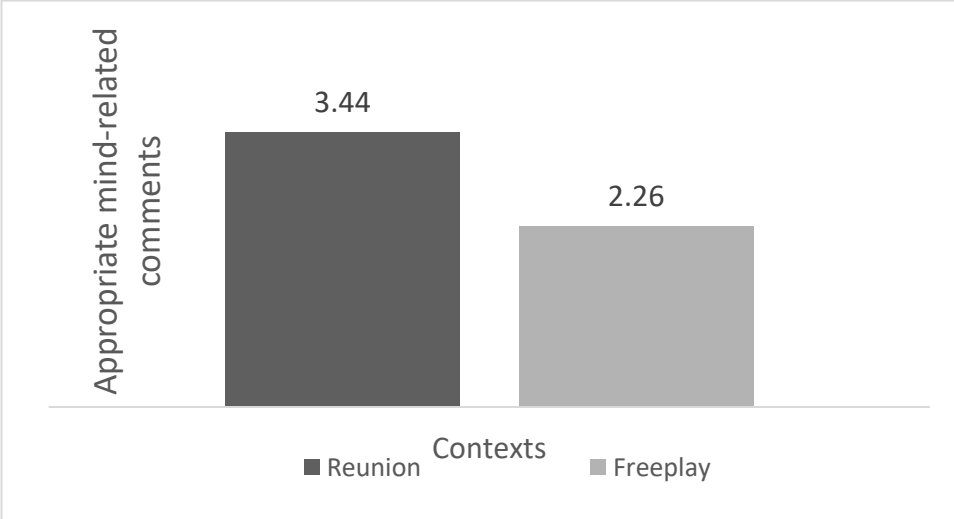

Figure 3. The mean difference for appropriate mind-related comments between Reunion and Free-Play contexts

4.4 Mediation analysis

A mediation analysis was conducted to see the effect of pre-mentalization on sensitivity through the mind-mindedness variables that were found as correlated with both pre-mentalizing and sensitivity: the percentage of mental comments during the Exploration episode and the percentage of appropriate mind-related comments during the Reunion episode. The PROCESS module written by Hayes (2018) yielded estimates for regression coefficients between the predictor and mediator, and mediator and outcome variables. As well as, the direct effect of the predictor on the outcome and the indirect effect of it through the mediator were estimated. The mediation analysis showed no significant effect of Pre-Mentalizing Modes on Sensitivity through the percentage of appropriate mind-related comments during Reunion, controlling for the effect of intervention. However, there was a significant indirect effect of Pre-Mentalizing Modes on Sensitivity through the percentage of mental comments during Exploration episode b = -.072, BCa 95% CI [-.134, -.016], controlling for the effect of intervention. The direct effect of Pre-Mentalizing Modes on Sensitivity was not significant (b = -.78, t = -1.20, p > .05).

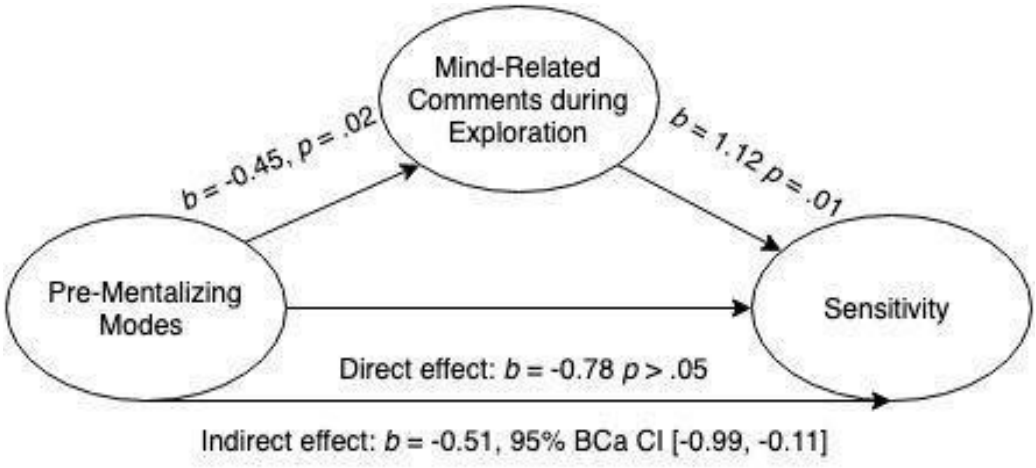

Figure 4. The effect of pre-mentalizing modes on sensitivity through the mediation of mind-related comments during exploration

CHAPTER 5

DISCUSSION

5.1 Review of findings

The present study aimed to examine the relationship between parental mentalization and sensitivity in a sample of Turkish mothers and their infants. Parental mentalization was assessed using interactional MM coding and Parental Reflective Functioning Questionnaire. To assess maternal MM, episodes of Free-Play, Exploration, Picture-Book and Reunion after a brief separation was recorded and maternal mental talk in those tasks was analyzed according to Mind-Mindedness Coding Manual. Parental Reflective Functioning (i.e., parents' overall awareness and understanding of mental states of their children) was assessed using Parental Reflective Functioning Questionnaire composing of three independent subscales: Pre-Mentalizing Modes (i.e., mothers' proneness to deny the subjective mind of the infant by interpreting the infant's behavior with malevolent attributions), Interest and Curiosity in Mental States (i.e., mothers' engagement with the inner world of their infants), and Certainty about Mental States (i.e., mothers' ability to appreciate the complexity and uncertainty inherent in mental states). Maternal sensitivity was rated from the observation of Free-Play session on two different scales: Supportive Presence and Autonomy Respect.

It was expected that maternal MM in the stressful situation of Reunion might be different than MM in non-stressful situations. Accordingly, the analyses of mean differences across contexts revealed that during the most stressful episode of Reunion, mothers made more comments on mental states than they did during all other contexts. The comparison of the percentage of appropriate mental comments

showed that in the stressful situation of Reunion, mothers made marginally more appropriate mental comments than they did in the non-stressful situation of Free-Play. The second hypothesis examined the relationship between MM and parental reflective functioning. It was hypothesized that the rate of appropriate mental comments will be correlated negatively with Pre-Mentalizing Modes subscale of Parental Reflective Functioning Questionnaire and positively with Interest and Curiosity subscale of Parental Reflective Functioning Questionnaire. This hypothesis was partially supported. A significant negative correlation was found between the rate of appropriate mental comments during the stressful Reunion episode (but not during the non-stressful Free-Play context) and Pre-Mentalizing Modes subscale of Parental Reflective Functioning Questionnaire. The expected positive correlation between Interest and Curiosity subscale of Parental Reflective Functioning Questionnaire and appropriate mental comments was not found. Third, the relationship between sensitivity and MM variables was examined. It was hypothesized that MM in the non-stressful episode of Free-Play will be positively related to maternal sensitivity measured as Supportive Presence and Autonomy Respect. This hypothesis was also partially supported. MM in Free-Play, when it was measured as the presence of non-attuned mental comments, was found negatively related to Autonomy Respect scale of maternal sensitivity. That is, mothers who made at least one non-attuned mental comment during the non-stressful episode of Free-Play had significantly lower scores on Autonomy Respect. However, contrary to expectations, the percentage of appropriate mental comments during Free-Play was not related to any of the sensitivity measures. Further analysis revealed that the percentage of appropriate mental comments during the stressful episode of Reunion was correlated with Supportive Presence and the overall sensitivity, but not with

Autonomy Respect. Lastly, it was hypothesized low pre-mentalizing modes of parental reflective functioning which reflects mothers' awareness of the presence of mental states might predict parental sensitivity with the mediation of a more interactional measure of parental mentalization, MM. There was a significant indirect effect of Pre-Mentalizing Modes on Sensitivity through the mediation of the percentage of mental comments during the Exploration episode. These findings were discussed below.

5.2 Contextual differences in mind-mindedness

Thompson (1997) made a distinction between sensitivity assessed during situations that cause distress for children and sensitivity during non-stressful situations in the prediction of attachment security (Thompson, 1997; McMahon & Bernier, 2017). He suggested that it might be important to study whether sensitive responses of parents are consistent across stressful and non-stressful situations or they are contingent upon context (Thompson, 1997).

The concept of mind-mindedness emerged from a "rethinking of sensitivity" as a prominent predictor of infant-parent attachment security and the mediator in the transmission of internal working models (Meins et al., 2001). Meins et al. (2001) defined this concept as a specific kind of sensitivity to infant's mental states. Therefore, one might think that Thompson's suggestion to assess sensitivity in both stressful and non-stressful situations may imply for the assessment of MM, also.

Meins et al. (2001) suggested assessing MM during the non-stressful task of Free-Play with the argument that the kind of sensitivity to mental states would be observable after infants' physical and emotional needs are met. However, if this ability of the mother to reflect the infants' inner world verbally was suggested as a predictor

of infant-parent attachment security, then it is expected to be present in contexts that are more closely related to the activation of attachment systems.

Following the literature suggesting using the attachment activating contexts in the assessment of MM (Bigelow et al., 2015; Milligan et al., 2015; McMahon & Bernier, 2017), Reunion after a brief separation was added to the design as a stressful context that might activate attachment systems of both infants and mothers. This context was chosen to create a contrast to the less stressful situation of Free-Play. Indeed, most of the infants cried or showed distress symptoms, which proved that this is a distressing situation for infants. In the present study, the comparison of appropriate mental comments was made between the stressful situation of Reunion after a brief separation and a non-stressful Free-Play with toys which took place after the dyad has warmed up to the laboratory context. Furthermore, distress in the infant during Reunion, was expected to push mothers to try to guess the inner state of the infant. That might orient mothers' attention to the mental states of the infant and lead them to talk more on those states.

Results of the paired samples t-test revealed that in the Reunion context, mothers made significantly more mental comments than they made in the Exploration, Free-Play and Picture-Book contexts, as expected. In the literature, the appropriateness of mental comments was evaluated. The rate of appropriate mental comments gives us how accurate the guesses of mothers are on their infants' mental states and how compatible them with the ongoing state of the infant. A significant difference was found between Reunion and Free-Play contexts in terms of the ratio of appropriate mental comments. In the Reunion context, mothers were making more appropriate mental comments than they made in Free-Play. However, there was no difference between these two contexts in the presence of non-attuned comments (i.e., comments

that are incompatible with the current state of the infant). In other words, mothers make more appropriate mental comments in a stressful situation than in a non-stressful situation. At the same time, they make proportionately more appropriate mental comments during the stressful situation.

As mentioned, there are few studies examining MM in contexts other than Free-Play. Milligan et al. (2015) assessed MM during the stimulation of some scenarios that might be thought as stressful using the Empty Chair Technique. They asked mothers to treat as if their infant was present and act according to the positive and negative emotion scenarios given by the researchers. They did not find any significant differences in the frequency of mental state words between positive and negative emotion scenarios. This contrary finding to the present study might be because of that in Milligan et al.'s study, an actual interaction was not taking place because the infant was absent. Therefore, infants' reactions to stress which were hypothesized to stimulate mothers' mind-mindedness, were absent at all, in this setting. Furthermore, it was not possible to evaluate the appropriateness of maternal mind-related comments because of the absence of the input by the infant.

Other studies measured MM using the Still Face Paradigm (Bigelow et al., 2015; McMahon & Newey, 2018; Planalp, O'Neill, & Braungart-Rieker, 2019). For example, McMahon and Newey (2018) compared appropriate and non-attuned mental comments between the phases of SFP, namely the initial interaction, the first reunion and the second reunion. Contrary to the findings of the present study, McMahon and Newey found no significant differences in MM between those phases. The reason why there was no difference between SFP phases may be that there was a stressful component throughout the whole procedure. In the initial interaction situation, the mother-child dyad was restricted to sit on a chair and there was no

facilitator such as toys. In terms of the effect of the presence of toys, Laranjo and her colleagues' study (2010) found that scores were marginally different from each other between play with toys and play without toys. They argued that play without toys might create a challenging situation for the mothers because they might feel the pressure to verbally engage their infants (Laranjo et al., 2014). So, even the initial interaction phase of SFP, although it seems like a non-stress situation, might be evaluated as stressful because of the restrictions to sit in the opposing position with the lack of toys in a novel situation and may explain the lack of difference in MM comments between the initial phase of the SFP and the reunion sessions after still face.

Meins et al. (2001) described mind-mindedness as a "specific sensitivity to children's mental states and ongoing activity" by narrowing or refining the traditional definition of sensitivity (p.639). They argued that although sensitivity to the physical and emotional needs might be present in mothers of both secure and insecure children, sensitivity to mental states might be more relevant to the prediction of attachment security. However, recent work on the examination of sensitivity during stressful tasks, revealed that sensitivity during stressful tasks was a stronger predictor of mother-child interaction quality than sensitivity during non-stressful tasks (Leerkes, 2011; Leerkes, Weaver, & O'Brien, 2012). Leerkes (2011) argued that the demands of the stressful contexts were more related to attachment (e.g., protection, comfort, safety). Thus, distinct demands of different contexts might have an influence on the maternal behaviors, which in return might predict outcomes related to socioemotional development and parent-child relationship quality in different ways. In the next section, the findings that concern the relation of mind-

mindedness in stressful and non-stressful situations with maternal sensitivity are discussed.

5.3 Contextual differences in mind-mindedness in the relationship with sensitivity dimensions

Overall mental comments made by mothers across Free-Play, Exploration, Picture-Book and Reunion episodes were positively correlated with observer ratings of Supportive Presence (i.e., mothers' attending and supporting stance during play) and maternal overall sensitivity (i.e., the measurement of supporting and respecting manner of the mothers). That is, mothers who made more mental comments throughout those episodes were more likely to be sensitive while playing with their infants.

In terms of appropriate mental comments, in the non-stressful Free-Play episode, there was no relationship between the appropriate mental comments and sensitivity. This was an unexpected finding. However, previous research has provided mixed results for the correlation between these two constructs. Some studies found a significant correlation between the two (Meins et al., 2001; Meins et al., 2012; Demers et al., 2010a; Demers et al., 2010b; Laranjo et al., 2008). There might be a cultural difference in the proneness to talk about mental states. The present study was conducted with a non-western sample. Keller (2012) argued that whereas Western families focus on separateness, middle class families in non-Western cultures focus on familial unity. The focus on separateness in Western cultures might influence the acknowledgement of separate mental states. Therefore, the sensitivity-MM link might be more relevant in Western cultures. The findings of the current study suggested that the presence of non-attuned mental comments was

related to less sensitivity during the Free-Play context. That is, mothers who made at least one non-attuned comment during the Free-Play session got significantly lower scores on autonomy respect than mothers who did not make any non-attuned comments. However, the presence of non-attuned comments in the reunion session was not related to any of the sensitivity measures.

On the other hand, the findings of the present study revealed that appropriate mental comments in the Reunion episode were significantly and positively correlated with Supportive Presence and overall sensitivity of the mothers. There were few studies examining MM-sensitivity link in stressful contexts with mixed results. To date, one other study revealed findings that also suggested a correlation between MM comments and sensitivity (Planalp et al., 2019), whereas another study revealed no relation between appropriate mental comments and sensitivity (McMahon & Newey, 2018).

If we approach MM as a specific kind of sensitivity as Meins et al. (2001) suggested, then one might argue that MM in Reunion and Free-Play contexts might differ in terms of which parenting behavior is relevant. In the Reunion session, Supportive Presence of the mothers might be the prominent characteristic of the mother-child relationship because the needs for comfort, nurturance and reassurance may become more crucial. Those needs can be met with the mothers' being there and supporting their infant to cope with the stress. The appropriate mind-related comments might be the way for mothers to show their supportive presence to the infant during this stressful situation of reunion. This might explain why the correlation between appropriate mental comments and Supportive Presence found related only in the stressful reunion context. However, in the Free-Play session, the needs of autonomy and secure exploration might gain importance for the infants.

These needs can be met by the non-interfering, respecting manner of the mothers. The absence of non-attuned mental comments (i.e., the comments that are incompatible with the infant's ongoing state) in this context might be approached as an indicator of the respecting manner of the mothers required by the nature of the situation. In summary, appropriate and non-attuned MM comments relate differently to sensitivity components. While there is no stress, in the Free-Play, the expected sensitivity from the mother is perhaps more mainly to respect the autonomy of the child. So, in Free-Play, mothers' non-attuned comments were related negatively to the mother's respect for autonomy. However, mother's appropriate mental comments were not related to sensitivity.

On the other hand, in the case of stress, the expected sensitivity from the mother may be being supportive to the child. The appropriate mental comments in the reunion session were related to the supportive presence of the mothers. Because the mother's appropriate mind-related comments might function as supportive verbalizations helping the infant to make sense of the situation and feel safe. However, mothers' non-attuned comments may be perceived as mothers' helpless tryings to better understand and comfort the infant. However, in Free-Play, mother's non-attuned mental comments may be unnecessary interruptions or interventions that disrupt the ongoing process of the child for no reason. Those different contextual needs and behaviors can be placed in the perspective of The Circle of Security (Kim, Woodhouse, & Dai, 2018). During distressing situations, children need mothers to act as a "safe haven". In the present study, this attitude might correspond to the supportive presence in the stressful situation. However, during the non-stressful situation, mothers are required to act as a "secure base" from which the child can explore. Being a secure base requires to allow the child to freely explore whilst being

there when needed (Kerns, Mathews, Koehn, Williams, & Siener-Ciesla, 2015; Kim et al., 2018). In the present study, this attitude might correspond to autonomy respect in the non-stressful situation.

It is important to note that in the assessment of sensitivity a global observation of maternal behavior including both verbal and non-verbal components was applied. However, in the assessment of mind-mindedness, only the verbal output of mothers was analyzed, and their non-verbal behavior was not included. That might be the reason why for some contexts the relationship between mind-mindedness and sensitivity was not found. Recent studies on the newly developed concept of Parental Embodied Mentalization might be helpful in understanding the effect of non-verbal output. It was defined as the parental capacity to understand their children's inner state in an implicit manner and respond to them as attuned with their body language (Shai & Belsky, 2011). In a study investigating the link between mind-mindedness and parental embodied mentalization and their relationship with attachment and sensitivity, only the appropriate mind-related comments were correlated with parental embodied mentalizing (Shai & Meins, 2018). They found that both parental embodied mentalization and appropriate mind-related comments were related to sensitivity. Although they presented that parental embodied mentalization and mind-mindedness made independent contributions to the prediction of attachment security, they did not compare the relative contribution of parental embodied mentalization and mind-mindedness to sensitivity (Shai & Meins, 2018). Thus, although it is hard to conclude that the unexpected results for the link between sensitivity and mind-mindedness were as a result of the lack of an evaluation of non-verbal mentalization of mothers, the relative contribution of verbal and non-verbal mentalization indices to the sensitivity is worth to study further.

5.4 Parental reflective functioning in relation to mind-mindedness and sensitivity

Although they are conceptually very similar, the relationship between MM and PRF was examined in a few studies (Rosenblum et al., 2008; Zeegers et al., 2017). PRF is a concept that reflects the mother's awareness that her child may have mental states, whether she sees the behavior of the child in the light of mental states, and her knowledge about the nature of mental states. MM in interaction is conceptually similar to PRF. However, it examines whether this capacity is revealed in the mother-infant interaction and whether the mother reflects the awareness and knowledge of the baby's mental status in the interaction verbally. In addition, it takes into account whether the mother's attributions to the infant's mind are compatible with the infant's ongoing state.

Rosenblum et al. (2008) found that PRF was significantly correlated with MM in interaction. In line with this finding, in the present study, the proportion of appropriate mental comments in the Reunion episode was found correlated significantly and negatively with only Pre-Mentalizing Modes subscale of PRF. However, the proportion of appropriate mental comments in the Free-Play episode was not related to any PRF subscales. Rosenblum et al. (2008) assessed MM during Free-Play and two teaching episodes and used the composite score for appropriate mental comments. In addition, they assessed PRF using the Working Model of the Child Interview (WMCI; Zeanah & Benoit, 1995). In the present study, Parental Reflective Functioning Questionnaire was used to assess maternal reflective functioning. There was no prior study comparing MM and PRF using the Parental Reflective Functioning Questionnaire specifically (to our knowledge). Thus, the relationship between the subscales of Parental Reflective Functioning Questionnaire and MM was not examined. However, theoretically it was expected that appropriate

mental comments would be negatively related to Pre-Mentalizing Modes which is defined as mothers' lack of appreciation of the subjective mind of the infant. Mothers who pre-mentalizing when thinking about the behavior of their children might attribute malevolent intentions to their children which is not the appropriate interpretation of the internal world of the infant, mostly. Therefore, they are expected to make less appropriate mental comments than the mothers who had lower scores on Pre-Mentalizing Modes. The rate of appropriate MM comments was expected to be positively related to Interest and Curiosity to Mental States (i.e., mothers' engagement with the inner world of their infants). Because if the mother's involvement in the mental states of their infants increases, their understanding of their infants' mental states would expand, and they will become more likely to make appropriate mental comments. As expected, the appropriate mental comments in the stressful situation of Reunion were found negatively correlated with Pre-Mentalizing Modes. However, the expected relationship between mind-mindedness and Interest and Curiosity subscale of PRFQ was not found. This might be related to the lower than acceptable Cronbach alpha level of this subscale which was 0.56. Some item-total correlations were also unsatisfactory ($r < 0.3$). Those psychometric problems might be related with the relatively small sample size of the present study (N=74). However, in a study examining the construct validity of PRFQ in a Canadian sample (N = 344), similar results for some item-total correlations were found; Item 18 for Interest and Curiosity in Mental States subscale and Item 11 for Certainty in Mental States subscale (De Roo, Wong, Rempel, & Fraser, 2019).

In terms of the relationship between PRF and sensitivity, in the present study, Autonomy Respect dimension of sensitivity and the overall sensitivity were negatively correlated with Pre-Mentalizing Modes. That means, mothers with a

defect in their ability to mentalize were less likely to be respectful to their children's autonomy and less sensitive in general. Rosenblum and her colleagues (2008) found significant correlations between sensitivity and intrusiveness dimensions of maternal behavior and parental reflectivity. As compatible with the finding of this study, they found that high parental reflectivity correlated negatively with the intrusiveness dimension of maternal behavior which might correspond to the lack of Autonomy Respect (Rosenblum et al., 2008). In another study, they found that Interest and Curiosity in Mental States was related to tolerance of infant distress (Rutherford et al., 2013). In the scope of the present study, sensitivity was not assessed during a stressful episode.

5.5 Strengths of the study

First of all, direct behavioral observations of mother-infant interaction for the assessment of maternal mind-mindedness and sensitivity was an advantage of this study. This method enriched the data because both maternal behavior and infant's reactions could be evaluated. It helped mind-mindedness coders to evaluate the appropriateness of mother's mental comments. As well as, using this technique eased to make judgments about the stress level of different situations. We had become able to conclude that the Reunion episode was a high-stress context for the infants due to the observation of overt distress symptoms of the infants. For the assessment of sensitivity, observation of mother-infant interaction gave us the chance to notice various non-verbal cues from the mothers and infants.

Another strength of the present study was using different tasks, especially comparing mind-mindedness during the stressful and non-stressful episodes. That was quite novel to the research about this concept. This study is the first one doing

that, to our knowledge. Comparing the relationship between mind-mindedness measured in different contexts with the sensitivity was providing further questions to the area. The investigation of the relative importance of appropriate and non-attuned comments according to contextual needs might be appealing for the next studies.

5.6 Limitations of the study

First of all, although the literature about parental mentalization has referred to temperament and some child outcomes like mentalizing abilities or attachment security, neither of them was included in the design of the present study. Although there were contradictory results regarding the relationship between parental mentalization and infant temperament (Demers et al., 2010a; Meins, Fernyhough, Arnott, Turner, & Leekam, 2011; Smaling et al., 2016), this could be controlled especially when comparing parental mentalization between contexts.

The sample size is another limitation. Especially for the mediation analysis, the sample of seventy-four dyads was quite inadequate (Fritz & MacKinnon, 2007). The lower than adequate Cronbach alpha of the Interest and Curiosity subscale and some unsatisfactory item-total correlations for PRFQ subscales might be related to small sample size. However, a study conducted with a larger sample in Canada revealed the similar item-total correlations for some subscales (De Roo et al., 2019). This might be related to another limitation that PRFQ is a new measure and its cultural adaptation has not been done yet.

Parental mentalizing was assessed using maternal verbal outputs. However, parental non-verbal behavior might also be evaluated as an indicator of parental mentalization capacity (Shai & Belsky, 2011). In the context of a culture in which collectivistic values are prioritized like Turkey, expressions related to mental states

were less frequent than in Western cultures (Taumoepeau, Sadeghi, & Nobilo, 2019; Hughes et al., 2018). This might explain the low percentages for mind-related comments in the present study. Parental embodied mentalizing might be assessed in further studies especially in collectivistic cultural contexts.

5.7 Implications

Implications might be related to the interventions to improve parental mentalization. Low proportions of mind-related comments might lead interventions aimed to improve infant-parent relationship to target mentalization capacity in parents. Especially in cultures where verbal expressions of mental states were not frequent, the mental-state language of parents could be enhanced to better the socioemotional development of children.

In addition, results regarding contextual differences might be guiding in determining the emphasis of interventions on different contexts of parenting. That is, with regard to different contextual needs, to use appropriate mental comments or to avoid non-attuned comments can be studied.

APPENDIX A

PARTICIPATION INFORMATION AND CONSENT FORM

The research institution: Boğaziçi University
Title of the study: Supporting Development in Early Childhood
Project Manager: Prof. Dr. Feyza Çorapçı
E-mail address: XXX
Phone number: XXX
Names of researchers:
1. Duygu Yıldız
2. Zeynep Başar
3. Kıvılcım Değirmencioğlu
E-mail addresses: XXX
Phone numbers: XXX

Dear Participant,

Boğaziçi University and Sarıyer Municipality are carrying out the project "Supporting Development in Early Childhood" for families with 0-3 year old children. In this project, we aim to discuss the development of 12-month-old babies and their interactions with their mothers. We would like to inform you of your decision about the research first. Please sign this form after reading if you want to participate and give it to us.

In the Developmental Psychology Laboratory, you will participate in activities enjoyed by babies of this age. These events will include free play, overlapping rings, music game, Ce-E game and looking at a picture book together. We will also have the opportunity to observe your baby's reaction to new toys and how the room complies with the rules. In all these events, your baby and you will be together. We will ask you to complete a questionnaire that will take 5 minutes; In the meantime, your baby will stay with our game research and research assistant. After you fill in the questionnaire, you have time to eat and drink with your baby. Finally, we will have a 25-minute development screening interview with you.

Your visit is expected to take approximately 1.5 hours. All these events are recorded by video. We will give it as a gift on DVD.

This research is done in a scientific study and the confidentiality of the participant information is essential. The information of you and your baby will not be shared with anyone. In video recordings, the participant is for using a number in the video recordings instead of the name of the participating family.

The collected places will be evaluated and published collectively, not individually. The video recordings will be kept in a lockable closet that can be projected into research and will be deleted when the research ends.

At the end of the visit, your baby will be given a certificate of attendance for your participation and time and a gift card worth 50 TL that you can use at a grocery store you have access to. After the research is completed, an information report will be sent to you. If a potential risk is detected in your baby's development, guidance will be taken to get the support they need.

Participating in this research is entirely voluntary. If you participate, you also have the right to withdraw your consent at any stage of the study without giving any reason. If you withdraw your consent from the study, the video recording images taken from you will be deleted until that time. If you would like additional information about the thesis research, please contact the project manager or researchers whose contact information has been provided above. In addition, participants can consult the Boğaziçi University Social and Humanities Master's and Doctoral Theses Ethics Investigation Committee regarding their research-related rights.

If you agree to participate in this thesis, please sign this form and return it to us.

Me, (mother's name) ..... Click to read the text. I fully understood the responsibilities I had voluntarily. I had the opportunity to ask questions about the study. I realized that I could quit this study whenever I wanted and without having to give any reason, and I would not encounter any negativity. In these circumstances, I agree to participate in this research voluntarily, without any pressure or coercion.

I received / do not want to get a copy of the form (in this case, the researcher will keep this copy).

Mother’s Name-
Surname:.....
Signature:.....
....
Address (Phone Number):.....
Date (day/month/year):...../...../.....

Researcher’s name-surname:.....
Signature:.....

APPENDIX B

PARTICIPATION INFORMATION AND CONSENT FORM (TURKISH)

KATILIMCI BİLGİ VE ONAM FORMU

Araştırmayı destekleyen kurum: Boğaziçi Üniversitesi
Araştırmanın adı: Erken Çocukluk Döneminde Gelişimin Desteklenmesi
Proje Yürütücüsü: Prof. Dr. Feyza Çorapçı
E-mail adresi: XXX
Telefonu: XXX
Araştırmacıların adı:
1. Duygu Yıldız, 2. Kıvılcım Değirmencioğlu, 3. Zeynep Başar
E-mail adresleri: XXX
Telefonları: XXX

Sevgili Annemiz,
Boğaziçi Üniversitesi ve Sarıyer Belediyesi 0-3 yaş çocuğu olan ailelere yönelik "*Erken Çocukluk Döneminde Gelişimin Desteklenmesi*" projesini yürütmektedir. Bu çalışmada, 12 aylık bebeklerin gelişimi ve anneleriyle olan etkileşimlerini gözleme dayalı olarak incelemeyi amaçlamaktayız. Kararınızdan önce araştırma hakkında sizi bilgilendirmek istiyoruz. Bu bilgileri okuduktan sonra araştırmaya katılmak isterseniz lütfen bu formu imzalayıp bize veriniz.
Bu araştırmaya katılmayı kabul ettiğiniz takdirde, bir oyun odası olarak tasarlanmış ve dekore edilmiş Boğaziçi Üniversitesi Gelişim Psikolojisi laboratuvarında bu yaştaki bebeklerin keyif aldıkları etkinliklere katılacaksınız. Bu etkinlikler serbest oyun, üst üste konan halkalar, müzik oyunu, Ce-E oyunu ve resimli bir kitaba birlikte bakmanızı içeren etkinlikler olacak. Ayrıca bu oyunlarda bebeğinizin yeni oyuncaklara gösterdiği tepkiyi ve odanın kurallarına nasıl uyduğunu da gözlemleme fırsatımız olacak. Tüm bu etkinliklerde, bebeğiniz ve siz odada birlikte bulunacaksınız. Ziyaretinizin sonuna doğru sizden yan odada 5 dakika sürecek bir anketi doldurmanızı rica edeceğiz; bu esnada bebeğiniz oyun odasında araştırma asistanımız ile kalacaktır. Siz anketi doldurduktan sonra, bebeğinizle birlikte bir yeme-içme zamanınız olacaktır. Son olarak, sizinle yaklaşık 25 dakika süren bir gelişim taraması görüşmesi yapacağız.
Ziyaretinizin yaklaşık 1,5 saat sürmesi beklenmektedir. Tüm bu etkinlikler video ile kaydedilecektir. Dileyen ailelere kaydın bir DVD kopyasını hediye olarak vereceğiz.
Bu araştırma bilimsel bir amaçla yapılmaktadır ve katılımcı bilgilerinin gizliliği esastır. Sizin ve bebeğinizin bilgileri kimseyle paylaşılmayacaktır. Sizden toplanan veriler sadece araştırmacılar tarafından görülebilecek, ailelerin isimleri kendilerinden alınan verilerle eşleştirilmeyecek ve video kayıtlarında katılımcı ailenin ismi yerine bir numara kullanılacaktır.
Toplanan veriler bireysel olarak değil toplu olarak değerlendirilip yayımlanacaktır. Video kayıtları araştırma projemiz süresince kilitli bir dolapta muhafaza edilip araştırma sona erdiğinde silineceklerdir.

Ziyaretin sonunda, katılımınız ve zaman ayırdığınız için bebeğinize bir katılım sertifikası ve size de erişiminiz olan bir markette kullanabileceğiniz 50 TL değerinde bir hediye çeki verilecektir. Araştırma tamamlandıktan sonra da size bir bilgilendirme raporu yollanacaktır. Bebeğinizin gelişiminde olası bir risk tespit edilirse ihtiyacı olan desteği alması için yönlendirme yapılacaktır.
Bu araştırmaya katılmak tamamen isteğe bağlıdır. Katıldığınız takdirde çalışmanın herhangi bir aşamasında herhangi bir sebep göstermeden onayınızı çekmek hakkına da sahipsiniz. Eğer çalışmadan onayınızı çekerseniz o sürece kadar sizden alınan video kayıt görüntüleri silinecektir. Tez araştırması hakkında ek bilgi almak istediğiniz takdirde lütfen yukarıda iletişim bilgileri verilmiş olan proje yürütücüsü veya araştırmacılar ile temasa geçiniz. Ayrıca katılımcılar araştırma ile ilgili hakları konusunda Boğaziçi Üniversitesi Sosyal ve Beşeri Bilimler Yüksek Lisans ve Doktora Tezleri Etik İnceleme Komisyonuna danışabilirler.
Eğer bu tez çalışmasına katılmasını kabul ediyorsanız, lütfen bu formu imzalayıp bize geri verin.

Ben, (annenin adı) ....., yukarıdaki metni okudum ve katılmam istenen çalışmanın kapsamını ve amacını, gönüllü olarak üzerime düşen sorumlulukları tamamen anladım. Çalışma hakkında soru sorma imkanı buldum. Bu çalışmayı istediğim zaman ve herhangi bir neden belirtmek zorunda kalmadan bırakabileceğimi ve bıraktığım takdirde herhangi bir olumsuzluk ile karşılaşmayacağımı anladım.

Bu koşullarda söz konusu araştırmaya kendi isteğimle, hiçbir baskı ve zorlama olmaksızın katılmayı kabul ediyorum.
Formun bir örneğini aldım / almak istemiyorum (bu durumda araştırmacı bu kopyayı saklar).
Annenin Adı-Soyadı:.....
İmzası:.....
Adresi (varsa Telefon No, Faks No):.....
.....
Tarih (gün/ay/yıl):...../...../.....

Araştırmacının Adı-Soyadı:.....
İmzası:.....
Tarih (gün/ay/yıl):...../...../.....

APPENDIX C

PARENTAL REFLECTIVE FUNCTIONING QUESTIONNAIRE*

Listed below are a number of statements concerning you and your child. Read each item and decide whether you agree or disagree and to what extent.
Use the following rating scale, with 7 if you strongly agree; and 1 if you strongly disagree. The midpoint, if you are neutral or undecided, is 4.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

1. __The only time I'm certain my child loves me is when he or she is smiling at me.
2. __I always know what my child wants.
3. __I like to think about the reasons behind the way my child behaves and feels.
4. __My child cries around strangers to embarrass me.
5. __I can completely read my child's mind.
6. __I wonder a lot about what my child is thinking and feeling.
7. __I find it hard to actively participate in make believe play with my child.
8. __I can always predict what my child will do.
9. __I am often curious to find out how my child feels.
10. __My child sometimes gets sick to keep me from doing what I want to do.
11. __I can sometimes misunderstand the reactions of my child.
12. __I try to see situations through the eyes of my child.
13. __When my child is fussy, he or she does that just to annoy me.
14. __I always know why I do what I do to my child.
15. __I try to understand the reasons why my child misbehaves.
16. __Often, my child's behavior is too confusing to bother figuring out.
17. __I always know why my child acts the way he or she does.
18. __I believe there is no point in trying to guess what my child feels.

*Luyten, P., Mayes, L. C., Nijssens, L., & Fonagy, P. (2017). The parental reflective functioning questionnaire: Development and preliminary validation. *PLOS ONE, 12*(5), e0176218. doi: 10.1371/journal.pone.0176218

APPENDIX D

PARENTAL REFLECTIVE FUNCTIONING QUESTIONNAIRE (TURKISH)*

Ebeveyn İçsel Düşünme İşlevselliği Ölçeği

Aşağıda siz ve çocuğunuz hakkında birtakım ifadeler yer almaktadır. Her maddeyi lütfen dikkatle okuyunuz ve her maddeye ne derecede katılıp katılmadığınızı belirtiniz. Cevaplarınızı maddelerin yanındaki sayıları seçerek gösteriniz. Belirtilen ifadeye tamamen katılıyorsanız 7; hiç katılmıyorsanız 1; ne katılıyor ne katılmıyorsanız ya da kararsızsanız 4 rakamını işaretleyiniz.

1. __ Çocuğumun beni sevdiğinden yalnızca o bana gülümsediği zaman emin olurum. (PM)
2. __ Çocuğumun ne istediğini her zaman bilirim. (CM)
3. __ Çocuğumun duygu ve davranışlarının altındaki sebepleri anlamak isterim.(IC)
4. __ Çocuğum yabancıların yanında beni mahcup etmek için ağlar. (PM)
5. __ Çocuğumun aklından geçenleri tamamıyla okuyabilirim.(CM)
6. __ Çocuğumun ne düşündüğünü ve hissettiğini çok merak ederim.(IC)
7. __ Çocuğumun evcilik, doktorculuk ve benzeri oyunlarına aktif bir şekilde katılmakta zorlanırım. (PM)
8. __ Çocuğumun ne yapacağını her zaman tahmin edebilirim.(CM)
9. __ Çocuğumun nasıl hissettiğini genellikle merak ederim. (IC)
10. __ Çocuğum bazen yapmak istediğim şeyden beni alıkoymak için hasta olur. (PM)
11. __ *Çocuğumun yaptıklarını bazen yanlış anlayabiliyorum.* (CM)
12. __ Olaylara çocuğumun gözünden bakmaya çalışırım.(IC)
13. __ Çocuğum mızmızlandığı zaman bunu beni kızdırmak için yapar. (PM)
14. __ Çocuğuma neyi neden yaptığımı her zaman bilirim. (CM)
15. __ Çocuğumun neden yaramazlık yaptığını anlamaya çalışırım.(IC)
16. __ Çoğu zaman, çocuğumun davranışları çaba göstersem de anlaşılamayacak kadar karmaşıktır. (PM)
17. __ Çocuğumun davranışlarının sebebini her zaman bilirim.(CM)
18. __ Çocuğumun ne hissettiğini tahmin etmeye çalışmanın bir işe yaramadığına inanıyorum. (IC)

*Luyten, P., Mayes, L. C., Nijssens, L., & Fonagy, P. (2017). The parental reflective functioning questionnaire: Development and preliminary validation. *PLOS ONE, 12*(5), e0176218. doi: 10.1371/journal.pone.0176218

APPENDIX E

SARIYER-95 12-14 MONTH LAB VISIT PROCEDURE

ACTIVITY 1. EXPLORING THE ROOM & MEETING THE STRANGER (7 min.)
Assistant 1, Assistant 2, Mother & Child

After taking the mother's consent, Assistant 1 informs the mother that she and her child have 5 minutes to explore the playroom as they wish. They are free to explore every toy and drawer. We are expecting them to get comfortable in the playroom during the exploration.

Before leaving the room, Assistant 1 informs the mother that the other Assistant (Assistant 2) will come to the room and meet her child for the first time after 5-minute exploration time passes. The mother is requested to be silent when Assistant 2 comes to the room in order to observe the child's first reaction to a stranger. Assistant 1 leaves the room and sets the timekeeper to 5 min.

After 5 min, Assistant 2 as a stranger enters the room and meets the child. She speaks directly with the child without any emotion in her face: *"Ah, a very sweet baby"* and gets one step closer to the child and waits 1 second. Then she says *"Hello [child's name], how are you?"* and again gets one step closer and waits 1 second. *"Now, I will come near to you."* and gets near to the child and waits 1 second. *"Now, I will hold you."* She holds the child with the child's face pointing at the camera and at the same time the child is able to gaze at the mother. She holds the child 10 seconds with the same position. Then she puts the child down and says, *"It is so nice to meet you, now I will go to the other room."* As she leaves the room, she informs the mother that she can take care of her child as she wishes now and sets the timekeeper to 2 min.

ACTIVITY 2. FREE PLAY (8 Min.)
Assistant 1, Mother & Child

Assistant 1 provides three boxes of toys to the mother and toddler on the floor of the playroom. The boxes contain 10 different kinds of toys which are suitable for 13-month old toddlers developmentally. The toys include two toy cars, one doll, one soft book, one vocal farm animals book, one jigsaw puzzle of animal figures, one vocal duck, two soft chicks, one soft crab, and one soft rabbit, some blocks, one pull-along toy, and one ball fitting toy. The mother is requested to play with her toddler using these toys as they would normally play at home. The mother is free to select the toys that she prefers to play with and to spare as much time she wants for any toy. She may choose only one toy to play with and may ignore other toys at her given time for this task. This task takes 8 minutes.

ACTIVITY 3. TEACHING TASK #1: STACKING RINGS (3 Min.)
Assistant 1, Mother & Child

Assistant 1 provides stacking rings to the mother and toddler. The mother is requested to teach stacking rings from large to small one by one. If the mother does not know the toy, Assistant 1 first teaches her the toy. The mother is informed that this toy may be difficult for 13-month old toddlers and her toddler does not have to learn how to play with this toy right
now. The mother is free to help her toddler as she wishes but the toddler must stack the rings as requested. This task takes 3 minutes.

ACTIVITY 4. TEACHING TASK #2: XYLOPHONE TOY (3 Min.)
Assistant 1, Mother & Child

Assistant 1 provides xylophone toy to the mother and toddler after removing stacking rings. The mother should teach the beating keys one by one to play xylophone. If the mother does not know the toy, Assistant 1 first teaches her the toy. The mother is informed that this toy may be difficult for 13-month old toddlers and her toddler does not have to learn how to play with this toy right now. The mother is free to help her toddler as she wishes but the toddler must beat the keys as requested. This task takes 3 minutes.

ACTIVITY 5. SEPARATION & REUNION WITH MOTHER (5 +3 Min.)
Assistant 1, Assistant 2, Mother & Child

Assistant 2 enters into the experiment room and invites the mother out of the room for a 5-min brief questionnaire. Before leaving the room, the mother is instructed to say to her baby, *"I have a little job outside, you wait a bit here with [Assistant 1's name], I'll come right away, okay?".*

Assistant 2 sets the timekeeper to 5 minutes as soon as they leave the room with the mother. Meanwhile, Assistant 1 stays in the room with the baby for 5 minutes. She sits on the couch and waits quietly without making eye contact with the baby. After the end of 5-min separation, the mother is told that she can return to the room and interact with her baby as she wishes. As the mother enters the room, Assistant 1 quietly exits from the room and starts the timekeeper to 3 min.
Notes:

- If the mother is very anxious about separation, she is not urged to leave the room.
- The separation condition is terminated if the infant is too distressed and cry intensely for more than 30 seconds or if the mother wishes to enter the room before 5 minutes separation has completed.

ACTIVITY 6. PICTURE BOOK (3 Min.)
Assistant 1, Mother & Child

The mother is asked to sit on the mat or couch with her baby. They are given a wordless picture-book containing pictures of baby faces, each with different emotions. The mother is instructed to go through the book with her infant and to talk about each picture. After explaining the task, Assistant 2 leaves the and sets the timekeeper to 3 min.

ACTIVITY 7. NOVEL TOY (4 Min.)
Assistant 1, Mother & Child

Assistant 1 enters the room and shows a remote-controlled bee toy with light and motion. The mother is informed that babies' reaction to novel toys might vary. She is told that some children may be very interested in this toy while others don't.

Assistant 1 explains to the mother the aim of the procedure, to understand how her baby reacts when confronted with this toy. During the time Assistant 1 moves the toy, the mother is instructed to sit quietly on the couch in the background and not interact with her baby. Assistant 1 introduces the toy to the child and approaches it to the child using remote control. The toy comes close to the child and stops for 25 sec. Then, the toy moves away from the child for a few seconds. This sequence is repeated three times.

At the end of this experiment-controlling toy sequence, Assistant 1 leaves the turned-off toy on the floor of the room and signals to the mother that she can interact with her infant and explore the toy as she wishes for 3 min. The assistant sets the timekeeper to 3 min as soon as exiting from the room.
Note:

- During the moving toy sequence, if the baby becomes too distressed or crying intensely for more than 30 second or if the mother tells her that she does not want to continue the activity because of the toy, the activity is terminated.

ACTIVITY 8. PEEK-A-BOO (2 Min.)
Assistant 1, Mother & Child

Assistant 1 enters into the room and asks the mother to play a peek-a-boo game with her baby in the way that they play at home. Assistant 1 leaves the room and lets the mother and the baby be alone together for 2 min for this game.

ACTIVITY 9. FORBIDDEN TOY (4 Min.)
Assistant 1, Mother & Child

Assistant 1 carrying a colorful, amusing toy enters into the room and explains to the mother that the aim of the present activity is to see how babies react when they are restrained from playing a fancy toy.

Assistant 1 starts to show this enjoyable toy to the baby. Once the baby's attention is captured by the toy, Assistant 1 moves the toy closer to the baby and says to the mother, "*I'm putting this new toy here for you. However, [baby's name] cannot play with this new toy now. He can play with this toy when I come back. Please don't let [baby's name] play with this toy or even touch it*".

Three minutes later, the Assistant enters the room and tells them that the mother and the baby can play with the forbidden toy as they wish. Assistant 1 gives them 1 min to explore this toy.

ACTIVITY 10. FEEDING (5 Min.)
Assistant 1, Mother & Child

Assistant 1 enters into the room and says, "*After so many games, it's time for a snack. For your baby, [Assistant 2] will now bring the food you prepare at home from the fridge".* Baby feeding chair and a chair for the mother are placed in the middle of the room facing the camera. When Assistant 2 brings the food, the mother is asked to seat the baby in the baby feeding chair and feed her baby if the baby is comfortable there. Assistant 1 says to the mother, "*You can feed your baby the way you are comfortable, just as you are at home".* This task takes 5 min.
Notes:

- If the food is not put in the fridge, mother is asked to prepare the snack that she carries in her bag.
- If the mother forgets to bring something for the baby to eat, the assistant says, "*There are some snacks here in our laboratory so that babies who come here can eat when they are hungry"*. If the child likes to eat any of them, it is given to the mother to feed the baby.

ACTIVITY 11. WHO Infant and Young Child Development Interview (15 Min.)
Assistant 1, Assistant 2, Mother & Child

Assistant 1 and Assistant 2 enter the room and Assistant 1 asks the mother what she can offer. While Assistant 1 prepares the refreshments, Assistant 2 says to the mother, "*I have some questions about your child's development and what he enjoys doing. While answering my questions, [baby's name] will stay here, and you can continue to take care of him as usual. During the interview, Assistant 1 is also in the room to take care of the baby and play with him*".
First, the main purpose and content of the interview is explained:
"*I will now ask you questions about what your baby is doing to better understand your baby's development. Individual differences in the development of infants during this period are very common. That's why your baby may be doing some of the things I'm asking, and not being able to do some of it. As I said, this is expected in terms of development. Our goal here is to get information about what your baby can do, what he likes to do*."
This interview takes 15 min to complete.

ACTIVITY 12. Questionnaires (PRFQ & ECRS-SF) & an interview (Approx. 10 min.)
Assistant 2, Mother & Child

Assistant 2 says to the mother, "*I have some questions about your relationships with your child and with your partner.*". Assistant 2 reads the items on the questionnaires to the mother and asks the mother to rate each item according to how much she agrees. After completing the questionnaires, Assistant 2 asks the mother "What do you think your baby will be like at 5 years of age?". This part ends when the mother stops answering.

REFERENCES

Aber, J. L., Slade, A., Berger, B., Bresgi, I., & Kaplan, M. (1985). *The parent development interview*. Unpublished manuscript, The City University of New York, New York.

Ainsworth, M. D., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment*. Hillsdale, NJ: Erlbaum.

Ainsworth, M. S. (1979). Infant–mother attachment. *American Psychologist*, *34*(10), 932.

Arnott, B., & Meins, E. (2007). Links among antenatal attachment representations, postnatal mind–mindedness, and infant attachment security: A preliminary study of mothers and fathers. *Bulletin of the Menninger Clinic*, *71*(2), 132–149.

Arnott, B., & Meins, E. (2008). Continuity in mind-mindedness from pregnancy to the first year of life. *Infant Behavior and Development*, *31*(4), 647-654.

Atkinson, L., Paglia, A., Coolbear, J., Niccols, A., Parker, K. C., & Guger, S. (2000). Attachment security: A meta-analysis of maternal mental health correlates. *Clinical Psychology Review*, *20*(8), 1019-1040.

Bernier, A., & Dozier, M. (2003). Bridging the attachment transmission gap: The role of maternal mind-mindedness. *International Journal of Behavioral Development*, *27*(4), 355–365.

Bernier, A., McMahon, C. A., & Perrier, R. (2017). Maternal mind-mindedness and children's school readiness: A longitudinal study of developmental processes. *Developmental Psychology*, *53*(2), 210.

Bigelow, A. E., Power, M., Bulmer, M., & Gerrior, K. (2015). The relation between mothers' mirroring of infants' behavior and maternal mind-mindedness. *Infancy*, *20*(3), 263-282.

Bowlby, J. (1982). Attachment and loss: retrospect and prospect. *American Journal of Orthopsychiatry*, *52*(4), 664.

Bretherton, I. (2013). Revisiting Mary Ainsworth's conceptualization and assessments of maternal sensitivity-insensitivity. *Attachment & Human Development*, *15*(5-6), 460-484.

Camoirano, A. (2017). Mentalizing makes parenting work: A review about parental reflective functioning and clinical interventions to improve it. *Frontiers in Psychology*, *8*, 14.

Cassidy, J. (1994). Emotion regulation: Influences of attachment relationships. *Monographs of the Society for Research in Child Development*, *59*(2-3), 228-249.

Corapci, F., Benveniste, H., & Bilge, S. (2018). Does mothers' self-construal contribute to parenting beyond socioeconomic status and maternal efficacy? An exploratory study of Turkish mothers. *Frontiers in Psychology, 9,* 1245.

Del Carmen, R., Pedersen, F. A., Huffman, L. C., & Bryan, Y. E. (1993). Dyadic distress management predicts subsequent security of attachment. *Infant Behavior and Development, 16*(2), 131-147.

Demers, I., Bernier, A., Tarabulsy, G. M., & Provost, M. A. (2010a). Maternal and child characteristics as antecedents of maternal mind-mindedness. *Infant Mental Health Journal, 31*(1), 94-112.

Demers, I., Bernier, A., Tarabulsy, G. M., & Provost, M. A. (2010b). Mind-mindedness in adult and adolescent mothers: Relations to maternal sensitivity and infant attachment. *International Journal of Behavioral Development*, 34(6), 529-537.

De Roo, M., Wong, G., Rempel, G. R., & Fraser, S. N. (2019). Advancing optimal development in children: Examining the construct validity of a Parent Reflective Functioning Questionnaire. *JMIR Pediatrics and Parenting*, *2*(1), e11561.

De Wolff, M. S., & Van IJzendoorn, M. H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development*, 68(4), 571-591.

Ensink, K., Bégin, M., Normandin, L., & Fonagy, P. (2017). Parental reflective functioning as a moderator of child internalizing difficulties in the context of child sexual abuse. *Psychiatry Research, 257*, 361-366.

Ensink, K., Borelli, J. L., Roy, J., Normandin, L., Slade, A., & Fonagy, P. (2018). Costs of not getting to know you: Lower levels of parental reflective functioning confer risk for maternal insensitivity and insecure infant attachment. *Infancy*.

Ensink, K., Normandin, L., Target, M., Fonagy, P., Sabourin, S., & Berthelot, N. (2015). Mentalization in children and mothers in the context of trauma: An initial study of the validity of the Child Reflective Functioning Scale. *British Journal of Developmental Psychology*, 33(2), 203-217.

Erickson, M. F., Sroufe, L. A., & Egeland, B. (1985). The relationship between quality of attachment and behavior problems in preschool in a high-risk sample. *Monographs of the Society for Research in Child Development*, 147-166.

Esbjørn, B. H., Pedersen, S. H., Daniel, S. I., Hald, H. H., Holm, J. M., & Steele, H. (2013). Anxiety levels in clinically referred children and their parents: Examining the unique influence of self-reported attachment styles and interview-based reflective functioning in mothers and fathers. *British Journal of Clinical Psychology*, *52*(4), 394-407.

Farrow, C., & Blissett, J. (2014). Maternal mind-mindedness during infancy, general parenting sensitivity and observed child feeding behavior: A longitudinal study. *Attachment & Human Development, 16*(3), 230-241.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London: Sage.

Fonagy, P., Luyten, P., Moulton-Perkins, A., Lee, Y. W., Warren, F., Howard, S., ... & Lowyck, B. (2016). Development and validation of a self-report measure of mentalizing: The reflective functioning questionnaire. *PLoS One, 11*(7), e0158678.

Fonagy, P., Steele, H., & Steele, M. (1991). Maternal representations of attachment during pregnancy predict the organization of infant-mother attachment at one year of age. *Child Development, 62*(5), 891-905.

Fonagy, P., Steele, M., Steele, H., Moran, G. S., & Higgitt, A. C. (1991). The capacity for understanding mental states: The reflective self in parent and child and its significance for security of attachment. *Infant Mental Health Journal, 12*(3), 201-218.

Fonagy, P., Steele, M., Moran, G., Steele, H., & Higgitt, A. (1993). Measuring the ghost in the nursery: An empirical study of the relation between parents' mental representations of childhood experiences and their infants' security of attachment. *Journal of the American Psychoanalytic Association, 41*(4), 957-989.

Fonagy, P., Target, M., Steele, H., & Steele, M. (1998). *Reflective-functioning manual, version 5.0, for application to adult attachment interviews*. London: University College London.

Fraiberg, S., Adelson, E., & Shapiro, V. (1975). Ghosts in the nursery: A psychoanalytic approach to the problems of impaired infant-mother relationships. *Journal of the American Academy of Child & Adolescent Psychiatry, 14*(3), 387-421.

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology, 78*(2), 350.

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science, 18*(3), 233-239.

Goldsmith, H. H., & Alansky, J. A. (1987). Maternal and infant temperamental predictors of attachment: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 55*(6), 805.

Hayes, A. F. (2018). The PROCESS Macro for SPSS and SAS version 3.0 [Computer software]. *Retrieved from afhayes. com*.

Hughes, C., Devine, R. T., & Wang, Z. (2018). Does parental mind-mindedness account for cross-cultural differences in preschoolers' theory of mind? *Child Development, 89*(4), 1296-1310.

Keller, H. (2012). Autonomy and relatedness revisited: Cultural manifestations of universal human needs. *Child Development Perspectives*, *6*(1), 12-18.

Kelly, K., Slade, A., & Grienenberger, J. F. (2005). Maternal reflective functioning, mother–infant affective communication, and infant attachment: Exploring the link between mental states and observed caregiving behavior in the intergenerational transmission of attachment. *Attachment & Human Development, 7*(3), 299-311.

Kerns, K. A., Mathews, B. L., Koehn, A. J., Williams, C. T., & Siener-Ciesla, S. (2015). Assessing both safe haven and secure base support in parent–child relationships. *Attachment & Human Development, 17*(4), 337-353.

Kim, H. Y. (2013). Statistical notes for clinical researchers: assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics*, *38*(1), 52-54.

Kim, M., Woodhouse, S. S., & Dai, C. (2018). Learning to provide children with a secure base and a safe haven: The Circle of Security-Parenting (COS-P) group intervention. *Journal of Clinical Psychology*, *74*(8), 1319-1332.

Koren-Karie, N., Oppenheim, D., Dolev, S., Sher, E., & Etzion-Carasso, A. (2002). Mothers' insightfulness regarding their infants' internal experience: Relations with maternal sensitivity and infant attachment. *Developmental Psychology*, *38*(4), 534.

Laranjo, J., & Bernier, A. (2013). Children's expressive language in early toddlerhood: Links to prior maternal mind-mindedness. *Early Child Development and Care*, *183*(7), 951-962.

Laranjo, J., Bernier, A., & Meins, E. (2008). Associations between maternal mind-mindedness and infant attachment security: Investigating the mediating role of maternal sensitivity. *Infant Behavior and Development*, *31*(4), 688-695.

Laranjo, J., Bernier, A., Meins, E., & Carlson, S. M. (2010). Early manifestations of children's theory of mind: The roles of maternal mind-mindedness and infant security of attachment. *Infancy*, *15*(3), 300-323.

Laranjo, J., Bernier, A., Meins, E., & Carlson, S. M. (2014). The roles of maternal mind-mindedness and infant security of attachment in predicting preschoolers' understanding of visual perspective taking and false belief. *Journal of Experimental Child Psychology*, *125*, 48-62.

Leerkes, E. M. (2011). Maternal sensitivity during distressing tasks: A unique predictor of attachment security. *Infant Behavior and Development*, *34*(3), 443-446.

Leerkes, E. M., Blankson, A. N., & O'Brien, M. (2009). Differential effects of maternal sensitivity to infant distress and nondistress on social-emotional functioning. *Child development*, *80*(3), 762-775.

Leerkes, E. M., Weaver, J. M., & O'Brien, M. (2012). Differentiating maternal sensitivity to infant distress and non-distress. *Parenting*, *12*(2-3), 175-184.

Lundy, B. L. (2003). Father–and mother–infant face-to-face interactions: Differences in mind-related comments and infant attachment? *Infant Behavior and Development*, *26*(2), 200-212.

Lundy, B. L. (2013). Paternal and maternal mind-mindedness and preschoolers' theory of mind: The mediating role of interactional attunement. *Social Development*, *22*(1), 58-74.

Luyten, P., Mayes, L. C., Nijssens, L., & Fonagy, P. (2017). The parental reflective functioning questionnaire: Development and preliminary validation. *PloS One*, *12*(5), e0176218.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development*, *50*, 66-104.

McElwain, N. L., & Booth-LaForce, C. (2006). Maternal sensitivity to infant distress and nondistress as predictors of infant-mother attachment security. *Journal of Family Psychology*, *20*(2), 247.

McMahon, C. A., & Bernier, A. (2017). Twenty years of research on parental mind-mindedness: Empirical findings, theoretical and methodological challenges, and new directions. *Developmental Review*, *46*, 54-80.

McMahon, C., & Newey, B. (2018). Non-Attuned Mind-Mindedness, Infant Negative Affect, and Emotional Availability: Assessing Mind-Mindedness during the Still-Face Paradigm. *Infancy*, *23*(6), 873-892.

Meins, E. (2013). Sensitive attunement to infants' internal states: Operationalizing the construct of mind-mindedness. *Attachment & Human Development*, *15*(5-6), 524-544.

Meins, E., & Fernyhough, C. (1999). Linguistic acquisitional style and mentalising development: The role of maternal mind-mindedness. *Cognitive Development*, *14*(3), 363-380.

Meins, E., & Fernyhough, C. (2015). *Mind-mindedness coding manual, Version 2.2*. Unpublished manuscript, University of York, York, UK.

Meins, E., Centifanti, L. C. M., Fernyhough, C., & Fishburn, S. (2013). Maternal mind-mindedness and children's behavioral difficulties: Mitigating the impact of low socioeconomic status. *Journal of Abnormal Child Psychology*, *41*(4), 543-553.

Meins, E., Fernyhough, C., Fradley, E., & Tuckey, M. (2001). Rethinking maternal sensitivity: Mothers' comments on infants' mental processes predict security of attachment at 12 months. *The Journal of Child Psychology and Psychiatry and Allied Disciplines*, *42*(5), 637-648.

Meins, E., Fernyhough, C., Russell, J., & Clark-Carter, D. (1998). Security of attachment as a predictor of symbolic and mentalising abilities: A longitudinal study. *Social Development, 7*(1), 1-24.

Meins, E., Fernyhough, C., Arnott, B., Leekam, S. R., & de Rosnay, M. (2013). Mind-mindedness and theory of mind: Mediating roles of language and perspectival symbolic play. *Child Development, 84*(5), 1777-1790.

Meins, E., Fernyhough, C., Arnott, B., Turner, M., & Leekam, S. R. (2011). Mother-versus infant-centered correlates of maternal mind-mindedness in the first year of life. *Infancy, 16*(2), 137-165.

Meins, E., Fernyhough, C., de Rosnay, M., Arnott, B., Leekam, S. R., & Turner, M. (2012). Mind-mindedness as a multidimensional construct: Appropriate and nonattuned mind-related comments independently predict infant–mother attachment in a socially diverse sample. *Infancy, 17*(4), 393-415.

Meins, E., Fernyhough, C., Wainwright, R., Das Gupta, M., Fradley, E., & Tuckey, M. (2002). Maternal mind–mindedness and attachment security as predictors of theory of mind understanding. *Child Development, 73*(6), 1715-1726.

Meins, E., Fernyhough, C., Wainwright, R., Clark-Carter, D., Das Gupta, M., Fradley, E., & Tuckey, M. (2003). Pathways to understanding mind: Construct validity and predictive validity of maternal mind-mindedness. *Child Development, 74*(4), 1194-1211.

Milligan, K., Khoury, J. E., Benoit, D., & Atkinson, L. (2015). Maternal attachment and mind-mindedness: The role of emotional specificity. *Attachment & Human Development, 17*(3), 302-318.

Nijssens, L., Bleys, D., Casalin, S., Vliegen, N., & Luyten, P. (2018). Parental attachment dimensions and parenting stress: The mediating role of parental reflective functioning. *Journal of Child and Family Studies, 27*(6), 2025-2036.

Oppenheim, D., & Koren-Karie, N. (2009). Infant-parent relationship assessment: Parents' insightfulness regarding their young children's internal worlds. In C. R. Zeanah (Ed.), *Handbook of infant mental health* (pp. 266–280). New York, NY: Guilford Press.

Planalp, E. M., O'Neill, M., & Braungart-Rieker, J. M. (2019). Parent mind-mindedness, sensitivity, and infant affect: Implications for attachment with mothers and fathers. *Infant Behavior and Development, 57*, 101330.

Riva Crugnola, C., Ierardi, E., & Canevini, M. P. (2018). Reflective functioning, maternal attachment, mind-mindedness, and emotional availability in adolescent and adult mothers at infant 3 months. *Attachment & Human Development, 20*(1), 84-106.

Rosenblum, K. L., McDonough, S. C., Sameroff, A. J., & Muzik, M. (2008). Reflection in thought and action: Maternal parenting reflectivity predicts mind-minded comments and interactive behavior. *Infant Mental Health Journal, 29*(4), 362-376.

Rosso, A. M., & Airaldi, C. (2016). Intergenerational transmission of reflective functioning. *Frontiers in Psychology, 7*, 1903.

Rosso, A. M., Viterbori, P., & Scopesi, A. M. (2015). Are maternal reflective functioning and attachment security associated with preadolescent mentalization? *Frontiers in Psychology, 6*, 1134.

Rostad, W. L., & Whitaker, D. J. (2016). The association between reflective functioning and parent–child relationship quality. *Journal of Child and Family Studies, 25*(7), 2164-2177.

Rutherford, H. J., Goldberg, B., Luyten, P., Bridgett, D. J., & Mayes, L. C. (2013). Parental reflective functioning is associated with tolerance of infant distress but not general distress: Evidence for a specific relationship using a simulated baby paradigm. *Infant Behavior and Development, 36*(4), 635-641.

Selçuk, E., Günaydın, G., Sümer, N., & Uysal, A. (2005). Yetişkin bağlanma boyutları için yeni bir ölçüm: Yakın ilişkilerde yaşantılar envanteri-II'nin Türk örnekleminde psikometrik açıdan değerlendirilmesi. *Türk Psikoloji Yazıları, 8*(16), 1-11.

Shai, D., & Belsky, J. (2011). When words just won't do: Introducing parental embodied mentalizing. *Child Development Perspectives*, *5*(3), 173-180.

Shai, D., & Meins, E. (2018). Parental Embodied Mentalizing and its Relation to Mind-Mindedness, Sensitivity, and Attachment Security. *Infancy*, *23*(6), 857-872.

Sharp, C., & Fonagy, P. (2008). The parent's capacity to treat the child as a psychological agent: Constructs, measures and implications for developmental psychopathology. *Social Development*, 17(3), 737-754.

Slade, A. (2005). Parental reflective functioning: An introduction. *Attachment & Human Development, 7*(3), 269-281.

Slade, A., Belsky, J., Aber, J. L., & Phelps, J. L. (1999). Mothers' representations of their relationships with their toddlers: Links to adult attachment and observed mothering. *Developmental Psychology*, *35*(3), 611.

Slade, A., Grienenberger, J., Bernbach, E., Levy, D., & Locker, A. (2005). Maternal reflective functioning, attachment, and the transmission gap: A preliminary study. *Attachment & Human Development, 7*(3), 283-298.

Slade, A., Holland, M. L., Ordway, M. R., Carlson, E. A., Jeon, S., Close, N., ... & Sadler, L. S. (2019). Minding the Baby®: Enhancing parental reflective functioning and infant attachment in an attachment-based, interdisciplinary home visiting program. *Development and Psychopathology*, 1-15.

Smaling, H. J., Huijbregts, S. C. J., Van der Heijden, K. B., Van Goozen, S. H. M., & Swaab, H. (2016). Maternal reflective functioning as a multidimensional construct: Differential associations with children's temperament and externalizing behavior. *Infant Behavior and Development, 44*, 263-274.

Stacks, A. M., Muzik, M., Wong, K., Beeghly, M., Huth-Bocks, A., Irwin, J. L., & Rosenblum, K. L. (2014). Maternal reflective functioning among mothers with childhood maltreatment histories: Links to sensitive parenting and infant attachment security. *Attachment & Human Development, 16*(5), 515-533.

Steele, H., Steele, M., & Fonagy, P. (1996). Associations among attachment classifications of mothers, fathers, and their infants. *Child Development, 67*(2), 541-555.

Suchman, N. E., DeCoste, C., Leigh, D., & Borelli, J. (2010). Reflective functioning in mothers with drug use disorders: Implications for dyadic interactions with infants and toddlers. *Attachment & Human Development, 12*(6), 567-585.

Taumoepeau, M., Sadeghi, S., & Nobilo, A. (2019). Cross-cultural differences in children's theory of mind in Iran and New Zealand: The role of caregiver mental state talk. *Cognitive Development, 51*, 32-45.

Thompson, R. A. (1997). Sensitivity and security: New questions to ponder. *Child Development, 68*(4), 595-597.

Van IJzendoorn, M. H. (1995). Adult attachment representations, parental responsiveness, and infant attachment: a meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin, 117*(3), 387.

Verhage, M. L., Schuengel, C., Madigan, S., Fearon, R. M., Oosterman, M., Cassibba, R., ... & van IJzendoorn, M. H. (2016). Narrowing the transmission gap: A synthesis of three decades of research on intergenerational transmission of attachment. *Psychological Bulletin, 142*(4), 337.

Zeanah, C. H., & Benoit, D. (1995). Clinical applications of a parent perception interview in infant mental health. *Child and Adolescent Psychiatric Clinics of North America, 4*(3), 539-554.

Zeegers, M. A. J., Colonnesi, C., Stams, G.-J. J. M., & Meins, E. (2017). Mind matters: A meta-analysis on parental mentalization and sensitivity as predictors of infant–parent attachment. *Psychological Bulletin, 143*(12), 1245-1272.