Parental Reflective Functioning and Maternal Representations of the Child in Pregnancy: Their Influence on Affective Communication between Mothers and their Young Infants in Families At Risk

by

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Abstract

PARENTAL REFLECTIVE FUNCTIONING AND MATERNAL REPRESENTATIONS OF THE CHILD IN PREGNANCY: THEIR INFLUENCE ON AFFECTIVE COMMUNICATION BETWEEN MOTHERS AND THEIR YOUNG INFANTS IN FAMILIES AT RISK

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The present study examines the relationship between parental reflective functioning during pregnancy and the quality of affective communication between mothers and their four-month-old babies during face-to-face interactions through empirical analysis. Maternal reflective functioning is thought to protect against disrupted patterns in affective communication between mothers and infants. This study also explores the relationships between parental reflective functioning, maternal representations of pregnancy and the unborn child, and later affective communication during mother-infant interactions through qualitative analysis of individual case studies.

The subjects were 33 first-time mothers and their four to six month old infants from a sample of at-risk families participating in the "Minding the Baby" intervention study (Slade, Sadler, De Dios-Kenn, Webb, Currier-Ezepchick, & Mayes, 2005; Slade, Sadler, & Mayes, 2005; Sadler, Slade, & Mayes, 2006). The Addendum to the Reflective

Functioning Scoring Manual (Fonagy, Steele, Steele, & Target, 1998) for use with the Pregnancy Interview (Slade & Patterson, 2005) was used to rate maternal reflective functioning on the Pregnancy Interview – Short Form (Slade, Grunebaum, Huganir & Reeves, 1987; 2004). A Modification of the Atypical Maternal Behavior Instrument for Assessment and Classification (AMBIANCE) Scale (Kelly, 2004), originally developed by Karlen Lyons-Ruth and her colleagues (Bronfman, Parsons, Lyons-Ruth, 1999) was used to assess affective communication between mothers and their four-month old babies in videotaped face-to-face interactions.

Although results from the control group supported the study's major hypothesis, findings from the intervention group did not. For the control group, maternal reflective functioning during pregnancy did predict affective communication in mother-infant interactions. This was not the case for the intervention group. Treatment effects were thought to disrupt this relationship for mothers and infants participating in the intervention. Both groups evidenced significant limitations in reflective functioning. Ways in which pre-reflective functioning was manifested in maternal narrative and behavior are discussed. Two case studies are presented and implications for treatment are considered.

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Chapter 1 Introduction

Attachment researchers and clinicians have long been interested in the factors that influence or underlie "good enough" parenting. Over the past twenty years, attachment researchers have attempted to identify maternal antecedents to parenting behavior with infants, under the assumption that whatever history and internal working models or object representations a mother brings to the parent-child relationship, they must influence the baby's development through her day-to-day interactions with the baby (Main et al., 1985). In attachment terms the question might be formulated as such: What makes it possible for mothers to provide an environment that fosters attachment security in infants? In psychoanalytic terms we might ask: What makes it possible for mothers to be "good enough" mothers to their infants?

In the attachment literature, mothers' representations of attachment were originally the focus of research on maternal antecedents to the quality of mother-infant interactions; however, it became clear that there were limitations to this model, and there was a need to identify other ways of conceptualizing the research question (see van IJzendoorn, 1995). Fortunately, recent advances in theory and methodology have led to two significant shifts in the way these questions can be asked. For one, Fonagy and his colleagues (1991, 1995, 2002) have suggested that maternal reflective functioning (Slade, 2005) may be crucial in determining a mother's capacity for sensitive and responsive parenting. In Fonagy and his colleagues' (2002) conceptualization, mentalization or reflective functioning is the reflexive ability to envision mental states in oneself and others and to interpret one's own and others' behavior in terms of these underlying

mental states (for an overview, see also Slade, 2005). Presumably, a mother's reflective functioning—her ability to hold the baby in mind—would make her more sensitive and responsive to the baby's cues.

In a second important shift, advances in the assessment of the mother-child interaction have also changed the way the dynamics of the early relationship are evaluated. Instead of focusing on maternal sensitivity overall, Lyons-Ruth and her colleagues (Lyons-Ruth, 1999; Lyons-Ruth, Bronfman & Atwood, 1999a; Lyons-Ruth et al., 1999b) emphasize a parent's ability to regulate the infant's negative affects, fear and distress at times of heightened arousal, a co-regulatory function that is an essential aspect of parent-infant interactions fostering security in infants. Disruptions in a caregiver's affective communication with the infant—including poor responsiveness, contradictory behavior, role or boundary confusion, fearfulness, dissociation, intrusiveness, hostility, or withdrawal—have been found to contribute to the development of insecure and disorganized attachment strategies in infants (Lyons-Ruth et al., 1999a, 1999b; Slade et al., 2005). These are behaviors that Lyons-Ruth and colleagues have linked to "hostile" and "helpless" states of mind, which are characteristic of relational models in parents who have had failures in affective communication in their own early attachment relationships and/or experiences of trauma, abuse or loss (Lyons-Ruth et al., 2005).

To date, only one study (Grienenberger, Kelly, & Slade, 2005), has explored the relationship between maternal reflective functioning (RF) and disrupted affective communication in mother-child dyads. The infants in this sample were 10 months old when the interaction was evaluated, and reflective functioning was evaluated using the Adult Attachment Interview (AAI protocol, George, Kaplan, & Main, 1984, 1985, 1996)

with a middle-income, low-risk sample of families. The present study extends the findings of Grienenberger and his colleagues' (2005) work by examining the relationship between maternal reflective functioning in pregnancy and parental affective communication in a sample of high-risk, traumatized mothers and their first babies at four months of age. Through several individual case studies, qualitative analysis of mothers' representations of their children during pregnancy in light of hostile/helpless states of mind, will be presented to illustrate the interplay among prenatal reflective functioning, maternal representations of the parent-child relationship during pregnancy, and the quality of affective communication in mother-infant interactions. The findings of this study are relevant to early intervention programs in that assessments of reflective functioning and maternal representations of the child during pregnancy may be important in identifying mother-infant dyads who may benefit from intervention as a preventive measure against the development of maladaptive patterns of interaction; similarly, interventions aimed at enhancing reflective functioning may be crucial in supporting mothers and infants at risk.

Chapter 2 Review of the Literature

In the sections that follow, Fonagy and his colleagues' (2002) theories on reflective functioning are described and discussed in relation to parental reflective functioning and pregnancy. This is followed by a description of the measures that have been used to assess reflective functioning. A discussion of the role of maternal representations of the child in the developing parent-infant relationship will then be presented, followed by a summary of research on mother-infant interactions including Main and Hesse's (1990) theories of maternal frightened and frightening behavior, and Karlen Lyons-Ruth and her colleagues' (1999a; 1999b; 2003; 2005) recent theories on affective communication and maternal hostile-helpless states of mind. Finally, the relationship between maternal reflective functioning and affective communication between mothers and infants will be discussed.

Parental Reflective Functioning

Fonagy, Gergely, Jurist, and Target (2002) and their colleagues (Fonagy, Steele & Steele, 1991; Fonagy, Steele, Moran, Steele, & Higgitt, 1991) drew upon research on "theory of mind" and "metacognition" to develop their theory of reflective functioning, building on attachment research in which lapses of "metacognitive monitoring" were observed in maternal narratives about attachment relationships (Main, 1991). It is now seen as an essential element in affect regulation for not only the parent, but also for the parent-infant relationship in that a parent's reflective functioning is considered to be crucial to the parent's ability to regulate the infant's internal states, and thereby support the development of reflective functioning in that infant. It is a construct that has been

linked to a number of maternal and infant outcome measures including, mother's attachment security (Slade et al., 2005), the quality of maternal representations (Patterson, Slade, & Sadler, 2005), infant's attachment security (Fonagy et al., 1991b; Slade et al., 2005), and the affective communication between mothers and infants (Grienenberger et. al, 2005). Central to the co-regulation of affect between parent and child (Fonagy et. al, 2002), parental reflective functioning has become an important area of investigation in its own right (Slade, 2005).

Some of the seeds for Fonagy and his colleagues' (2002) theory of mentalization are found in Main's (1991) research on attachment representations. In her research on narrative representations of attachment organization in adults, Main (1991) observed that certain mothers would exhibit lapses in the self-monitoring of their discourse, which contained incoherent statements, multiple models of experiences, or implausible ideation on the Adult Attachment Interview (AAI, George et al., 1984, 1985, 1996). These mothers exhibited failures in "meta-cognitive monitoring," defined as "thinking about thought." These disruptions in metacognition were linked to maternal attachment organization, and in turn, their children's capacity for metacognition was related to their mother's attachment organization, thus introducing the idea that a mother's ability to think about her own thought processes was related to her attachment experiences with her parents and with her child. Main and her colleagues (see Hesse et al., 2003) later attributed these lapses in discourse to the tendency of some mothers to enter unintegrated or dissociated states of consciousness when attachment-related affects associated with their experiences of trauma were triggered. These shifts in internal state remained outside of conscious awareness of mothers during other points in the interview.

Building upon Main's (1991) work among others, Fonagy and his colleagues (2002) formulated their theory on the development of mentalization or reflective functioning, creatively integrating a large body of research and theory from the domains of psychoanalysis and developmental and cognitive psychologies over the last 15 years. In addition to the work on "metacognitive monitoring" from attachment research, they drew upon the concept of "theory of mind" from the fields of cognitive and developmental psychologies. The development of "theory of mind" indicates children's ability to generate a conception of other people's beliefs, feelings, knowledge, misconceptions, deceits, and intentions, which then allows children to "read" others' minds in social interactions (e.g., Baron Cohen, 1995; Morton and Frith, 1995), capacities that have been connected to attachment security and symbolism (Meins et al., 1998).

In Fonagy and his colleagues' (2002) conceptualization, mentalization or reflective functioning (RF)—the term used for the operationalization of mentalizing functions represented in language and narrative—is the reflexive ability to envision mental states in oneself and others and to interpret one's own and others' behavior in terms of these underlying mental states (for an overview, see also Slade, 2005). Reflective functioning involves a dynamic awareness of the relationships among particular experiences, behavior and internal states including beliefs, desires, and emotions. It includes an understanding that someone's behavior is linked to underlying mental states that change over time in ways that can be ambiguous, hidden, unobservable, and dynamic (Slade, 2005; Grienenberger et al., 2005). It also implies an understanding that certain beliefs or emotions might be associated with particular relationships or developmental phases, and thus it includes the understanding that mental experiences are

contextualized. Furthermore, in the mentalizing stance one acknowledges that mental experience is a relative and subjective representation of reality, that reality can be interpreted in multiple ways and that several people can have different, but equally legitimate understandings of the same event, thus one's inner experience does not define those of others (Slade, 2005). Fonagy and his colleagues (2002, p. 25) write, " RF involves both a self-reflective and an interpersonal component that ideally provides the individual with a well-developed capacity to distinguish inner from outer reality, pretend from 'real' modes of functioning, and intrapersonal mental and emotional processes from interpersonal communications."

Reflective functioning is developed through day-to-day interactions between caregivers and infants. An infant begins to develop reflective functioning by first exploring the meaning of others' actions in terms of goals and intentions. Through the linking of actions to underlying goals or intentions, the infant begins to label and make meaningful others' actions (Fonagy et al., 2002). In this way, the predictability and contingency of a parent's responses to the infant support this linking. This facilitates the infant's growing understanding of his own behavior—thus a rudimentary grasp of the connection between internal plans and external behavior develops and expands to involve more sophisticated internal states, as a parent physically and verbally acknowledges and responds to the child's bodily and emotional experiences (e.g., asking, "Are you hungry?," and offering milk, or holding an infant away from a barking dog, while saying, "Did that doggie scare you?").

The parent maps the child's internal experiences to the parent's representations of the child's inner world through the parent's actions, verbal labels and nonverbal affective

responses. Through these interactions, the child grows to understand his own actions and self-states in terms of how they are represented in the parent's mind. The child "finds himself in the other" as a person with desires, feelings, and thoughts, and internalizes a representation of himself as a mentalizing individual (Fonagy et al., 1995). This is a shift in psychoanalytic theory from (Fonagy et al., 1995, p. 256) "the internalization of the containing object to the internalization of the thinking self from within the containing object." Through increasing cognitive development and sensitive parenting, the child then develops a more complex comprehension of causal relationships among internal states, external contexts, and the behavior related to them. "The sensitive caregiver can bridge the focus on physical reality and internally directed attention sufficiently for the child to identify contingencies between internal and external experience." (Fonagy et al., 2002, p. 53)

Parents support a mapping of symbols and meaning to the child's experience of internal states, and the co-regulation or containment of internal states by mirroring these states in a highly contingent way that is close enough to the infant's actual experience so that the infant can recognize it as related to himself, but "marked" or altered enough for it to symbolize the infant's emotion, making space for modulation (Gergely & Watson, 1996). This "marked" quality allows the infant to feel "seen" and understood by the parent, but not frightened or overwhelmed by the affective display, since a parent's real, unmarked fear or anger can further distress the infant. Parents are able to communicate the containment of distressing affects through multiple modalities including verbal (e.g., linguistic content of what is said), tactile (e.g., holding, stroking, rocking), auditory (e.g., affective voice tone), and visual experiences (e.g., facial expressions) (Fonagy et al.,

1995). Thus the parent not only demonstrates recognition of the child's anger, fear or distress, but also communicates this in behavior in a way that models a strong parental role of mastery and stability during the experience of difficult emotions, thereby indicating to the child that he may also have a similar experience of mastery (Fonagy et. al, 1995; Grienenberger et al., 2005).

Through these mirroring experiences, symbolic capacities develop to the extent that children can integrate two modes of functioning into the capacity for mentalization: 1. psychic equivalence mode where internal reality is concretely identical to external reality and 2. pretend mode where play is experienced as purely subjective. This process is supported by the parent's reflective functioning in that it depends on the parent's degree of self-regulation, as manifested in shared mentation in the parent's interactions with the child in mirroring, play, and conversation about feeling states.

Reflective functioning is inherently linked to the quality of parent-child interactions, because it allows an individual to regulate internal states and direct behavior accordingly. Fonagy and his colleagues (2002) build upon prior research and theory on mentalization to include the interplay between metacognition, theory of mind, affect and *behavior*. Mentalization is considered key for the regulation of affect and behavior, because it renders behavior and emotional responses comprehensible and predictable. This allows people to respond not only in immediate reaction to their own and others' behavior, but also to respond to what they predict their own and others' behavior and internal states will be. Due to this predictability, reflective functioning provides a sense of agency and also a deep understanding of oneself in relation to others through time. In this way, mentalization is considered key in the development of capacities for relating, as

well as the organization of the self, in that it underlies impulse control, self-monitoring, a sense of one's agency, intentionality and continuity in self-experience. As a function underlying affect regulation, reflective functioning can be thought of as supporting an individual's capacity to experience, understand, and process one's own and others' emotions without resorting to defenses that close off experience or communication. In psychoanalytic terms, it provides an individual with a reflexive and often unconscious process to "contain" and titrate difficult affects (Bion, 1962).

Reflective functioning in parents is central not only to how they regulate their behavior with the infant, but also to the development of mentalizing capacities in their children (Fonagy et al., 2002**;** Slade 2005). Most individuals are born with the capacity to develop reflective functioning, but the degree to which this occurs depends on the quality of the infant-caregiver relationship and the parent's ability to hold the baby's changing internal experiences in mind (Fonagy et. al, 2002). For this reason, recent work on mentalization has focused specifically on parental reflective functioning (Slade, 2005). Parental RF is defined as *parents'* capacities to hold their own and their child's internal states in mind and relate these states to behavior without defensively shutting down in denial, dissociation or projection of mental states.

It differs from reflective functioning overall because it focuses specifically on a parent's ability to think about the experiences of parenting, the child, and the parent-child relationship, as opposed to the ability to think about internal states and behavior in other types of relationships, such as one's own early attachment relationships. This is a departure from the way the assessment of reflective functioning has been conceptualized in prior research, in that in the past RF measures were applied to individuals' descriptions

of attachment relationships with their parents on the AAI (e.g., Fonagy et al., 1991a). This was considered an indicator of parents' capacities to think about their relationships with their own children, although reflective functioning in narratives about the parent-child relationship had not been directly investigated. Slade (2005) has offered the hypothesis that the assessment of RF on parents' representations of their relationships with their children will more directly relate to parent-child interactions than prior methods of measuring reflective functioning.

Parental reflective functioning is thought to influence the quality of representations of the parent-child relationship (e.g., Patterson, 2005) and to govern the way a parent interacts with his or her child, particularly in moments of duress for parents and children (e.g., Grienenberger et al., 2005). Reflective functioning ebbs and flows during interactions between parents and infants as emotional experience shifts between positive and negative affects. Given the intensity of affects—both positive and negative—inherent in the attachment relationship between parents and babies, perfect attunement and sensitivity is never possible. Fortunately, it is also undesirable for healthy infant development. Tronick and Weinberg's (1997) emphasis on the concept of "rupture and repair" in parent-infant interactions is important here. Reflective parents can temporarily lose and *regain* their mentalizing stance and become open again to "seeing" what their baby is experiencing and communicating, in relation to the parent's own feelings and act accordingly, a process of rupture and repair that fuels developmental growth.

For a reflective parent, painful affects are subjective mental states that can be thought about, rather than immutable, concrete realities, thus opening the possibility for

modulation of affects. In this way, a parent might be momentarily overwhelmed by frustration, for example, but then re-engage the capacity for mentalization allowing the caregiver to step back in moments of heightened distress to regain emotional engagement and control. Reflective parents can remain regulated enough to contain an infant's distress and through mirroring, transform it into a tolerable experience that can be mastered (Grienenberger et al., 2005), thus modeling mastery over painful emotional experiences for the child. A well-regulated parent is also more predictable and comprehensible to the child, supporting the child's development of a mentalizing stance, because the child is better able to make sense of the parent's behavior and to develop a conception of the parent's intentions and goals. A mother's mentalizing capacity allows her to recognize her own feelings, to clearly "see the baby" before her, and to become open enough to receive the baby's communications in order to make sense of them and respond appropriately to meet the babies needs. In other words, a strong capacity for reflective functioning allows a mother to experience and contain her own and the baby's internal states without closing herself off into maladaptive defensive strategies that preclude the possibility of open communication and sensitive responsiveness (Fonagy et. al, 2002, Grienenberger et. al, 2005).

A parent's lack of reflective functioning can lead to several kinds of problems in the affective communication between parents and infants that are detrimental to the process of co-regulation and the development of mentalizing capacities in the child. There can be failures in the mirroring and mapping process in that some parents may fail to mirror and yet demonstrate stability and mastery, maintaining a strong parental role, unrattled by the infant's distress. Some mirror affect too accurately, lacking calmness

and confidence. Others exhibit breakdowns in mirroring and mastery when infant distress triggers unintegrated and chaotic states in the parent (Grienenberger et al., 2005; for unintegrated, dissociated states see Hesse, Main, Kelley, Abrams, & Rifkin, 2003). When breakdowns in mirroring include misrepresentations of the infant's emotions (Fonagy et al., 2002; Slade, 2005), the infant may develop a sense of self that is empty and unreal, built around the parent's inaccurate projections that are alien to the infant's self-experience, akin to Winnicott's concept of the "false self." In this way, a parent's mentalizing capacity is deeply integrated with his or her ability to interact with infants in a way that can communicate understanding of the infant's experience, while providing a regulating and secure environment for the infant to express and experience difficult affects, ultimately supporting both the infant's knowledge of himself in relation to others (Fonagy et al., 2002) and to the infant's security in attachment organization (Slade et al., 2005).

One of the aims of the present study is to examine reflective functioning in pregnancy as it pertains to the mother's imagined relationship to the baby. In effect, this will draw on recent attempts by the research team (Slade & Patterson, 2005) to identify reflective capacities among pregnant women using the Pregnancy Interview (Slade et al., 1987), an hour-long, semi-structured clinical interview used to assess the quality of a mother's representation of her relationship with her unborn child. This is unlike studies of reflective functioning on the AAI in that the assessment of RF using the Pregnancy Interview draws upon descriptions of the mother's *imagined* relationship with her baby (Slade & Patterson, 2005).

To date, there have been no published studies concerning the quality of an expectant mother's parental reflective functioning—her ability to hold in mind her future baby; thus this is a new area of investigation that raises many questions concerning the significance of a mother's thought processes about the baby during pregnancy. Theoretically, it differs from parental reflective functioning in general in that it involves one's capacity to hold in mind experiences of pregnancy, experiences of the baby in utero, and fantasies about the future parent-infant relationship. Furthermore, assessing parental RF during pregnancy accesses a mother's ability to imagine the experiences of a baby who is yet to be born—a mother is being asked to reflect on developing fantasies and representations that are as yet, uninformed by actual interactions with the baby, aside from perhaps fetal movements (Slade & Patterson, 2005). With the special social and psychological contexts of pregnancy, it seems likely that an expectant mother's mentalizing capacity would have some unique features.

A mother's mentalization during pregnancy underlies her capacity to integrate not only the panoply of thoughts about the baby, but also the vast changes in her experiences of her body, her social role in and outside her family, and her intense emotional life. As Cohen and Slade (2000, p. 30) write, "Reflective functioning plays a particular and important role in pregnancy, because the mother is necessarily holding two minds in her mind: her own changing sense of self alongside her fluctuating and intense affects and the reality of her baby, both part of and apart from her. Reflective functioning allows her to retain a sense of herself as coherent and knowable in the face of the turmoil of pregnancy and of her child as coherent and knowable, both in her imagination and after he is born."

During pregnancy, reflective functioning is being assessed at a psychologically complex developmental juncture for many women (Slade & Patterson, 2005). The expectant mother must manage wide fluctuations in her emotional life, with the tall task of integrating intense and contradictory emotions in relation to impending parenthood: excitement, joy and pleasure in thoughts about nurturing her future baby, in contrast to dread, fear, and resentment concerning the immense and irreversible changes ahead in all of the relationships in her life. First-time mothers, in particular, may worry over the many unknowns ahead, including how she will respond as a mother, the specifics of baby care, how she will feel at home or away at work, what kind of support she may want or need; she must envision and prepare for the multiple realities ahead. But as Slade and Patterson write (2005, p.4), "Even more important, though, she must begin to imagine the child, and *in fantasy* grapple with the meeting of their two minds." An expectant mother's mentalizing capacities with regard to the baby must be engaged as she begins to anticipate that the baby will have intentions and desires separate from her own (Slade & Patterson, 2005).

Slade and Patterson (2005) suggest that a pregnant woman who is high in reflective functioning will be able to play with both her pleasurable reveries and fantasies about the baby, and her fears and anxieties regarding the many changes that are impending, in counterpoint to the multitude of concrete, realistic preparations that must occur (e.g., childcare, financial concerns, car seats, cribs, etc.). A reflective woman is also capable of acknowledging that her pleasurable fantasies about the baby are self-serving, that they are representations of the future as she may wish them to be, and that these fantasies are merely subjective representations of what is to come—that in fact, she

cannot really know the specifics of a relationship with a baby she is yet to meet (Slade & Patterson, 2005). As Cohen and Slade write (2000, p. 29), "In pregnancy, there is no known baby and mother, there is only an imagined baby and mother." This is in contrast with the sense of connection and intimacy pregnant women may feel with the unborn baby. This paradox is illustrated by the way one mother humorously described the birth of her first baby. She had spent all these months thinking about what the baby would be like and when he was finally born, she looked into his face and thought with some surprise, "It's you!?" Before this point in time when maternal fantasies meet the material relationship with the real baby at birth, the infant an expectant mother feels she "knows" is the infant she has carefully constructed in her mind over many months of pregnancy, and a reflective woman is able to acknowledge the paradoxical sense of closeness to the representation of the baby and the reality of the unknowable infant.

Furthermore, a woman high in reflective functioning will be able to reflect on not only her own complex and contradictory emotions concerning the baby, but the multiple and changing emotions of her partner, as well. Slade and Patterson write (2005, p. 8), "The mother's capacity to contemplate these multiple states of mind in herself *as they intersect with and both influence and are influenced by the other* is crucial in assessing reflective functioning." Similarly, she must begin to anticipate the ways in which her own mind and the infant's mind will both "meet and not meet," the ways in which her own feelings, wishes, and needs may overlap or be distinct from those of her baby.

In this way, reflective functioning may support the successful negotiation of the tasks of pregnancy and the representational precursors for the parent-infant relationship. In the development of her fantasies about the baby, it is likely that an expectant mother's

mentalizing capacity provides her with the freedom to play with an image of the baby and of her parental self, thus presenting a foundation for thinking of the real baby in the future—in the mother's mind the baby already exists as a person who can be thought about in relation to herself. It is hypothesized in this study that prenatal reflective functioning used in the service of developing representations of the parent-infant relationship may be used as an indicator of the parent's mentalizing capacity to actively think about the real baby in the midst of moment-to-moment changes in physical and mental states in both parent and child in their future interactions.

Measures of Reflective Functioning

The first measure of reflective functioning was developed by Fonagy, Target, Steele, and Steele (1998) for use in their analysis of data from the Adult Attachment Inverview (George et al., 1984, 1985, 1996) beginning with a study relating adult attachment in mothers and fathers measured prenatally to later child attachment (Fonagy, Steele, Moran, Steele, & Higgitt, 1991). It was developed in the context of Main's (1991) observations of problems in coherence and metacognitive monitoring on the AAI and studies of the intergenerational transmission of attachment. The AAI is a structured interview consisting of 15 questions about an individual's early attachment experiences. The individual is asked to choose five adjectives to describe the relationship with each parent, and is then asked to give examples from memory illustrating each adjective. A number of questions tap into moments of heightened attachment-related affects, for example, the individual is asked for a time when she was upset during childhood, whether she ever felt threatened or rejected, to which parent she felt closer, and why she thought

parents behaved as they did. The AAI was developed to assess adult's attachment style, and yields four primary categories of attachment: secure/autonomous, dismissing, preoccupied, or unresolved in relation to loss or trauma, based on the coherence of their narrative.

Fonagy and his colleagues' (1998) measure of RF for use with the AAI assesses adults' capacities to think about both their own and their parents' feelings, thoughts, and intentions in attachment related situations. It also assesses an understanding of complex relationships among internal states in that it measures adults' capacities to think about how their own parents' internal experiences and external actions affected them over time. Of particular relevance on the AAI are questions about internal states and intentions that may not have been readily observable, such as "Why do you think your parents behaved the way they did?" and "What kind of effect did your childhood experiences have upon your development and personality?" The RF scale has an 11-point range from bizarre (-1) to high (+9), based on four criteria: 1. understanding of the nature of mental states, 2. explicit effort to differentiate and relate mental states and behavior, 3. acknowledgement of the developmental aspects of mental states, and 4. recognition of mental states in relation to the interviewer (see also Slade, 2005, for overview of the RF scale and related research).

Using this measure of RF on the AAI, parents' reflective functioning assessed during pregnancy has been found to predict children's attachment organization and mentalizing capacities. Fonagy et al. (1991a) demonstrated a relationship between parents' prenatal reflective functioning and children's attachment organization in a longitudinal study of attachment. Prenatal reflective functioning in mothers and fathers

predicted infants' attachment security. In later studies, the researchers found that mothers who were more likely to talk about mental states in their accounts of childhood attachment experiences had children with greater capacities for imagining what was in others' minds (Fonagy et al., 2002). Similarly, fathers with higher capacities for RF had children who were able to perform better on cognitive-emotion tasks. Both the mother's reflective functioning and the child's attachment style were significant in predicting the child's theory-of-mind performance. The RF scale has also been used to examine the protective function of RF on the impact of parental stress and deprivation on child attachment (Fonagy et al., 1995).

A second measure of reflective functioning was adapted from Fonagy and his colleagues' (1998) AAI/RF manual by Slade and her colleagues (Slade, Bernbach, Grienenberger, Levy, & Locker, 2004) to assess parental reflective functioning specifically. As noted earlier, Slade and her colleagues suggest that a direct assessment of a parent's capacity to reflect on her child's experience and her own experience as a parent may more directly relate to the quality of the child's attachment and parent-infant interactions than measures of reflective functioning based on descriptions of mothers' attachment experiences with their own parents as in the AAI (Slade, 2005; Slade et al., 2005; Grienenberger et al., 2005). In order to test this hypothesis, they developed a measure of reflective functioning for use with the Parent Development Interview (PDI; Aber, Slade, Berger, Bresgi, & Kaplan, 1985), a 45-item structured interview used to assess internal working models of relationships in parents' representations of their children, themselves as parents, and the parent-child relationship (see Slade, 2005 for overview).

Using their adapted RF scale and the PDI, Slade and colleagues (2005) found that parental reflective functioning was related to maternal and child attachment and affective communication in parent-infant interactions (Grienenberger et al., 2005). Parental reflective function was assessed in mothers when their babies were 10 months of age. There were significant relationships between maternal reflective functioning and mother's attachment style and between maternal reflective functioning and infant's attachment style. Secure mothers had higher levels of reflective functioning than mothers judged insecure in all other attachment categories, and secure infants had mothers with higher levels of reflective functioning than infants with resistant or disorganized attachment styles. A preliminary mediation analysis suggested that maternal reflective functioning mediated the relationship between mother's attachment and infant's attachment, the intergenerational transmission of attachment, supporting Fonagy and his colleagues' (2002) assertion that common mechanisms underlie secure attachment and mentalization. As described in greater detail below, in a companion study to these findings, Grienenberger and his colleagues (2005) found that parental reflective functioning was also linked to the quality of maternal affective communication with their infants when infants were 10 months of age.

The current study will use another version of the addendum to the reflective functioning scoring manual (Slade & Patterson, 2005) that has been adapted for use with the Pregnancy Interview (Slade, Grunebaum, Huganir, & Reeves, 1987; 2004), a 22-item clinical interview designed to assess a woman's emotional experiences of pregnancy and the quality of her developing relationship with her baby. It assesses a mother's thoughts, expectations and feelings regarding her future relationship with her baby, as well as her

relationships to herself as a mother, to the father of the baby, and to her family of origin as it pertains to her future parenting. The interview was first used in a study of 50 middle-class babies and their mothers to assess the relationship between maternal attachment and the quality of developing maternal representations of the baby and the parent-infant relationship (Slade, Director, Grunebaum, Huganir, & Reeves, 1991).

The RF scale yields scores for individual passages in the Pregnancy Interview, as well as an overall score for reflective functioning that is organized on a continuum from low (-1) to high (9) reflectiveness. A score of five on the scale marks an average or ordinary reflective capacity, and for a response to qualify as reflective (a score of five or above) the response must include the linking of mental states to behavior or mental states to mental states. In line with Fonagy et al.'s (1998) RF manual, this scale is used to assess four general categories of mentalization including (Slade & Patterson, p. 9): "1. an awareness of the nature of mental states, 2. the explicit effort to tease out mental states underlying behavior, 3. recognizing developmental aspects of mental states, and 4. mental states in relation to the interviewer."

To provide a sense of the range of mentalization in responses, here are some examples of responses from the Pregnancy Interview and their corresponding RF scores (from Slade & Patterson, 2005). A score of "–1 Negative RF" is assigned if a response is anti-reflective (i.e., hostile or actively evasive), bizarre (i.e., irrational and difficult to understand), or inappropriate in the context of the interview (i.e., complete non-sequiturs, over-familiarity, or gross assumptions about the interviewer). An example of a "-1" response is as follows (Slade & Patterson, 2005, p. 21): "He's just a baby so how could

we possibly be alike? You've met him. I don't see how you could possibly ask me that question."

A score of "3 questionable or low RF" is assigned for responses that contain a suggestion of mentalizing effort, with some use of mental state language, without elaboration. These responses appear superficial or clichéd, without depth. An example of this type of response is as follows (Slade & Patterson, 2005, p. 23): "Right now I'm good, I'm happy. I'm gaining weight and I'm totally happy. I'm not concerned about nothing no more. I'm changing, my food disorder has changed a lot, so I'm happy now."

A score of "5 definite or ordinary RF" is assigned when a mother shows a capacity to make sense of experience in terms of thoughts and feelings, but does not represent complex internal experiences such as ambivalence. The response includes a non-cliché, explicit reference to the nature of mental states, how they relate to other mental states or behavior, or mental states in relation to the interviewer. An example of this type of response might read as follows (Slade & Patterson, 2005, p. 24): "Worried about my feelings? The thought of being a mom makes me afraid sometimes. I'm very experienced with children, but there's something different about this one being mine. I can't give him up for the rest of my life. When I start to think of that, because it wasn't planned and because [father of the baby] and I aren't married, that makes me feel afraid and overwhelmed sometimes."

In contrast, a score of "7 marked RF" is assigned for responses that include explicit examples of one of the four categories of RF, and demonstrate either sophistication (more than one of the four categories of RF), an original perspective, complexity or elaboration with indication that mental states are considered in relation to

one another, causality between mental states and other mental states or behavior, or descriptions of appropriate thoughts and feelings in narratives about particularly painful experiences. An example of this type of response is as follows (Slade & Patterson, 2005, p. 26): "[With regard to father of the baby] At first I felt a little angry and upset because I expected him to be more, you know, talkative and be more open about how he was feeling. So it made me feel like I'd done something wrong, I felt like it was my fault, you know. I was afraid he didn't want the baby. I didn't know what was going on in him. It took a few days to be able to talk about it. I think the situation came as a real surprise to him."

A full score of "9 full or exceptional RF" includes the features of a "7" response to an unusually high degree and has a strikingly personal character, with full awareness of significant aspects of all the protagonists mentioned. An example of this response is as follows (Slade & Patterson, 2005, p. 27): "Oh, I will feel guilty all the time, and I know my ways of handling it will not always be so productive. I will feel really guilty for leaving her and going to work and I will think about it a lot during the day when I'm gone. But I know I won't be able to stay at home for long. It's just the kind of person I am. I will need the outside stimulation as well as the money to be a good mother. If I stayed at home all the time, I think I would grow resentful towards the baby. I just hope my issues don't affect her too much. I'm afraid that sometimes I will need her more than she needs me. I know I will want her to be attentive when we're together."

This will be the first study to apply the RF scale to the Pregnancy Interview, and as such, there are many interesting issues raised concerning the meaning of parental reflective functioning during pregnancy. Through this first application of the measure we

can ask how an expectant mother holds in mind her future baby and what significance this has for her later interactions with that baby. Furthermore, this measure may prove to be useful for research and intervention that aims to use parental RF to predict or influence later parent-child outcomes in that it will provide a means for early assessment of parental reflective functioning before the exigencies of daily care of the baby are pressing for the mother.

Maternal Representations During Pregnancy

While maternal reflective functioning has been identified as one antecedent to the quality of mother-infant interactions (Grienenberger et al., 2005), a second line of research has emphasized the role of maternal representations of the child (Schechter, Coots, Zeanah, Davies, Coates, Trabka, Marshall, Liebowitz, & Myers, 2005; Slade, Belsky, Aber, & Phelps, 1999; Aber, Belsky, Jay, Slade, & Crnic, 1999; Benoit, Parker, & Zeanah, 1997; Bugental & Happeney, 2004; Daggett, O'Brien, Zanolli, & Peyton, 2000). Although there is a large body of research that has focused on the quality of parents' representations of their own attachment relationships in early childhood and their impact on the relationship with their children (e.g., Fonagy, Steele, & Steele, 1991; Madigan, Moran, & Pederson, 2006), there has been recent support for a more direct line of influence between parental representations of the child and parent-child interactions in that in a recent investigation, parents' representations of experiences with their own parents was found to operate through their representations of the child to contribute to their parenting behavior (Daggett et al., 2000). Thus, building on research of parents' attachment relationships with their own parents assessed on the AAI, in addition to a long

history of clinical case studies of parents and children, there has been renewed interest in studies of parental representations of the child in recent years.

Both reflective functioning and maternal representations contribute to sensitive and responsive parenting. The development of healthy parental representations of the child are supported by reflective functioning (Schechter et al., 2005), as a greater capacity for RF has been found to be related to positive affect and detailed imagery in prenatal maternal representations (Patterson, Slade, & Sadler, 2005), and to rich, balanced, involved and positive representations of the parent-child relationship (Schechter et al., 2005). In turn, representations of the child have been related to the quality of the parent-child relationship, both in terms of child attachment and parenting behavior (Benoit et al., 1997; Bugental & Happeney, 2004). This is in line with Fonagy and his colleagues' (1995) identification of two parental antecedents to the security of the parent-infant relationship—the parent's internal working model and the parent's reflective functioning. They write (p. 258), "The child is likely to be securely attached if *either* the parent's internal model of relationships is benign, dominated by favorable experiences, *or* if the parent's reflective function is of sufficient quality to forestall the activation of working models based on adverse experiences inappropriate to the current state of the relationship of child and caregiver."

While the assessment of a mother's reflective functioning informs us about a mother's capacity to envision her child's mind as related to but distinct from her own, it does not help us to understand the content of her thoughts concerning her child: the quality of her feelings in the relationship, the attributions assigned to the child, her self-experience as a mother in parent-infant interactions, and the coherence of the child's

identity in the mother's mind. Collectively, these elements constitute a representation of the child forged from not only the many facets of a mother's experience of her child (Aber, Belsky, Slade, & Crnic, 1999), but also from her representation of the early experiences with her own parents (Slade, Belsky, Aber, & Phelps, 1999; Stern, 1995; Lieberman; 1997). Thus, interactions with the baby in reality and models of attachment relationships formed prior to the birth of the baby, each contribute to a representation of the child that partially determines the security of the parent-child relationship and the quality of parenting behavior (Benoit et al., 1997; Bugental & Happaney, 2004). Maternal representations of the child may be thought of in attachment terms, as internal working models, or in psychodynamic terms, as object representations or relational models of the child, that can powerfully direct a mother's affective responses to her child, the way she "reads" her baby's ambiguous cues, and the sensitivity of her responses to her baby.

In this way, maternal representations of the child may be thought of as one component of a mother's broader relational system that regulates maternal behavior, as Lyons-Ruth (1995, p. 435) writes, "Such implicit but organized mental representations and their associated behavioral strategies, affects, and physiological states are viewed as constituting mutually interdependent facets of the control systems for regulating social behavior in close relationships (Bretherton, 1991b; Epstein, 1991). Such control systems are assumed to represent the individual's synthesis of his or her lived experiences, interpreted through the temperamental proclivities and developmental lenses available over time."

Both the coherence of a mother's representations and the content of her attributions about the child may be influential in the parent-child relationship, and each aspect of maternal representations have been incorporated in assessments of representations of the child in research (e.g., measures such as the Working Model of the Child Interview, Zeanah and Benoit, 1995; and the Parent Development Interview, Aber et al., 1985). As Lieberman writes (1997, p. 284), "Whereas current conceptualization of working models of attachment describe predominant defensive styles that are abstracted from the mother's narrative (i.e., dismissive, preoccupied, disorganized, autonomous), maternal attributions [sic. of the child] offer an unedited view of fantasies and concrete perceptions that guide the mother's actual ministrations toward the child and directly shape the infant's emerging working model of the self in relation to attachment. Maternal attributions shape which baby behaviors the mother can become attuned to and which behaviors are ignored or misinterpreted."

The idea that a mother's representation of her child—the way she thinks and feels about her child—is inextricably linked to the way she thinks and feels about her own childhood experiences, and that this representation is central to the health of the parent-child relationship, has a long and rich history in clinical work. Over 30 years ago, in their pioneering paper in the burgeoning field of parent-infant mental health, Selma Fraiberg and her colleagues (Fraiberg, Adelson, & Shapiro, 1975) first observed the ways in which unintegrated representations of traumatic experiences with hostile caregivers prevented young, at-risk mothers from "seeing" their babies, "hearing" their cries, impeding these mothers' abilities to enjoy intimacy with their babies and respond sensitively to their infants' needs. Since this first paper, clinical studies have repeatedly described the ways

in which dissociated affects from early relational trauma with a mother's own parents can color a mother's representations of her baby—unconscious affects which then become activated in her parenting behavior with her child (e.g., Fraiberg, 1980; Lieberman, 1997; Pines, D., 1972; 1988).

Daniel Stern (1995) conceptualizes maternal representations of the infant as a network based on and built up from subjective experiences of interactions with significant others, what he terms "*schemas-of-being-with*." Rather than individual images or words, he believes that mental representations of others are comprised of either actual, lived or fantasized experiences, akin to a montage of film clips—a linked network of interactions, each representing a moment of self-experience in the context of relating to other people. Thus a mother's representation of the baby may include schemas of the baby in various relationships, for example, in relation to herself-as-the-mother, to her husband-as-the-father, to her other children-as-siblings, to her parents-as-grandparents. It may include schemas of the baby at various stages of development through time, and also perspectives of the baby as a person with a distinct personality, temperament, and character. Over time, the mother must build and integrate a historical perspective on her baby, as her representations of her child, and of herself as mother to that child, will change and be elaborated for the rest of the mother's life.

A mother's representation of the baby has a long prenatal history, with its early roots in a mother's subjective experiences with her own parents and the conflicts and difficulties associated with these experiences (Cohen & Slade, 2000; Slade, Director, Grunebaum, Huganir, & Reeves, 1991), and in the fantasies about her baby throughout childhood and adolescence (Bugental & Happeney, 2004; Stern, 1995). These

representations of the baby may contain material from a great range of the mother's self-experiences, as Raphael-Leff (2001, p. 28) writes, "Imagery of the unborn baby…is complicated with investments of facets of the woman's own baby-self, her aspirations, anxieties, dreams, and desires, as well as positive and negative identifications with both the foetus inside her and with the archaic pregnant mother of her own gestation." During pregnancy, these fantasies become newly invigorated. Expectant mothers begin actively dreaming up a baby and a maternal identity; a representation of the mother-baby dyad grows in the mother's mind, alongside the physical development of the baby in her womb. Influenced by psychological, social, and biological factors, mothers can imagine their babies in vivid and rich detail influenced by events that occur with the progress of the pregnancy (Stern, 1995). These events might include medical visits where the mother hears the baby's heartbeat or sees the baby through ultrasound imaging, or later in the pregnancy when "quickening" occurs, and the mother begins to feel the flutter, and later the jolts, of the baby's movements inside her body (Cohen & Slade, 2000; Stern, 1995). Her representations may also transform with the social changes in the way people respond to her as her pregnancy becomes physically visible and she begins "to show" (Stern, 1995; Cohen & Slade, 2000). At this point her public identity shifts to that of an expectant mother, an identity that entails loss of anonymity and privacy in that it not only cannot be concealed, but also the pregnant state elicits strong reactions from others, strangers and close relations alike. Events such as these bring the reality of the baby's existence and a woman's developing maternal identity—with all of its physical, psychological, and social implications—closer to the mother's actual experience.

Destabilization of the mother's internal life carries with it increased emotional upheaval, regression and fluidity, with greater access to fantasies and thoughts about herself as the child of her parents, and a shifting identification with her mother as she approaches parenthood herself (Cohen & Slade, 2000; Stern, 1995; Bibring, 1959; Bibring et al., 1961). This destabilization stirs up moments of intense fear, ambivalence, aggression and anxiety, along with joy and pleasure in imagined intimacy, caregiving, and the arrival of the baby and motherhood (Cohen & Slade, 2000; Pines, 1972). One of the tasks of developing representations of the baby during pregnancy is the formation of representations of the baby and of oneself as a mother, that can encompass the full range of extreme emotional experiences, both positive and negative, in a balanced way, while building a representation that is relatively coherent and flexible to the changing realities of the pregnancy and the soon-to-be-real baby—a representation that is predominantly infused with pleasure, joy, and positive affect (Cohen & Slade, 2000). Both a mother's representations of her own early attachment relationships and her capacity for reflective functioning contribute to the success of this task (Slade et al., 1999; Cohen & Slade, 2000; Slade & Cohen, 1996; Schechter et al., 2005).

Mothers' representations of their infants become increasingly elaborated through the beginning of the third trimester, at which point they become somewhat attenuated in preparation for the arrival of the real baby (Stern, 1995). Following the birth of the infant, aspects of the mother's prenatal representations will endure and color the way she sees her baby, while new schemas will form based on interactions with the baby and become incorporated into her representations of her child, their relationship, and herself-as-mother (Stern, 1995; Zeanah, Zeanah, & Stewart, 1990). From this point onward, it is

likely that parental representations influence both later representations of the child and the parent's interactions with the baby, which in turn both contribute to the quality of subsequent representations. These factors—maternal representations and affective experiences with the baby—interact with changes in the baby's development (e.g., increased mobility, self-assertion in toddlerhood) in a dynamic interplay, creating stable, but somewhat flexible conceptual models of the baby (Aber et al., 1999). With the meeting of the imagined baby and the real baby at birth, it is one of the essential tasks of pregnancy for an expectant mother to achieve what Pines (1972, p. 333) describes as, "a stable and satisfactory balance between her unconscious fantasies, daydreams and hopes and the reality of her relationship to herself, her husband and her child."

One of the aims of this study is to examine the quality of maternal representations of pregnancy and the parent-infant relationship in an at-risk sample of young mothers. Slade and Cohen (2000) have observed how women vastly differ in the degree to which they can imagine the baby and imagine themselves as mothers. Parents differ in their propensity to see themselves in a relationship with their baby, to acknowledge loving feelings for the baby, and to describe the baby as having feelings and intentions (Zeanah, Zeanah, Stewart, 1990). A pregnant woman's representations of herself as a mother and of her baby have been found to be negatively influenced by a number of psychological factors and external circumstances such as maternal insecurity in attachment relationships, low capacity for reflective functioning, maternal psychopathology (e.g., PTSD symptoms), as well as whether the baby was planned or unplanned and the number of other young children in the home (Cohen & Slade, 2000; Schechter et al., 2005; Pajulo, Helenius, & Mayes, 2006). While some women are able to form balanced,

positive, coherent, and flexible representations of themselves as mothers in relation to a baby conceptualized as connected to but separate from herself, others have more difficulty approaching this task (Cohen & Slade, 2000; Raphael-Leff, 2001).

For example, some mothers remain distant from the process (Cohen & Slade, 2000). They avoid engaging in thoughts about the baby and the way life will change, defensively denying feelings of neediness, dependency, and vulnerability, including even feelings of love or attachment to the baby. These mothers cannot allow themselves to imagine the baby or themselves as mothers, let alone the emotional significance of the relationship to come. For these mothers, the baby remains a mental "unknown," and representations of themselves as mothers are at best shallow and superficial.

For other mothers, the experience of pregnancy and thoughts about motherhood and the baby are fraught with overwhelming dread, fear, anxiety, and conflict (Cohen & Slade, 2000). Representations of the baby can be either chaotic and frightening or diffuse, with relational interactions centered around one member of the dyad consuming the other's resources. These mothers see "the baby as eating them up," "robbing them of their lives," or overwhelming the mother with dependency and neediness while the mother scrambles to maintain control and a cohesive sense of self (Cohen & Slade, 2000, p. 29). This is similar to Raphael-Leff's (2001, p. 29) description of an experience of "primary maternal persecution" during pregnancy where the mother-infant relationship is represented as "parasitic tyranny," "exploitation, pollution, or control by foetus and mother" or "an inescapable experience of mutual damage." In these cases the infant may come to represent a part of the mother's sense of self that is lost and located in the baby, resulting in a sense of derealization and strangeness (Raphael-Leff, 2001). Alternatively,

the baby may embody repudiated aspects of the mother's internal world that are intolerable to her, resulting for example, in a representation of a damaged or accusatory baby (Raphael-Leff, 2001). The baby's physical dependency may also reawaken the mother's early experiences of neediness, helplessness, and frustration (Raphael-Leff, 2001).

The tendency for some mothers to structure their representations of the mother-child relationship in terms of an imbalanced power struggle has also been demonstrated in Bugental and her colleagues' (2004; 1989; 2000) findings that some parents maintain biased perceptions of their relationships to their children. Rather then seeing themselves as having equal or greater control and power than their children, they perceive their children as possessing the control in the relationship, while they, the parents, are in the position of being victimized by their own children. These parents may be more likely to see unresponsive infants as behaving with intent, resulting in parental feelings of helplessness and anger (Bugental & Happaney, 2004).

Distortions such as these present significant risk to the health of the future parent-child relationship in that parents' prenatal representations of their infants have been found to have some reasonably stable schemas through the first year of the baby's life, with greater stability in representations classified as either balanced or distorted, while disengaged representations have less stability (Benoit et al., 1997). This relative stability has also been demonstrated in the maternal representations of temperament in an at-risk sample of adolescent mothers up to four months after birth (Zeanah, Keener, Anders, & Vieira-Baker, 1987), and mothers' and fathers' representations of temperament in a middle-class sample up to six months after birth (Zeanah, Zeanah, & Stewart, 1990).

Furthermore, these relatively stable, negative representations of the child exert considerable influence on the security of the mother-infant relationship and the quality of care provided by mothers. Mothers' prenatal representations that are not balanced, positive, and cohesive increase the likelihood of insecure attachment relationships with their babies one year later (Benoit et al., 1997). In addition, Slade and her colleagues (1999) found that mothers who held representations of their toddlers that were more joyful, pleasurable, and coherent were more positive and less negative in their mothering than mother's who scored lower on these dimensions; in contrast mothers who expressed more anger in their representations of their toddlers were less sensitive and positive in their parenting behavior. Daggett et al. (2000) found that mothers who viewed their young children as having many behavior problems and who attributed intentionality to the child's misbehavior, provided poorer quality of care at home (e.g., poorer responsiveness, acceptance, involvement, and organization of the home environment). Similarly, expectant mothers who represent the mother-infant relationship in terms of a power-imbalance and their lack of control in the relationship, are more likely to experience depressive symptoms, more likely to behave in harsh or abusive ways with their infants, and less likely to provide adequate safety and protection for their babies, particularly with at-risk infants (e.g., premature infants) (Bugental & Happaney, 2004). To be discussed in greater detail below, Lyons-Ruth and her colleagues (Lyons-Ruth, Yellin, Melnick, & Atwood 2003; 2005) have also demonstrated a link between unbalanced power relationships activated in maternal hostile and helpless states of mind and mothers' decreased ability to regulate their babies' fear and negative affect. These findings underscore the significance of positive affect in parental representations for the

quality of the mother-infant relationship, and conversely the destructiveness of unbalanced representations of power and the concomitant anger and depressive affect associated with such representations in a mother's view of her child.

As noted above, both reflective functioning and maternal representations of the parent-child relationship are thought to influence the quality of care a parent provides to her infant. One of the aims of this study is to examine the interrelationships among reflective functioning, maternal representations of the mother-child relationship, and the quality of later parent-infant interactions in qualitative, individual case studies with a high-risk population. Little is yet known about the ways in which reflective functioning and maternal representations interact in parenthood. It was hypothesized that reflective functioning and maternal representations of the child each contribute in different ways to the quality of the parent-child relationship and to a parent's ability to respond in a sensitive and regulating way to her baby. Furthermore, it was hypothesized that when reflective functioning is low the influence of maternal representations on mother-child interactions will be greater. Benign representations of the child and high levels of reflective functioning each may provide a buffer against disrupted patterns of interaction. It was thought that our high-risk sample of young, first-time mothers would yield a larger number of women with either very limited reflective functioning and/or more disturbed representations of the baby, and in this way this group would be particularly appropriate to this study.

Mother-Infant Interactions and Affective Communication

One of the most robust findings in the attachment literature has been the intergenerational transmission of attachment—the strong association between parental representations of attachment and infant attachment patterns (Main, Kaplan, & Cassidy, 1985**;** Fonagy et al., 1991b, see van IJzendoorn, 1995 for review). In their prospective study, Fonagy, Steele, and Steele (1991b) found that maternal representations of attachment assessed during pregnancy predicted later infant attachment organization 75% of the time, a strength of relationship that has been replicated in other studies (see van IJzendoorn, 1995), suggesting an amazing degree of concordance between maternal and infant attachment organization. In attempts to understand the intergenerational transmission of attachment styles from parent to child, it was believed that a parent's state of mind regarding attachment must be conveyed to the child through the parent's behavior in day-to-day interactions with the baby (Main et al., 1985). Maternal sensitivity and responsiveness have long been the focus of studies attempting to identify the specifics of parental behavior that mediated the relationship between maternal attachment representations and infant attachment patterns.

In fact, studies relating parental sensitivity to child attachment organization (e.g., Ainsworth et al., 1978; Isabella, 1993, Isabella & Belsky, 1991; Isabella, Belsky, & von Eye, 1989; Pederson et al., 1998) have yielded some significant findings. In addition in their recent study, Atkinson and her colleagues (2005) found that maternal representations of attachment on the AAI were significantly related to maternal sensitivity, as well (see also Pederson et al., 1998). However, maternal sensitivity has not been found to *mediate* the relationship between maternal representations of attachment

and infant attachment security (Atkinson et al., 2005; Pederson et al., 1998). Pederson et al. (1998) found that maternal sensitivity accounted for less than 25% of the association between representational autonomy in mothers and attachment security in infants. These findings support a prior meta-analysis (van IJzendoorn, 1995), which revealed that parental sensitivity only accounted for a limited portion of the influence of adult attachment strategies on child attachment organization. Despite the significant relationships between maternal representations and maternal responsiveness, and between maternal responsiveness and infant attachment status, there has not been clear validation that maternal sensitivity is the primary means through which a mother's representational world is carried through to her infant, particularly in the case of disorganized attachment in infants (Jacobvitz et al., 2006). Clearly, other factors pertaining to this model were yet to be identified.

Since then, there has been a shift in the assessment of parenting behavior from global measures of maternal sensitivity in parent-infant interactions (e.g., cooperation, acceptance, contingent responsiveness, pleasurable affect) to measures of disruptions in affective communication, particularly, problems in a mother's capacity to contain distressing affects in mother-infant interactions. A parent's ability to regulate the infant's negative affects, fear and distress at times of heightened arousal is now seen as possibly greater in importance in generating secure attachment than global features of sensitive parenting (Lyons-Ruth, 1999; Lyons-Ruth, Bronfman & Atwood, 1999a; Lyons-Ruth et al., 1999b; Lyons-Ruth & Spielman, 2004; Grienenberger et al., 2005; Kelly, 2004).

This shift in the assessment of parent-infant interactions is rooted in efforts to understand the precursors to disorganized attachment in infants. There have been two

main bodies of research involving disorganizing parental behavior: one branch utilizing Main and Hesse's (1990) theories on frightening and frightened behavior in parents judged to be unresolved for trauma or loss, and the second branch using Lyons-Ruth and her colleagues' (1999a; 1999b) theories on disrupted affect communication in parental behavior, summarized in their relational diathesis model of hostile-helpless states of mind. Both are summarized below, beginning with theories and research on frightening and frightened parental behavior, followed by discussions of the relational diathesis model, supporting research, and hostile-helpless states of mind.

Frightening and Frightened (FR) Parental Behavior

Based on observations that mothers with unresolved trauma or loss manifest startling lapses in metacognitive monitoring, Main and Hesse (1990; see also Hesse, Main, Abrams, & Rifkin, 2003) first suggested that caregivers with unresolved fear related to past trauma or loss continued to experience a state of fear that could be triggered by attachment-related affects. These moments resulted in unintegrated, dissociated states of consciousness and frightening or frightened behavior with the infant, thereby placing the infant in an insoluble dilemma. Hesse and his colleagues (2003) believe that when a parent is frightened or deferential, hostile or intrusive, the infant is confused and frightened by the parent's behavior, making the parent at once "the source and the solution" of the infant's distress. When fearful or upset, the infant naturally seeks out the caregiver for protection and regulation, but here the source of fear is also the attachment figure, making it hard to develop organized strategies for seeking comfort during stress. Hesse and his colleagues (2003) argue that even in families with generally

sensitive parenting, the intrusion of fearful and dissociated behavior can result in disorganization in infants although no actual abuse or maltreatment has occurred, accounting for a second-generation effect of trauma.

Main and Hesse's (1990) hypothesis that parents' frightening and frightened behavior is related to unresolved trauma or loss in mothers and disorganized attachment in infants has received substantial support in recent studies using Main and Hesse's coding system for frightening/frightened (FR) behavior (Main & Hesse,1992, 1995, 1998; for review see also Madigan et al., 2006). The most recent version of the coding system includes three main categories of behavior that may be either directly or indirectly frightening or disorganizing for the infant including: frightening behavior, dissociated behavior, and frightened/deferential behavior. These studies assessed maternal states of mind in relation to attachment using the AAI, infant attachment in the Strange Situation paradigm (Ainsworth et al., 1978), and FR behavior in a range of parent-infant interactions (Schuengel et al., 1999; True et al., 2001; Jacobvitz et al., 2006; Abrams et al., 2006). Almost all of the studies involved low-risk samples of families.

Schuengel, Bakermans-Kranenburg, & van IJzendoorn (1999) studied the relationships between maternal unresolved attachment and frightening/frightened behaviors in a sample of middle-income mothers who had experienced the loss of someone close to them. Maternal behavior was assessed when infants were 10-11 months of age. The researchers found that mothers with unresolved loss and insecure representations of attachment had the highest scores for frightening behavior. Furthermore, mothers classified as unresolved with a secondary non-autonomous classification engaged in more FR behavior than mothers classified as unresolved and

autonomous. Frightening behaviors also discriminated between dyads based on infant attachment patterns. Mothers of disorganized infants exhibited higher levels of FR behaviors than mothers of infants with organized attachment strategies. In analysis of the separate subscales of the FR coding system, only dissociative behavior was found to be significantly related to disorganized attachment in infants.

Similar results were found in an earlier cross-cultural study, as well. True et al. (2001) studied mothers and 10-12-month-old infants from the Dogon ethnic group of Mali, West Africa in home and clinic observations during well-infant exams, before and after the Strange Situation paradigm was administered. They also found that mothers of infants judged to be disorganized displayed higher levels of FR behavior than other mothers in the group, although maternal sensitivity was not a good predictor of infant security.

Recently, Jacobvitz, Leon, & Hazen (2006) found that these types of behaviors discriminated between mothers based on attachment security in that mothers classified during pregnancy as unresolved on the AAI with respect to loss or abuse displayed higher levels of frightening or frightened behaviors with their eight-month-old infants in a sample of families from a wide socio-economic range. In contrast, they found no difference between mothers classified as unresolved (U/d) for loss or abuse and other mothers in terms of maternal sensitivity.

Abrams, Rifkin, and Hesse (2006) also recently replicated these findings in a study of a low-risk community sample of fathers and mothers and their 12- and 18-month old infants. Parental FR behavior was assessed in a mildly stressful free-play session, in which parents were told to prohibit their children from touching several objects in the

room and a structured play activity with the parent, the child, and a stranger. Again, a significant relationship between unresolved states of mind and FR behaviors was found; parents who were classified as unresolved on the AAI displayed more frequent FR behaviors. The prior findings on the relationship between infant disorganization and parental FR behaviors was also replicated, in that parents in disorganized relationships with their children exhibited higher levels of FR behaviors than other parents. Dissociative behaviors were particularly striking among parents of disorganized infants, as 20 out of the 23 parents of disorganized infants displayed these behaviors.

The Relational Diathesis Model of Attachment and Disrupted Affective Communication

Lyons-Ruth and her colleagues (1999a; 1999b) build on Main and Hesse's (1990) frightening/frightened hypothesis, focusing more broadly on the way negative affects are either regulated or further disrupted by parents, thus changing the way the dynamics of the early relationship are evaluated. They elaborate the ways a caregiver's unresolved fear can impair the development of healthy attachment in infants—impairments that can result in the failure to develop organized strategies for meeting attachment needs. In their relational diathesis model of hostile-helpless states of mind, difficulties in the capacity of the caregiver to contain the infant's fear, anger, and distress can result in a diathesis, or vulnerability, for the infant's own development of unintegrated, fearful mental contents and disorganized attachment strategies. This view differs slightly from Main and Hesse's (1990) original hypothesis in that the infant's unregulated fear and the resulting disorganization can stem either from the parent's directly frightening or frightened behavior, or from the absence of adequate affect regulation, overall (Lyons-Ruth,

Lyubchik, Wolfe, & Bronfman, 2002). A parent's ability to make sense of the infant's signals concerning distress, and to respond in a sensitive and regulating manner is key to healthy infant attachment, as Lyons-Ruth et al. write (2002, p. 107), "…appropriate parental response to the specific content of the infant's affective communications is the essential element that prevents the infant's excessive unregulated fearful arousal and associated behavioral disorganization."

In this model, a parent's continuing state of fear related to trauma or loss manifested in the attachment relationship can derail a parent's capacity to regulate the infant's fearful affects, resulting in the development of disorganized attachment and disrupted affect regulation in the next generation of the family. Continuing states of fear may occur when the parent has had either an actual incidence of unresolved trauma or loss, or the on-going relational trauma of having had a caregiver in early childhood incapable of providing comfort and soothing in the face of distress in a consistent way. In these cases, with the intensity of emotions inherent in the parent-infant attachment relationship, the infant's pain and fear can evoke the parent's own unresolved fear at the crucial moments when the parent is called upon to protect, comfort, or calm the infant. The resulting parental responses are mistimed, contradictory, intrusive, or withdrawing, further disrupting the infant. The parent's behavior in these instances generally occurs outside of the parent's conscious awareness; otherwise, the caregiver could potentially recognize the distressing impact of his or her behavior on the infant and presumably alter behavior accordingly (Lyons-Ruth et al., 1999a). Lyons-Ruth and colleagues write (1999a, p. 38), "Thus, there is an inherent, although not one-to-one, relation between the experience of unresolved fear and the openness of the caregiving system to hear, to

respond to, and to help modulate fear-related affects." Infant disorganization and the intergenerational transmission of unresolved trauma from parent to infant may then occur if a parent's unresolved fear is pervasive enough to be repeatedly communicated to the infant, or intense enough to have a traumatic effect on the infant.

This results in the development of a skewed and unbalanced relational model of attachment, as the parent defensively restricts conscious attention away from the infant's communications of distress in order to protect herself from her own overwhelming affects (Lyons-Ruth et al., 1999a). The parent's fluid responsiveness then becomes limited at the very moments that the infant's needs for comforting are greatest. This results in an unbalanced pattern of interaction, in which the interactions become less mutually regulated to meet the needs of both parent and infant, as the parent's needs to defend against intolerable affects take precedence over the infant's needs for recognition, protection and soothing.

What often exists for the parent in this case is a hostile-helpless model of attachment, in which one member of the dyad is active while the other is helpless to influence the other party. Mothers engaged in this pattern of interaction with their babies are least likely to be able to offer the level of comfort and protection their babies need to resolve experiences of trauma or loss. Furthermore, this pattern contributes to a skewed and contradictory relational model, in which one member controls the interaction while the other relinquishes agency and takes no initiative; this may be achieved through a variety of means such as aggression and intrusiveness, withdrawal, inducing guilt in the partner, or self-preoccupation, depending on the defensive style of the parent. In this hostile-helpless model of attachment, the individual is limited in relationships to the

option of being either the one controlling the interaction or the one who is controlled, victimizer or victim.

The imbalance in the interaction results in on-going anxiety and fear for the infant, because the infant has no reliable way of influencing the behavior of the parent in times of stress, and thus no way of securing soothing and protection from the parent (Lyons-Ruth et al., 1999a). The infant is left unregulated during experiences of fears regarding separation and lack of protection, in addition to fears evoked directly by the parent's helpless or hostile behavior. Lyons-Ruth and Block (1996) assert that this renders the baby more likely to experience later trauma and less likely to be able to resolve that trauma.

In their model, Lyons-Ruth and her colleagues (1999a; 1999b) describe three main pathways from parental states of mind in relation to attachment to disrupted affective communication with infants, and ultimately to disorganized attachment in infants. The first pathway is based Main and Hesse's (1990; Hesse et al., 2003) theory that parents experiencing continuing states of fear related to unresolved trauma or loss exhibit "frightening or frightened behaviors" towards their infants. Unintegrated and dissociated mental states associated with traumatic events and their behavioral correlates make the parent a source of fear for the infant, and as a result the infant faces conflicting coping strategies, both to approach the parent for protection and to avoid the parent who is the source of the fear, hindering the development of an organized strategy for attachment.

The second pathway, the "failure of repair," states that parental behavior exceeding the minimum requirements for supporting an organized infant attachment

strategy will be disorganizing for the infant (Lyons-Ruth et al., 1999b). This implies that a parent must be responsive enough for the infant to develop an effective strategy for altering the parent's behavior. In cases where a parent's defenses are raised in association with unresolved loss and trauma, the parent may become so unresponsive that she or he fails to alter behavior in relation to the infant, despite the infant's clear and persistent communications of distress. The parent's failure to "repair" these interactions can contribute to infant disorganization, regardless of the specifics of the parent's behavior (e.g., intrusive, withdrawn, role-reversing, etc.). This profound disruption in communication is frightening to the infant, because she has no way of influencing the parent's caregiving behaviors in times of fear or distress. Kelly (2004) observes that even seemingly subtle atypical parental behaviors can result in disorganized attachment when the behaviors become pervasive in the parent's style of interaction with the infant, and the parent is unable to modify his or her behavior in response to the infant's signals.

The third pathway to infant disorganization, "competing strategies," states that a parent who is experiencing a continued state of fear in relation to attachment is likely to display competing and contradictory attachment strategies towards the infant, analogous to the contradictory attachment behaviors seen in infants with disorganized attachment. These parental behaviors convey contradictory messages to the infant in that they both reject and heighten the infant's attachment affects through dismissing and involving strategies in competition with one another. An example might be a mother who leans away from a crying infant as she says, "Do you want a hug from Momma?" or a mother who ignores the infant's distress while asking for a kiss (Lyons-Ruth et al., 1999b).

As these patterns of behavior persist, interactions between parent and infant may become locked in maladaptive cycles that further dysregulate the parent-child relationship. Grienenberger (2003) has suggested that as the parent's atypical behavior escalates the infant's distress, the parent's need to defend against the infant's intolerable affects may increase, resulting in a vicious cycle of escalating infant distress and parental defensiveness, further hindering the parent's ability to recognize the needs of the infant. Lyons-Ruth and her colleagues (1999a) hypothesize that the relationship between an infant's unregulated distress and the development of disorganized attachment may introduce additional difficulties into the co-regulatory relationship between parent and child as mutual cycles of coercion or rejection become distinct patterns in a subset of disorganized relationships.

Lyons-Ruth and her colleagues developed a scale called the Atypical Maternal Behavior Instrument for Assessment and Classification Coding System (AMBIANCE, Bronfman, Parsons, and Lyons-Ruth, 1992-2004; see also Lyons-Ruth et al.,1999a; 1999b) to assess a parent's affective communication, and thus his or her ability to regulate the infant's negative affects, fear and distress at times of heightened arousal. The AMBIANCE scale tallies frequencies of atypical maternal behaviors using videotaped interactions between mothers and babies. The scale has been developed mainly for use for coding maternal behavior with infants in the Strange Situation Protocol. It includes behaviors listed under five dimensions, based upon the pathways to disorganized attachment outlined in the relational diathesis model. The dimensions are as follows (Lyons-Ruth et al., 1999b): 1. affective errors including contradictory cues (e.g., invites approach and then distances) and nonresponsive or inappropriate responses (e.g.,

fails to offer comfort to infant in distress); 2. disorientation based on Main and Hesse's (1992) measure of frightening/frightened behavior including appearances of being confused or frightened by the infant or displays of disorganization or disorientation; 3. negative-intrusive behavior including frightening items from Main and Hesse's (1992) measure, verbal negative-intrusive behavior (e.g., mocking the infant), or physical negative-intrusive behavior (e.g., pulling the infant by the wrists); 4. role-confusion (based on Sroufe et al., 1985; Main and Hesse, 1992) including role-reversal (e.g., asking for reassurance from infant) and sexualization (e.g., speaking in hushed intimate tones); and 5. withdrawal including the creation of physical or verbal distance (e.g., holding the infant away from the body with stiff arms or failing to greet the infant after separation). The scale yields frequency scores for each dimension, a qualitative score for affective communication overall, and a bivariate categorization of interactions as disrupted or undisrupted communication. Madigan and her colleagues (2004) later adapted the scale with a seven-point qualitative rating scale for each dimension to capture the intensity and frequency of behaviors in the five dimensions, in order to circumvent problems establishing reliability for the frequency counts of behaviors in dimensional analyses.

In their studies of mother-infant interactions using the AMBIANCE measure, Lyons-Ruth and her colleagues (1999a; 2004) have identified two main subgroups of parenting behaviors ("hostile" and "helpless") among mothers of disorganized infants. The first group, termed "hostile-self-referential regarding attachment," tended to override the infant's cues with negative-intrusive and role-reversed/self-referential behaviors. They tended to have infants who were judged disorganized with a sub-classification of

insecure, displaying a combination of avoidant, resistant, and other disorganized behaviors.

The second group, more prevalent in low-risk, middle-income populations, was termed "helpless-fearful regarding attachment." This group displayed more subtle disruptions in affective communication. They were fearful, inhibited, withdrawing, and sometimes appeared sweet or fragile, without displaying overtly hostile or intrusive behaviors. They tended initially to hesitate in response to the infant's bids before giving into the infant's request for contact, for example by moving away briefly before picking up the infant. This group was more difficult to identify in that inhibition or passivity was more difficult to pinpoint than more "active" behaviors, and superficially they appeared to respond sensitively to the infant in most of their interactions. Mothers in this group had infants who were judged disorganized with a sub-classification of secure because the infants expressed distress, approached their mothers and gained contact, alongside disorganized behaviors such as freezing or huddling on the floor upon reunion.

Lyons-Ruth and her colleagues (1999a) have provided a substantial body of empirical evidence for the relational diathesis model using the AMBIANCE measure with high-risk families, findings that have been replicated by others in high-risk (Madigan et al., 2006b) and low-risk samples (Goldberg et al., 2003; Grienenberger et al., 2005; Kelly et al., 2003; Kelly, 2004). These studies (see also Madigan et al., 2006a for review) empirically demonstrate the link between maternal states of mind in relation to attachment and disrupted affective communication (i.e., atypical maternal behavior) (Lyons-Ruth et al., 2005; Madigan et al., 2006a, 2006b; Goldberg et al., 2003), as well as the significant relationship between disrupted affective communication and infant

disorganization (Lyons-Ruth et al., 1999a; Grienenberger et al., 2005; Kelly, 2004; Kelly et al., 2003; Madigan et al., 2006a, 2006b).

Through tests of mediation models, this body of research has also begun to address the larger question of how maternal states of mind are conveyed through behavior with the infant, influencing infant attachment status. Although the mediation relationship between maternal unresolved states of mind and infant disorganization by atypical maternal behavior has not been substantiated in low-risk samples (Goldberg et al., 2003), there is preliminary evidence that atypical maternal behaviors reflecting disrupted communication patterns mediate the relationship between maternal states of mind and infant disorganization, particularly in high-risk populations (Madigan et al., 2006b). However, a recent meta-analysis of this body of work suggests that a transmission gap still exists between unresolved states of mind in relation to attachment and infant disorganization even when mediated by anomalous parental behavior, thus suggesting that other factors—parental, environmental, or genetic—need to be identified and added to the model of infant disorganization (Madigan et al., 2006a). This body of research on maternal states of mind, affective communication, and infant attachment is summarized in greater detail below.

In their study of an at-risk sample of low-income mothers and infants, Lyons-Ruth et al. (1999a) found that the frequency of atypical maternal behaviors, the overall rating of disrupted affective communication, and the bivariate classification (i.e., disrupted/nondisrupted) were all significantly correlated with the level of disorganized attachment in infants. Three out of five of the individual AMBIANCE dimensions were also found to be significantly related to infant disorganization including affective

communication errors, disorientation, and negative-intrusive behavior. Furthermore, in a later study, Lyons-Ruth, Yellin, Melnick, and Atwood (2005) found that in the high-risk sample of mothers from this study (Lyons-Ruth et al., 1999a), maternal attachment was related to atypical maternal behavior in that unresolved states of mind were found to be linked to higher levels of disrupted communication with infants.

In the initial study (1999a), the researchers conducted a post-hoc analysis of the interactions to identify a list of serious interactive errors that were particularly frequent among mothers of infants displaying disorganized attachment strategies. They found that affective communication errors were particularly striking in disorganized dyads—errors including the communication of contradictory messages to the infant, responses to the infant that were inappropriate, and the absence of a response to the infant's clear communications. The authors noted that coding of disrupted communication emphasized parents' repeated failures to respond appropriately to infants' clear signals, and that parents' attempts to modify their behavior in response to infants' communications, even when ambiguous, were one of the strongest discriminators between healthy and disrupted affective communication.

Furthermore, conducting an analysis within the group of mothers of disorganized infants, they found that mothers of both disorganized/secure and disorganized/insecure infants engaged in the same frequency of disoriented behaviors and affective communication errors. However, mothers of disorganized/insecure infants displayed higher rates of negative-intrusive and role confusion behaviors—a pattern eliciting contradictory attachment strategies in the infant. Role-reversing behavior turns the child's attention toward the attachment relationship, particularly toward the parent's

needs, while negative-intrusive behavior discourages close emotional contact, decreasing attention to the attachment relationship. In contrast, mothers of disorganized/secure infants exhibited higher rates of withdrawal and fearfulness, without actively hostile or rejecting behaviors. It was later suggested that this latter group of parents of children who are classified disorganized-secure may be more difficult to identify because their atypical behavior is more subtle as compared to parents who engage in more active affective errors (e.g., hostility, intrusiveness) (Lyons-Ruth, Lyubchik, Wolfe, & Bronfman, 2002). This is significant in that this group may be frequently overlooked, as they are more prevalent in disorganized attachment relationships in low-risk populations (Lyons-Ruth et al., 2002). These findings led to the hypothesis that two subgroups of disorganizing parental behavior exist—one that is hostile and self-referential, and the other that is fearful, helpless, or withdrawing.

Related to this pattern of "hostile" and "helpless" parental behavior in disorganized/insecure and disorganized/secure relationships, Lyons-Ruth and her colleagues (2002) also found support for the two profiles of parent-child interactions (hostile/self-referential and helpless/fearful) in a recent nationally representative survey of parenting correlates of depressive parents in fathers and mothers of children under three years of age. They found two faces of parental depression, one reflecting a withdrawn stance and the other a punitive stance to parenting. One group of depressed parents engaged in fewer positive and structuring interactions with their child, while the second group was more easily aggravated and more likely to be verbally or physically aggressive than non-depressed parents.

Lyons-Ruth and her colleagues' (1999a) findings have also been replicated with low-risk samples of mothers and infants. In their study of middle-income families, Grienenberger, Kelly, & Slade (2005) found that disrupted affective communication as measured by AMBIANCE significantly predicted infant disorganization at 14 months. Mothers with higher (disrupted) scores of overall affective communication were more likely to have babies classified as resistant or disorganized, while mothers with lower (undisrupted) AMBIANCE scores were more likely to have secure infants. In this study, AMBIANCE was not successful in discriminating between mothers of resistant and disorganized attachment in infants; however, it is the first study to find that the AMBIANCE measure could discriminate between mothers of infants with insecure, but organized attachment strategies and mothers of infants with secure attachment patterns.

In another study of low-risk families, Goldberg, Benoit, Blokland, and Madigan (2003) found that maternal attachment was related to atypical maternal behavior, and that atypical maternal behavior contributed to infant disorganization. Maternal attachment status assessed prenatally on the AAI significantly predicted atypical maternal behaviors with infants at 12 months of age. Mothers who were judged unresolved on the AAI displayed higher frequencies of atypical maternal behaviors as measured by AMBIANCE than other mothers. Atypical maternal behavior was also related to disorganized attachment in infants in that mothers in disorganized relationships with their infants displayed more atypical behaviors, and thus greater disruptions in affective communication, than mothers in organized relationships. Within the group of unresolved mothers, they found no difference in the overall level of disrupted affective communication between mothers categorized as unresolved/autonomous and those

judged as unresolved/nonautonomous; however, there were differences found within the group of disorganized infants. The disorganized/secure group had mothers who were rated as less disrupted than the disorganized/insecure group of infants. Interestingly, atypical maternal behavior did not mediate the relationship between maternal unresolved states of mind and infant disorganization, perhaps due to the small number of cases in the unresolved and disorganized subgroups in this low-risk sample. The authors conclude that a strong relationship exists between atypical maternal behavior and infant disorganization, but other factors besides maternal attachment may yet to be accounted for in the model of maternal behavior and infant disorganization.

Madigan, Moran, and Pederson (2006) examined the links between unresolved maternal states of mind, disrupted affective communication and infant disorganization in a high-risk sample of adolescent mothers and their infants, replicating Lyons-Ruth and her colleagues' (1999a; 2005) findings. Maternal behavior was assessed using AMBIANCE in two 3-minute play sessions with and without toys after the Strange Situation paradigm was administered, and analysis of the five AMBIANCE dimensions was conducted using Madigan et al.'s (2004) modification on the scale. This is one of only two studies to apply the AMBIANCE scale outside of the Strange Situation paradigm (the other is Kelly, 2004). Perhaps due to the lack of structure, mothers displayed greater disruptions in affective communication in the free play session without toys, and thus a higher range of disruptive communication was captured in those play sessions.

Mothers classified as unresolved were more likely than not-unresolved mothers to fall into the disrupted range of affective communication and to have more disrupted

affective communication ratings, overall. In terms of infant attachment, there was a strong relationship between disrupted maternal behavior and infant disorganization in the play session without toys. In addition, during the play session without toys, mothers of disorganized infants were found to have higher scores on four out of the five AMBIANCE dimensions as compared to other mothers—dimensions including affective communication errors, role/boundary confusion, fearful/disoriented behavior, and intrusive/negative behavior. In contrast to Goldberg et al.'s (2003) finding with their low-risk sample, in this high-risk sample, disrupted maternal behavior was found to be a significant mediator in the relationship between maternal unresolved states of mind and infant disorganization.

Furthermore, in a study of middle-class mothers and young infants, Kelly (2004; Kelly et al., 2003) modified the AMBIANCE scale to assess the quality of maternal affective communication with infants less than six months of age. This is particularly significant as mothers and infants have been found to develop relatively stable patterns of interacting beginning as early as eight to twelve weeks after birth (Cohn & Tronick, 1987). The modified AMBIANCE was developed for use with videotapes of mothers and babies in face-to-face interactions, rather than for use with the Strange Situation paradigm, allowing for an assessment of disrupted affective communication outside of measures of infant attachment.

Kelly (2004) tested the stability of AMBIANCE ratings over time, in addition to the relationship between atypical maternal behavior and later infant attachment. Maternal disrupted affective communication was assessed when infants were 4 months of age in face-to-face interactions and again at 14 months of age in the Strange Situation paradigm.

The mother-infant patterns of affective communication were found to be significantly stable over a ten-month period in that the ratings of maternal behavior on the modified AMBIANCE when infants were four months of age were significantly correlated to maternal levels of disrupted communication when infants were 14 months of age using the original AMBIANCE measure. In addition, there was a high degree of stability in the bivariate classifications of disrupted versus non-disrupted affective communication between the 4-month and the 14-month assessments. Again supporting Lyons-Ruth and her colleagues' (1999a) findings, in this study mothers classified as having disrupted affective communication at four months were more likely to have infants judged as disorganized in attachment at 14 months of age, as compared to mothers with undisrupted affective communication patterns.

Kelly (2004) observed that nearly all the dyads coded in the disrupted range suffered from a lack of contingency and/or affective mirroring or included these to a highly limited degree. Maternal responses were mistimed, delayed or premature, and mother-infant dyads were unable to reach a reciprocal rhythm. One of the most common affective errors seen in these dyads was an attempt to override the infant's distress with positive affect, indicating a misrepresentation of the infant's state in response to distress.

In a recent investigation, Madigan, Bakermans-Kranenburg, van IJzendoorn, Moran, Pederson, & Benoit (2006) conducted a meta-analysis of 12 studies of anomalous parental behavior, which used either Main & Hesse's (1992) FR scale or the AMBIANCE measure. Supporting the individual findings of the studies described above, they found moderate effect sizes for the relationships between parental unresolved states of mind and anomalous behavior with infants, unresolved states of mind and infant

disorganized attachment, and anomalous behavior in parents and infant disorganized attachment. They also found that measures of parental behavior were relatively stable over time in that collectively, the studies established stability in ratings of parents' anomalous behavior over a period of 10 to 72 months.

Interestingly, they concluded that the transmission gap between maternal attachment representations and infant disorganized attachment, first identified by van IJzendoorn (1995), still existed in the relationship between unresolved states of mind and infant disorganization when parental anomalous behavior was entered as a mediator. Anomalous behavior only accounted for a small portion of the association between unresolved states of mind and infant disorganization. Other factors contributing to this model of infant disorganization are still to be identified. Madigan et al. (2006a) suggest that fruitful avenues of research might include studies of anomalous behavior separate from the assessment of infant disorganized attachment, investigations of the father-infant relationship, and other parental and environmental factors including infant temperament and gene-environment interactions. They also suggest that elaborations of current assessments of maternal representations of attachment, such as hostile-helpless states of mind (Lyons-Ruth et al., 2003; 2005), and assessments of reflective functioning (Fonagy et al., 2002) may contribute to our understanding of the role of representational processes in the transmission of attachment.

Hostile-Helpless States of Mind

In recent studies, Lyons-Ruth and her colleagues (Lyons-Ruth, Yellin, Melnick, & Atwood 2003; 2005) have attempted to identify additional pathways to infant

disorganization through the further development of the concept of hostile-helpless states of mind in mothers as an antecedent to disrupted affective communication and infant disorganization. Drawing upon Main and Hesse's (1990) theory of unintegrated states of mind in relation to unresolved loss or trauma and the descriptions of the psychological effects of trauma in the attachment and clinical literatures, Lyons-Ruth et al. (2003; 2005) propose that specific incidences of trauma and/or serious deviations in the parent-child relationship may shape personality structure around a pattern of defenses resulting in psychological constriction, numbing, rage, and identification with the aggressor or victimized parent, resulting in chaotic and unstable attachment relationships. The resulting relational model—termed, hostile-helpless (H/H) states of mind with regard to attachment—is one of unbalanced dyadic interactions in which one member is in control, while the other is controlled (Lyons-Ruth et al., 1999a), and the experience of self and other is constrained by the defensive maintenance of pervasively unintegrated states of mind.

The hostile/helpless state of mind is a relational model characterized by defenses structured around the segregation of mental contents, processes such as dissociation and splitting, frequently observed in clinical descriptions of traumatized patients. In dissociation, individuals segregate affects that are too overwhelming to experience at the time of fearful arousal, or self-schemas that are too threatening to an individual's identity. In splitting, one form of dissociation, an individual unconsciously segregates positive and negative affects into globally good (idealized) or globally bad (devalued) representations of self and other, which then alternate in consciousness without awareness of the contradiction. When global idealization is active, individuals may maintain this state

through affect intolerance or emotional constriction, excluding negative affects such as anger, pain, fear, or vulnerability from conscious awareness. Likewise, when global devaluation is active, there is little access to the positive attributes or affects related to the devalued self or other.

Bringing the "attachment context of traumatic events" to the forefront of our understanding of the impact of trauma, Lyons-Ruth et al. (2005) observe that abuse consists of both the occurrence of a physically threatening event, and the failure of attachment figures to provide on-going protection. In their view, the attachment relationship is central to the subjective experience of trauma. Particularly for young children, traumatic experiences—those that cause excessive fear and overwhelm a child's coping mechanisms—may differ from events adults deem to be objectively traumatic, in that the unavailability of a parent's protection and care in itself may induce overwhelming fear. They suggest that caregiver responsiveness may be more central to the development of trauma-related symptoms, such as dissociation, than the incidence of trauma itself (see also, Ogawa et al., 1991), and that furthermore, the changes in personality structure that have been related to trauma or abuse may stem from markedly hostile or unavailable caregiving relationships, whether or not an objectively physically threatening event occurs (Lyons-Ruth et al., 2005). More broadly, a child's persisting uncertainty regarding the responsive availability of caregivers may result in experiences of excessive, unregulated fear that increase the likelihood of infant disorganization, particularly for young children under the age six (Lyons-Ruth et al., 2005).

Lyons-Ruth and her colleagues (2003; 2005; 2006) suggest a pathway from chronic relational trauma to hostile/helpless states of mind in adulthood, in which

atypical caregiving patterns (e.g., parental hostility, withdrawal, role-reversal, or helplessness to protect) and/or specific incidences of abuse or trauma in early childhood, leave infants vulnerable to the development of disorganized attachment strategies. As these disorganized infants grow into early childhood (3-5 years of age), they develop more organized attachment behaviors structured around either controlling-punitive patterns of hostile and humiliating behaviors or controlling-caregiving patterns of helping and protecting behaviors with their parents, as a means of maintaining the parent's involvement **(**Main & Cassidy, 1988; Main, Kaplan, & Cassidy, 1985; Wartner, Grossmann, Fremmer-Bombik, & Suess, 1994; NICHD Early Child Care Research Network, 2001). These patterns of relating develop alongside a hostile/helpless model of object relations, in which relationships lack reciprocity, balance and mutuality, and attachment figures are represented in contradictory and malevolent ways (Lyons-Ruth et al., 1999a; Lyons-Ruth et al., 2006). Hostile and helpless states of mind are considered two complementary states in a single model of attachment relationships that may manifest as one predominant strategy (e.g., either hostile or helpless) or as mixed strategies with both states of mind in alternation in an individual's relational representations (Lyons-Ruth et al. 2003; 2005).

In line with clinical observations of defensive phenomena, Lyons-Ruth et al. (2003; 2005) developed an interview-wide coding system for hostile/helpless states of mind using the AAI. A hostile/helpless state of mind is considered characteristic of an individual's interview if elements of one or both hostile or helpless strategies are displayed. In narratives prototypical of the hostile subtype (from Lyons-Ruth et al., 2005), at least one attachment figure is described in globally negative terms (i.e.,

splitting); there is evidence that the interviewee identifies with this hostile or devalued attachment figure (i.e., identification with the aggressor); the interview often includes descriptions of difficult or traumatic childhood events in a frank, "tough," "tell it like it is" tone; there is a tendency to block out or constrict feelings of vulnerability through humor in the face of pain, often evidenced by laughter at ostensibly painful experiences (e.g., "dark humor" with entertainment or shock value); the discourse structure is concise; and there is evidence of "hot" devaluations of attachment figures, while expressions of anger are remarkably absent at other points in the interview (i.e., dissociation of affect).

In the narratives of the helpless subgroup (from Lyons-Ruth et al., 2005), there is evidence of pervasive feelings of fearfulness and helplessness in relation to a variety of unrelated and non-traumatic events (e.g., nightmares or anxieties regarding events in daily life); sometimes clear identification with a victimized attachment figure; some denial of vulnerability, but greater likelihood of acknowledging vulnerable feelings such as fear; globally negative self-representations; greater preoccupation with unsuccessful efforts to make sense of painful attachment relationships; a passive and/or tangential structure to the discourse; and intermittent passages of dismissing features such as devaluation or minimization of vulnerability, and seemingly autonomous features such as frank descriptions of negative experiences in early childhood. Fearful affect may be present along with indicators of strategies from both subtypes. Coding for H/H states of mind also includes frequency codes for six features of a transcript: "global devaluation of a caregiver," "identification with a hostile caregiver," "recurrent references to fearful affect," "sense of self as bad," "laughter at pain," and "ruptured attachments" (i.e. reference to no longer having contact with one or more members of the nuclear family).

Lyons Ruth et al. (2005) suggest that for individuals with predominantly hostile states of mind, traumatic experiences of early childhood overwhelmed the child's coping mechanisms (p. 20), "It appears that the difficulties in early relationships were too encompassing to be dealt with by lack of memory or by consistent idealization and caregivers were often too frightening or vulnerable to risk any anger, so the difficulties are presented as matter of fact or even as having a certain entertainment or shock value." Hostile states of mind were then structured around the global devaluation and concomitant identification with the threatening and frightening parent.

Predominantly helpless states of mind are thought to have a slightly different developmental structure. Lyons-Ruth and her colleagues (2005, p. 20) write, "Theoretically, we view a helpless adult state of mind as a potential outgrowth of a caregiving stance in childhood, organized around the (largely impossible) goal of helping an impaired parent to function more effectively. At the most basic level, we would view the child's sense of helplessness as grounded in a primary failure to receive effective care around attachment needs in infancy. This sense of helplessness would be further elaborated in childhood as a function of the inability to ease the parent's vulnerability, as well as by the identification with and modeling of the parent's anxiety and dysfunction."

In recent studies, Lyons-Ruth and her colleagues (2003; 2005) have found empirical support for the construct of hostile/helpless states of mind and their relation to trauma, disrupted affective communication and infant disorganization. In a study of a sample of high-risk mothers and infants, H/H states of mind measured on the AAI were related to greater disrupted affective communication and to infant disorganization (Lyons-Ruth et al., 2005). Of the individual frequency scales, laughter at pain, the

devaluation of caregivers, and the mention of ruptured attachment relationships in adulthood in mother's narratives were significantly related to infant disorganization. Furthermore, disrupted affective communication at least partially mediated the significant relationship between H/H states of mind and infant disorganization. Hostile/helpless states of mind were found to be unrelated to unresolved states of mind with respect to loss or trauma in that H/H states of mind accounted for variance in infant disorganization not associated with the unresolved classification. Supporting the complementary relationship of hostile and helpless states of mind, women in the sample displayed aspects of both hostile and helpless discourse features in the interview, and made references to both caregiving and punitive stances in childhood.

Hostile/helpless states of mind were also associated with parental histories of abuse including exposure to physical violence and sexual abuse, but not related to the experiences of loss (Lyons-Ruth et al., 2003). A high proportion of abused women in the sample displayed H/H states of mind as compared with mothers with no exposure to violence, and the severity of both sexual and physical abuse was related to H/H states of mind. The frequency of individual codes for identification with a hostile caregiver, laughter at pain, global devaluation of a caregiver, and sense of self as bad was significantly greater as the severity of trauma increased. While the severity of trauma was not directly related to infant disorganization, H/H states of mind seemed to provide an indirect path from trauma to infant disorganized attachment in that trauma was related to H/H states of mind, which in turn was associated with infant disorganization. Interestingly, H/H states of mind were related to infant disorganization at 18 months, but not when infant attachment was measured at 12 months. This was due in large part to the

changing composition of the disorganized group, in which many infants classified as disorganized/secure at 12 months were classified as disorganized/insecure at 18 months. It was suggested that maternal experiences of abuse and trauma, create increased vulnerability for H/H states of mind in mothers with older infant's increasing mobility, agency, and propensity to say, "No."

Furthermore, there is preliminary evidence relating H/H states of mind to adult psychopathology, as it was found to be present in dysthymic patients and patients with borderline personality disorder, with all of the women with BPD (N=12) in the study evidencing H/H states of mind, as compared to 55% of dysthymic women (N=11) in a small clinical sample (Lyons-Ruth, Melnick, Patrick, & Hobson, 2006). Women with BPD had a higher frequency of globally devaluing representations and references to controlling behavior towards attachment figures in childhood.

Reflective Functioning and Disrupted Affective Communication

It is hypothesized in this study that both maternal representations of the child, particularly those evidencing hostile-helpless states of mind, and parental reflective functioning contribute to parental behavior in the parent-infant dyad. Parental reflective functioning plays an essential role in a parent's affective communication with the infant (Grienenberger et al., 2005). Fonagy et al. (1991a, p. 207) writes, "The caregiver needs to have the capacity to contain the infant's over-whelming affects, anticipate his or her psychological as well as physical needs, adapt readily to his or her perspective, and manipulate the external world to fit it. Attunement requires an awareness of the infant as a psychological entity with mental experience. It presumes a capacity on the part of the

caregiver to reflect on the infant's mental experience and *re-present* it to the infant translated into the language of actions the infant can understand." With its emphasis on the recognition of the intentionality of the infant, the representation of infant's internal states in the mind of the caregiver, and the affect- and behavior- regulating role of parental mentalization in promoting secure attachment and mentalizing capacities in infants, Fonagy and his colleagues' (2002) theory of reflective functioning seems highly relevant to our understanding of disrupted affective communication in maternal behavior with young infants.

Reflective functioning involves an understanding that the infant has desires, intentions, and an emotional life of his own. If one accepts this view of the infant, it implies that the infant's behaviors are likely to represent communications about the infant's feelings and intentions, but parents differ in their tendency to view their infant's behaviors as meaningful communications (Fonagy et al., 2002). The failure to recognize the infant's intentional stance is one common failure in the parent-infant relationship, as Fonagy et al. (1995, p. 248) write, "…there may be a more subtle failure to respond empathically to the intentional stance of the infant toward the caregiver's mental state and to an existential anxiety that surrounds it, by which we mean early manifestations of individuation, intentionality, and ownership of one's body representation or states of mind in contrast, and often in opposition, to the object." The lack of recognition of the infant's intentionality opens the possibility for greater distortion, misattribution and misattuned responsiveness (Grienenberger et al., 2005). In such cases there may be greater physical intrusiveness, anger, antagonism, role-reversing focus on the parent's needs, and misinterpretation of the infant's distress as rejection of the parent

(Grienenberger et al., 2005). In this way, measures of parental reflective functioning are likely to be highly related to assessments of disrupted affective communication (i.e., atypical maternal behaviors) in that mother's interactions considered in the disrupted range on the AMBIANCE measure exhibit gross failures to recognize and respond to the *intentionality* of the infant conveyed in the infant's vocalizations and nonverbal behavior (Grienenberger et al., 2005).

Furthermore, reflective functioning allows a parent to monitor internal states in oneself and others, and to modify behavior accordingly, possibly allowing for a greater ability to recognize the infant's signals and to repair interactions when communication goes awry. A strong capacity for reflective functioning would seem naturally interconnected with a parent's ability "to see" the infant's internal states and intentions, to respond contingently to the infant, to provide adequate comfort through affective mirroring, to recognize the impact of one's actions on the infant's changing feelings, and to "repair" the interaction when ruptures occur—all abilities essential to effective affective communication.

To date, only one study (Grienenberger, Slade, & Kelly, 2005), has explored the relationship between maternal reflective functioning (RF) and disrupted affective communication in mother-child dyads. RF was evaluated using the Parent Development Interview (PDI) when infants were 10 months of age. Mother's affective communication and infant attachment organization were assessed in the Strange Situation paradigm (Ainsworth et al., 1978) when infants were 14 months of age. The families were middle-class and without significant histories of psychopathology or trauma.

Maternal reflective functioning at 10 months was significantly related to the quality of affective communication with their babies at 14 months. The level of disruption in mother-infant affective communication was inversely related to mother's reflective functioning; the lower the level of reflective functioning, the greater the level of disruption was in affective communication. As mentioned above, mothers with greater disrupted affective communication with their infants were more likely to have infants classified as disorganized or resistant, while mothers with less disrupted affective communication were more likely to have infants who were securely attached. Maternal reflective functioning had a direct effect on infant attachment status, but maternal affective interactions partially mediated the relationship between reflective functioning and infant attachment.

The researchers (Grienenberger et al., 2005) suggest that maternal reflective functioning contributes to the way a mother responds to her infant's attachment signals, especially during moments of intense negative affect in either the baby or the mother, and that the nature of a mother's responses during these periods of heightened emotion determines the particular strategies of affective regulation that characterize each baby's attachment organization. Reflective functioning provides a buffer against the emergence of negative cycles of behavior between parent and infant in which mothers may respond to infant distress and vulnerability with overwhelming experiences of unintegrated fear or hostility, rendering them unable to regulate their own or their infant's states. Reflective functioning directly influences the intergenerational transmission of attachment, but is mediated through a mother's behavior with her infant, in particular through her capacity to regulate her baby's fear and distress without further disrupting the baby.

Using Grienenberger and his colleagues' (2005) work as a foundation, the present study will examine the relationship between maternal reflective functioning and parental affective communication (i.e., atypical maternal behavior) in a sample of high-risk, traumatized mothers and their 4-month-old babies. Maternal RF will be measured using the Pregnancy Interview (Slade, Grunebaum, Huganir, & Reeves, 1987), a clinical interview designed to assess a woman's emotional experience of pregnancy, as well as the nature of her developing relationship with her baby. Maternal affective communication will be assessed in analysis of face-to-face interactions with mothers and infants when the babies are four months of age, using Kelly's (2004) modification of the AMBIANCE scale for use with videotaped face-to-face interactions with mothers and infants.

In this study, parental reflective functioning will be assessed prenatally, and as discussed earlier, Slade and her colleagues are now in the process of investigating the concept of parental reflective functioning during pregnancy—a parent's ability to hold in mind the fantasied experiences of a baby who is yet to be born. This is the first study to utilize the construct of reflective functioning as applied to pregnancy, and as such it will be in part an exploratory investigation of this concept. As the relationship between parental RF in pregnancy and later mother-infant interactions will be tested in this study, parental reflective functioning during pregnancy will be used as an indicator of the parent's capacity to actively imagine the real baby in the midst of moment-to-moment changes in physical and mental states in both parent and child in their future interactions.

The empirical findings of this investigation not only build upon Grienenberger and his colleagues' (2005) study by replicating their results, but also extend these findings in a population of younger babies and more traumatized, high-risk mothers. The

sample of mothers and babies in the present study consisted of young, first-time mothers, all of whom were from a diverse, urban community of families living at or below the poverty line. Many of these mothers were approaching parenthood having grown up in chaotic family environments with histories of trauma and loss.

Investigating parental RF and atypical maternal behaviors in a multiply traumatized, high-risk population such as this one may be particularly beneficial as trauma has been found to be disruptive to both reflective functioning and affective communication between parents and infants (Fonagy et al., 2002; Lyons-Ruth & Block, 1996). Histories of serious trauma place mothers at greater risk for problematic parenting behaviors with infants, making them much less likely to engage in balanced and positive, verbal and physical interactions (Lyons-Ruth & Block, 1996). For example, violence or harsh punishment in a mother's history renders her more likely to behave in hostile and intrusive ways with her infant, and the severity of trauma has been found to be related to withdrawing behaviors (Lyons-Ruth & Block, 1996). Furthermore, high-risk samples of families have been found to have a higher prevalence of disorganized attachment (up to 77% of infants, Carlson, Cicchetti, Barnett, & Braunwald, 1989), as compared to low-risk samples (15%, van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). As a result, we might expect greater impairments in reflective functioning and more disturbed affective communication in an at-risk sample.

Perhaps of greater importance, however, are findings that reflective functioning serves a protective role in the face of traumatic events (Patterson et al., 2005; Fonagy et al., 1995; Fonagy, 1999). It has been suggested that reflective functioning may have increased relevance and significance in groups with adverse histories, deprivation, or

psychopathology, providing a protective function and resilience for families as they cope with these stressors (Fonagy et al., 1995; Main, 1991; Grienenberger et al., 2005;). For example, Patterson et al. (2005) found that RF was negatively correlated with trauma-related symptoms, and Fonagy et al., (1995) found that the impact of family stress and deprivation on child attachment organization was dependent on maternal reflective functioning. Through a brief structured interview, they assessed families for a number of indicators of family stress and deprivation. Ten out of the ten mothers in the high stress and deprivation group with high levels of RF had securely attached infants, while only one of the 17 mothers in the high stress and deprivation group with low RF ratings had an infant judged to be secure in attachment. The predictive value of reflective functioning was significantly weaker in the non-deprived group of mothers as compared to the deprived group, suggesting that RF may be more crucial to infant attachment when families are coping with adverse histories and/or significantly stressful conditions.

Perhaps as an interpersonal, cognitive-affective means of affect regulation and part of a system for processing emotional experience, reflective functioning is most crucial to families when the demands on the psyche are highest, for example, in the presence of relational trauma, stressful living conditions, and possibly the strain of malevolent and unbalanced relational models. The consequences of parental impairments in RF for parents and infants may not be as great when emotional processing demands are low (e.g., low-risk, low-trauma conditions), in contrast to families living with chronic stress or trauma where the demands on the system for affect regulation, and the risk of maladaptive object representations and the breakdown in defensive coping mechanisms

are high. Findings such as these have placed reflective functioning at the center of models of intervention with at-risk populations (e.g., Slade et al., 2005a; 2005b).

Investigating the relationship between maternal reflective functioning and affective communication with young babies may have implications for early assessment and interventions for at-risk families. Establishing a link between maternal reflective functioning and parent-infant affective communications in early infancy would provide an important window for intervening at the very beginning of the infant's life and in the mother's development as a parent, during a time when mothers and infants are in the process of forming enduring patterns of communication (Kelly, 2004; Cohn & Tronick, 1987; Madigan et al., 2006a).

This study has quantitative and qualitative aims. The quantitative aim of this study is to test the hypothesis that mothers with strong capacities to hold their (as yet unborn) babies in mind and to reflect upon their own emotional experiences during pregnancy will be less likely to receive disrupted affective communication scores on the AMBIANCE measure when their babies are four months old as compared to mothers with little capacity for reflective functioning, whereas mothers with low reflective functioning will be more likely to receive affective communication scores in the disrupted range.

The qualitative aim of this study is to examine the interplay among parental reflective functioning during pregnancy, maternal representations of the parent-child relationship in fantasy during pregnancy, and the quality of affective communication in mother-infant interactions at the level of individual case study. As mentioned earlier, both disturbances in parental representations (e.g., hostile-helpless states of mind) and

impairments in reflective functioning have been identified as potentially productive lines of investigation in research on the parental antecedents to healthy versus disrupted parent-infant interactions (Madigan et al., 2006a).

Little is yet known about the ways in which reflective functioning and maternal representations interact in parenthood. It is hypothesized that reflective functioning and maternal representations of the child each contribute in different ways to the quality of the parent-child relationship and to a parent's ability to respond in a sensitive and regulating way to her baby. The concept of hostile-helpless states of mind (Lyons-Ruth et al., 2003; 2005), as an example of representations of the parent-child relationship which center on an imbalance of control, will be used as a theoretical foundation for assessing the quality of mother's prenatal representations of pregnancy and the parent-child relationship. This high-risk sample of young, first-time mothers, includes a larger number of women with very limited reflective functioning and/or more disturbed representations of the baby, and in this way this sample may be particularly appropriate to the study of how reflective functioning and hostile-helpless states of mind relate to mother-infant interactions.

Of particular interest in the qualitative analysis were mothers for whom the relationship between RF and affective communication is unexpected, for example, mothers who scored high in RF during pregnancy, but exhibited disrupted affective communication at four months post-birth. Two cases in which the mothers demonstrate disrupted affective communication with their babies, but contrasting levels of reflective functioning during pregnancy will be presented. The mothers' representations of their own developing parental identity, object relations including their representations of their

future parent-child relationship, defensive style, indications of hostile-helpless states of mind, level of reflective functioning, and degree of dissociation versus integration of self-states will be analyzed. The relationship between these prenatal variables and later parent-infant affective communication will be examined.

The way these prenatal factors interact to influence parental behavior after the birth of the child is uncertain. As prenatal fantasies meet the reality of the baby in the transition to parenthood at birth, the possibility for change in the mental structures that influence parental behavior arises. As Fonagy and his colleagues (1991, p. 902) write, "Just as the transition to parenthood may occasion disappointment and an inability to consistently employ an appropriate mothering repertoire, so too may entry into the parental role lead to positive alternations in mental structure." It is possible that RF may provide a protective function in the cases where more malevolent representations are present, or that the accessibility or activation of these mental models of the parent-child relationship may be heightened or attenuated during the transition to motherhood as actual care of the baby begins (Fonagy et al., 1991). It is my hope that the qualitative analysis of these cases will provide a view to the interactions between these variables, and their very real influence on the intense pleasures and distresses experienced in the relationships between mothers and their young babies. Implications for early intervention programs with at-risk families will be considered.

Chapter 3 Methods

The current study has been conducted as part of an on-going research project titled, "Minding the Baby: A Home Intervention Study," conducted by principal investigators, Lois S. Sadler, R.N., Ph.D. and Arietta Slade, Ph.D., in conjunction with Linda C. Mayes, M.D., at The Yale Child Study Center and School of Nursing (Slade, Sadler, De Dios-Kenn, Webb, Currier-Ezepchick, & Mayes, 2005; Slade, Sadler, & Mayes, 2005; Sadler, Slade, & Mayes, 2006). The intervention study, which begins in pregnancy and spans the child's first two years of life, is aimed at helping young, at-risk mothers keep themselves and their babies in mind by promoting mothers' mentalizing capacities, concerning both the psychological states and the physical needs of their babies.

Minding the Baby (MTB) is an interdisciplinary, community-based home visiting program and research project serving high-risk, first-time mothers and their families living in poverty in an inner-city community. The home-visiting program applies an innovative model combining intervention approaches from the nurse home visiting model and the mental health home visiting model, with the goal of addressing issues of the physical care and health of the mother-baby dyad, and the psychological well-being of each parent and child. In this combined intervention model, a pediatric nurse practitioner and a clinical social worker, both with advanced training, alternated visits to mothers in the intervention group beginning in the third trimester of pregnancy on a weekly basis through the babies' first birthdays. They then tapered off to biweekly visits until the babies were two years of age.

Both home visitors had a wide range of functions in the intervention. The pediatric nurse practitioner provided individual and family primary care health assessments, counseling, and interventions, while the clinical social worker provided services including case management, parent-infant psychotherapy, individual psychotherapy, crisis intervention, and parenting support. Their services ranged from making observations during feeding and play, to arranging for concrete needs through social service organizations to obtain food assistance, cribs and car seats. Both home visitors held the central goal of promoting the mother-child attachment relationship and the development of mothers' reflective capacities, and as MTB is a relationship based treatment model, both clinicians saw their own relationship with the mothers (and families) in the study as a mutative relationship and an essential foundation for this work. The team was trained in the recognition and enhancement of reflective functioning, and worked continuously to draw each mother's awareness to her own and to her baby's physical and mental states by modeling a reflective stance in relation to the everyday care of the baby. All families were recruited from prenatal groups in a community-based health clinic where they received their prenatal care, and mothers were assigned to either the intervention group or the control group. Home visitors maintained a close working relationship with the staff at the community health clinic, and regularly attended meetings with the medical care providers to support the provision of comprehensive care.

In terms of the research component of the study, each mother completed measures of psychological resources, social support, self-efficacy, demographic characteristics and reflective functioning. The outcome of the intervention was assessed in terms maternal reflective functioning (scored on the Pregnancy Interview during the third trimester of

pregnancy and Parent Development Interview at 14 months), mother-infant affective communication (AMBIANCE used with face-to-face interaction at four months), infant attachment (Strange Situation Pardigm at 14 months), the level of infant development (Bayley Scales of Infant Development at 24 months; Bayley, 1993), and the quality of mother-infant interactions during an observation of a mother-child teaching/play interaction at 24 months. The MTB project is on-going, and preliminary findings suggest that mothers in the study have become far more reflective after 18 months of treatment, with a trend toward lower levels of depression and posttraumatic stress symptoms, and higher levels of self-efficacy. All of the mothers and babies participating in the present study are currently participating in the MTB intervention and research program. However, given that the measures used in the current study were administered early in the intervention program, a significant impact of the home visiting intervention on maternal RF and the parent-child relationship was not expected at this juncture.

Participants

In the original proposed study, participants included 27 mothers and 28 babies, including a set of twins. As recruitment continued in the MTB project, additional participants were available for inclusion in the current investigation, and thus the total for this study increased to 34 mothers and 35 babies. All participants were involved in the MTB intervention study. This was a diverse, urban community sample of young, first-time mothers, all of whom were from families living at or below the poverty line. Living in inner city New Haven, the participants were young mothers residing in low-income neighborhoods exposed to environmental, economic, and social disruption, posing high

risks for parenting difficulties. Many of these mothers were approaching parenthood having grown up in chaotic family environments with on-going histories of chronic trauma, abandonment, and loss, and thus most of these mothers had had few experiences of security and comfort with their own parents or caregivers.

The larger study, Minding the Baby, was carried out in collaboration with the Fair Haven Community Health Center (FHCHC), an urban community health center where mothers received their primary and prenatal care. Mothers were recruited at their prenatal groups at the community clinic by the nurse practitioner or the clinical social worker, who invited first-time pregnant women, ages 14-28, to participate in the program. They were informed of the intervention program and the research requirements, and asked to volunteer for the study. Only women in the intervention group have been included in this sub-study due to the lack of attendance to videotaping sessions of women in the control group. Fathers were also welcome to participate, but have been excluded from the outcome analysis.

Women were randomly assigned to either the intervention or the control group. The women in the intervention group received home visits in addition to participating in research sessions and on-going care at the health clinic, while the women in the control group participated in research sessions and received on-going medical care only. Women were included in the study if they were English-speaking, between 14 and 28 years of age, having their first child, did not actively use heroin or cocaine (as measured by a prenatal negative urine toxicology screen), had no major acute or significant chronic illnesses (e.g., AIDS, etc.), and they agreed to weekly home visits and the research sessions (intervention group only).

Procedure

After recruitment and signed consent, all of the women in the study participated in the first research session, which lasted approximately 2 hours. During this time baseline data was collected, and the participants were reimbursed $25 for the visit. Home visits typically began immediately following this session for women in the intervention group, usually starting by the 28th week of pregnancy. All women were in their third trimester of pregnancy at the time of the first research session. It was during this session that the clinical social worker administered the Pregnancy Interview – Short Form (Slade, Grunebaum, Huganir & Reeves, 1987; 2004). The Pregnancy Interviews were later coded for reflective functioning by Maia Miller. A subset of the interviews (16/34) was also coded by Michelle Patterson to establish inter-rater reliability. The intraclass correlation coefficient for the two raters of reflective functioning was .84, establishing good reliability.

Each mother-baby dyad was then videotaped by either the principal investigator or a research assistant, in face-to-face interactions when the babies were four to five months of age. Parents and infants came to the lab at the Yale Child Study Center, and most were transported to and from the Center by one of the home visitors. Infants were placed in a comfortable infant seat in an upright position on a table, and the mothers were seated directly in front of their babies. The mothers were instructed to play with the baby as they would at home but were asked not to use toys, pacifiers, or food with the baby. They were also informed that sometimes babies became upset during the videotaping, and that if this happened they should feel free to do what they needed to settle the baby

down and then resume. Each dyad was videotaped for about 10-15 minutes. These instructions are a very slight modification of the standard instructions given for face-to-face interactions between parents and infants (Kristen Kelly, personal communication).

For these recordings, split screen technology was used so that both mother and infant facial expressions and gestures could be observed. Mothers were reimbursed $25 for the visit and $15 for transportation costs. They were given a small toy for the infant and were later provided with a copy of their videotaped interaction with their baby, which they later viewed and discussed with the MTB home-visitors.

The interactions were scored for affective communication between mothers and babies using the modified AMBIANCE (Kelly, Slade, & Lyons-Ruth, 2003) by the principal investigator. Interactions in which the mother spoke in Spanish to the baby were translated and transcribed from Spanish to English by a native Spanish speaker for coding purposes. To establish inter-rater reliability, an expert coder (Kristen Kelly, Ph.D.) scored a subset (20/34) of the data set. The inter-rater reliability was quite good between the two coders with an intraclass correlation coefficient of .88.

Measures

The Pregnancy Interview – Short Form (Slade, Grunebaum, Huganir & Reeves, 1987; 2004) was administered during the third trimester of pregnancy and scored by researchers at the MTB project. The interview was used to assess maternal representations of pregnancy, the baby and the mother-infant relationship, and it was scored for maternal reflective functioning. The clinical interview consists of 22 items designed to assess a woman's emotional experience of pregnancy as well as the nature of her developing

relationship with her baby. It assesses a mother's thoughts, expectations and feelings regarding her future relationship with her baby, as well as her relationships to herself as a mother, to the father of the baby, and to her family of origin as it pertains to her future parenting. Through open-ended questions each mother is asked to describe her feelings about being pregnant and becoming a parent. She is also asked to describe how she imagines her baby will be after it is born and what her relationship to the child will be like. She is also asked to reflect on the impact of the news of her pregnancy on herself, her partner, and her family, as well as how she imagines the baby will affect her life with her partner and her relationship with her mother. In addition, mothers are asked how they imagine they may be similar to or different from their own parents once they become mothers themselves. Maternal representations generated in this interview have been found to predict to adult attachment classifications (Slade et al., 1991). This is the first time it is being used to score for reflective functioning.

Addendum to the Reflective Functioning Scoring Manual (Fonagy, Steele, Steele, & Target, 1998) for use with the Pregnancy Interview (Slade & Patterson, 2005). This addendum to Fonagy et al.'s (1998) scoring manual was used to measure reflective functioning on the Pregnancy Interview. Scoring this interview for RF involves assessing a mother's capacity to acknowledge her own and her partner's positive and negative mental states in relation to the transition to parenthood, as well as her capacity to acknowledge that her child will one day have mental states and intentions of his or her own. The RF scale yields scores for individual passages in the Pregnancy Interview, as well as an overall score for reflective functioning that is organized on a continuum from

low (-1) to high (9) reflectiveness. A score of five on the scale marks an average or ordinary reflective capacity, and for a response to qualify as reflective (a score of five or above) the response must include the linking of mental states to behavior or mental states to mental states. In line with Fonagy et al.'s (1998) RF manual, this scale is used to assess four general categories of mentalization including (Slade & Patterson, p. 9): "1. an awareness of the nature of mental states, 2. the explicit effort to tease out mental states underlying behavior, 3. recognizing developmental aspects of mental states, and 4. mental states in relation to the interviewer."

A Modification of the Atypical Maternal Behavior Instrument for Assessment and Classification (AMBIANCE) Scale (Kelly, 2004), originally developed by Karlen Lyons-Ruth and her colleagues (Bronfman et al., 1999) was used to assess the quality of mother-infant interactions when babies were four to five months of age. The original AMBIANCE measure allows for the coding of maternal disrupted affective communication during the Strange Situation and other mother-child interactions, while the modified AMBIANCE is used with videotapes of face-to-face interactions in infants younger than s 22 items designed to assess a woman's emotional experience of pregnancy as well as the nature of her developing relationship with her baby. It assesses a mother's thoughts, expectations and feelings regarding her future relationship with her baby, as well as her relationships to herself as a mother, to the father of the baby, and to her family of origin as it pertains to her future parenting. Through open-ended questions each mother is asked to describe her feelings about being pregnant and becoming a parent. ix months of age. The scale goes beyond previously established notions of maternal

sensitivity to consider some of the profound disruptions in mother-infant affective communication that are characteristic of disorganized attachment. This measure has been validated against the Strange Situation, as well as with both maternal and infant behavior observed in the home (Kelly, 2004; Lyons-Ruth et al., 1999a; 1999b).

Analogous to the original AMBIANCE measure, Kelly's (2004) modification involves observations of mother-infant interactions and the coding of atypical, and potentially pathogenic behaviors in mothers' affective communication with their babies. Maternal behaviors with their babies are coded under five dimensions: 1) Affective communication errors; 2) Role or boundary confusion; 3) Fearful, disoriented, dissociative, or disorganized behavior; 4) Intrusive, hostile, or negative behavior; and 5) Withdrawal. The scale derives an overall qualitative score ranging from 1 ("High normal") to 7 ("Disrupted communication with few or no ameliorating behaviors"). Scores 1-4 fall within the undisrupted range and scores 5-7 are considered disrupted communication, thus yielding a bivariate classification of either Disrupted or Not Disrupted affective communication for each interaction. The dyadic interactions which receive scores in the disrupted range are then further classified under two subtypes: Subtype 1) Intrusive/Self-referential and Subtype 2) Helpless/Fearful, in line with Lyons-Ruth and colleagues' (1999a; 2004) identification of two subgroups among mothers of disorganized infants.

The scale includes a non-exhaustive list of behaviors under each dimension that exemplify affective errors that are atypical to mother-infant interactions if they become dominant characteristics of a mother's style of interaction, in this way even the most sensitive of mothers will sometimes engage in each of these behaviors and the atypical

distinction made is more about the prevalence of the behavior in an interaction than about the presence or absence of the behavior. Like the original measure, mother's interactions considered in the disrupted range exhibit gross failures to recognize and respond to the intentionality of the infant conveyed in the infant's vocalizations and nonverbal behavior.

A strength of the AMBIANCE scale is that coding involves an assessment of the effects of maternal behavior on the infant, the magnitude of the infant's response, and the mother's following response to the infant, requiring careful observation of each partners' communications in an often nonverbal dialogue between mother and infant. Thus, a mother who makes an affective error, recognizes the infant's response, and adapts her behavior accordingly, thus repairing the interaction, receives a less disrupted score than a mother who makes the same affective error and persists in her behavior and/or fails to recognize its impact on the infant at all. Similarly, a mother who can recognize the infant's states and mirror those states in an empathic way may not be penalized even if the infant cannot be soothed. In this way, the modified AMBIANCE allows for an assessment of affective communication in the dyadic process, rather than a simple tally of pathogenic behavior. Kelly (2004, p.80) writes that the dyadic process can be viewed as, "…a feedback-regulated control system in which each partner communicated information that informed and influenced the interactive dialogue," and the job of the coder is to "…to perceive their unfolding improvisations, and whether or not each partner seemed to be 'listening' to the other and responding in a way that supported ongoing engagement and avoided unnecessary dissonance."

Statistical Analysis

The relationship between parental reflective functioning during pregnancy and disrupted affective communication when babies are four months of age was tested using linear regression analysis. Inter-rater reliability on the AMBIANCE and RF measures was established by calculating the intraclass correlation coefficient for the scores on each measure.

Qualitative Analysis

The interplay among parental reflective functioning during pregnancy, maternal representations of the parent-child relationship during pregnancy, and the quality of affective communication in mother-infant interactions will be examined at the level of individual case studies. The Pregnancy Interviews (Slade, Grunebaum, Huganir & Reeves, 1987; 2004) and face-to-face interactions for two of the mothers in the sample will be presented in detail in case examples illustrated in the discussion section. In both case examples, the face-to-face interactions were rated as highly disrupted with almost no ameliorating behaviors, but the ratings of reflective functioning differed between them. In the first case presented, the mother was rated during pregnancy as having "low or questionable" reflective capacity, which was the average rating in the sample. In contrast, the second mother presented was one of only two mothers rated as demonstrating "definite" reflective functioning during pregnancy.

Although the Pregnancy Interview is not designed to assess for hostile-helpless states of mind (Lyons-Ruth et al., 2003; 2005), examples in the narrative that are suggestive of these states of mind will be noted, including devaluation of caregivers,

laughter at painful feelings, and identification with a helpless or hostile caregiver. These indications of hostile/helpless representations of the parent-child relationship are particularly interesting in light of the current sample in that they center on an imbalance of control in the parent-child relationship, in which the parent tries to control and dominate the interactions. Links between these representations and the balance of control between mother and baby in the face-to-face interactions will be made. In addition, using data from the Pregnancy Interviews each mother's individual profile along the following dimensions will be examined: representations of object relations including attachment relationships and the mother-baby relationship, developing parental identity, indications of dissociation versus integration of self-states, and defensive style. The relationship between these prenatal variables and later parent-infant affective communication will be examined.

Chapter 4 Results

The identification of parental antecedents to the quality of parental care has long been the focus of attachment-related research, particularly in studies concerning the development of disorganized attachment in infants. There may be multiple pathways through which maternal states of mind are conveyed in a mother's behavior to the child, resulting in the child's attachment style. Disturbances in maternal representations of the child, related to maternal representations of early caregiving relationships, have repeatedly been identified in the clinical literature as a main factor in the ability of mothers to respond lovingly and sensitively with their infants (e.g., Fraiberg, 1980; Lieberman, 1997). In recent years, reflective functioning has come to the forefront of studies on attachment, and is thought to contribute to the quality of mothers' affective communication with their babies (Grienenberger et al., 2005).

In this study, the interrelationships among reflective functioning, maternal representations of the child, and maternal affective communication in an at-risk sample were explored through both quantitative and qualitative components. The qualitative component of the study was aimed to investigate the interaction between prenatal reflective functioning and maternal representations of object relations including the fantasied relationship with the child, and the impact of these variables on mothers' capacities to accurately "read" their infant's cues, and to respond in sensitive and regulating ways with their babies. The results of the qualitative analysis of two case studies will be presented in the discussion section to follow.

The quantitative component of the study was aimed to establish a relationship between prenatal reflective functioning and maternal affective communication when

babies were four months of age. It was predicted that mothers with greater capacities for reflective functioning during pregnancy would have less disrupted affective communication with their babies at four months of age. This hypothesis was tested using linear regression analysis with data from 33 mother-baby dyads from this high-risk sample of first-time mothers.

Descriptive Statistics

A total of 34 mothers participated in the current study, and 33 of these participants were included in the data analysis. At the time of recruitment, mothers ranged in age from 14 to 28 years of age, with a mean age of 19 years. Twenty-two out of the 34 mothers (64.7% of the sample) were in their teenage years when they entered the project. At the time of the videotaping session for the face-to-face interaction, babies ranged in gestational age from 8 to 30 weeks with a mean age of 20 weeks. Some of the babies were older at the time of taping than was planned due to difficulties with attendance to videotaping sessions when babies were four and five months of age. In addition, there was one set of twins who were born very premature. At the time of videotaping they were 20 weeks old, but only eight weeks gestational age. As a result, they were omitted from the data analysis, because at eight weeks gestational age, the twins were thought to be too young for a valid assessment of their interaction. Without the inclusion of the twins and their mother, there were 33 mother-baby dyads, and the babies' gestational ages ranged from 13 to 30 weeks. (The range in mothers' ages did not differ.)

All of the mothers were from low-income families: 74% were Latino, 21% were African American, and one mother was Caucasion. This predominantly Latina sample included mothers with families from El Salvador and Mexico, but most of the Latina mothers were of Puerto Rican heritage (15 women). Fifteen percent were married (5 mothers), one mother was separated, three were co-habiting, and 74% were single (25 mothers) at the time that they entered the study. Many of the women were bilingual in Spanish and English. Of the 34 dyads, 20 spoke English exclusively, nine spoke only Spanish, and five spoke a combination of Spanish and English to their babies during videotaping.

Family violence patterns in the sample were intergenerational, and most of the women were members of families with multiple experiences of domestic violence, substance abuse, and incarceration particularly for the male partners. A significant portion of the mothers reported histories of childhood abuse and depression. Overall, there was a significant degree of psychopathology in the sample, as many of the mothers had levels of depressed symptoms and/or symptoms of post-traumatic stress disorder (PTSD) in the clinically vulnerable range. Three of the women had psychotic reactions around the time of the birth.

Results of Data Analysis

The reflective functioning scores ranged from 2.0 to 5.0 with a mean of 3.23 and a standard deviation of 0.75. As such, the RF scores fell predominantly in the lower range of the eleven-point-scale, suggesting very limited levels of reflective functioning in this sample. There were only two women who received an RF rating of 5 representing

"Definite or Ordinary RF." All of the remaining scores (93.9%) fell between 2 representing "Vague or Inexplicit References to Mental States" and 4 representing "Rudimentary or Inexplicit Links Between Mental States and Behavior." It is noteworthy that in this sample, almost none of the women demonstrated a capacity for reflective functioning, as would be demonstrated by an RF score of 5 or above. With a mean and mode score of 3 "Low or Questionable RF" in this sample, it appears that while many of the women could identify some feeling states during the Pregnancy Interview, almost none demonstrated a capacity for reflective functioning, which would include a consistent mental model in which people's behavior is understood in terms of feelings, desires, beliefs, and motivations.

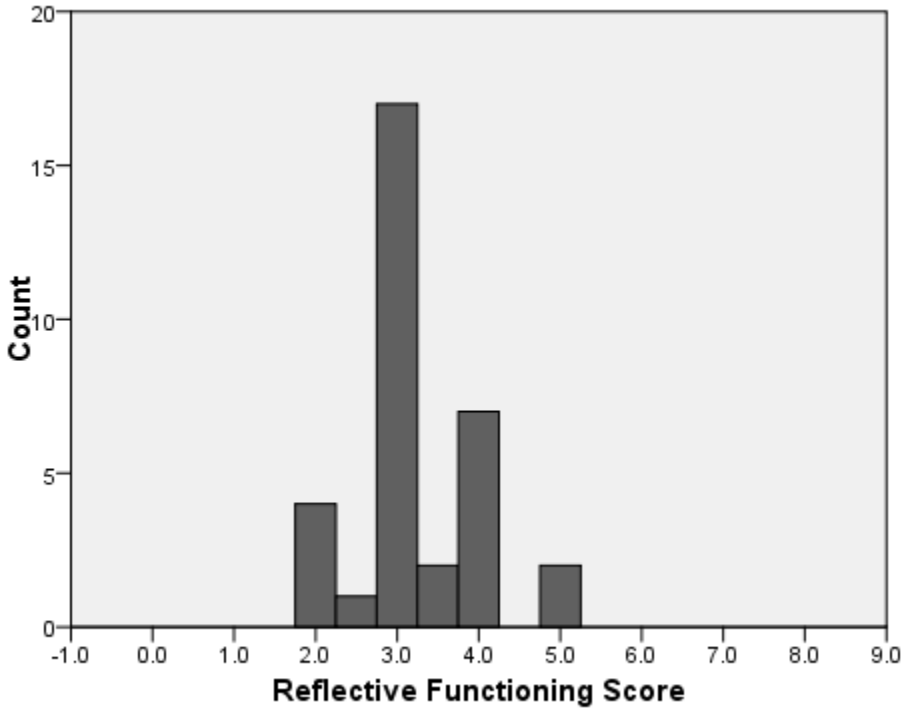

Figure 1. Frequency of reflective functioning scores.

AMBIANCE scores ranged from 2 to 7 with a mean of 5.03 and a standard deviation of 1.36. Most of the scores fell in the upper range of this seven-point-scale with 90.9% of scores between 4 and 7, suggesting a tendency towards greater disruption in affective communication in this sample. Only three dyads were rated in the lower end of the scale. More than half of the face-to-face interactions were rated as evidencing disrupted affective communication (57.6%). 39.4% of the interactions were rated as evidencing highly disrupted communication, or highly disrupted communication with few or no ameliorating behaviors, receiving a score of 6 or 7 on the scale.

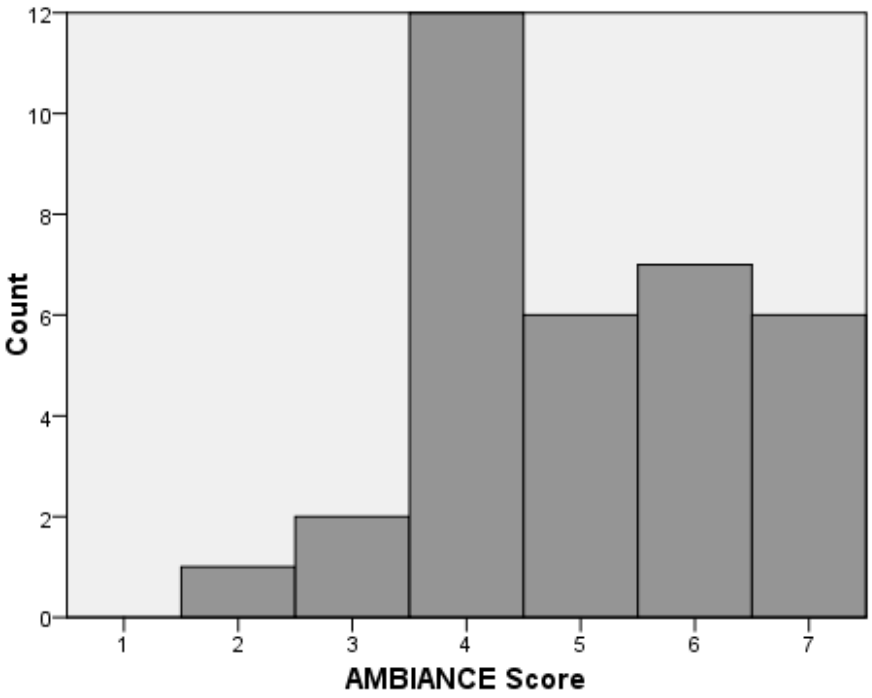

Figure 2. Frequency of AMBIANCE Scores.

To test the hypothesis that higher scores on reflective functioning in pregnancy would be related to less disrupted affective communication scores using the AMBIANCE measure, a "simple" (bivariate) regression analysis was conducted in which AMBIANCE

scores were regressed on reflective functioning ratings. There was no evidence of a statistically significant relationship between reflective functioning ratings during pregnancy and AMBIANCE scores at four to seven months of age (R^2 = 0.02, F = 0.54, df = (1,31), p = 0.47, n.s). In other words, in the current sample, a mother's level of reflective functioning during pregnancy did not enable one to predict the quality of her affective communication with her baby at four months (β = 0.13).

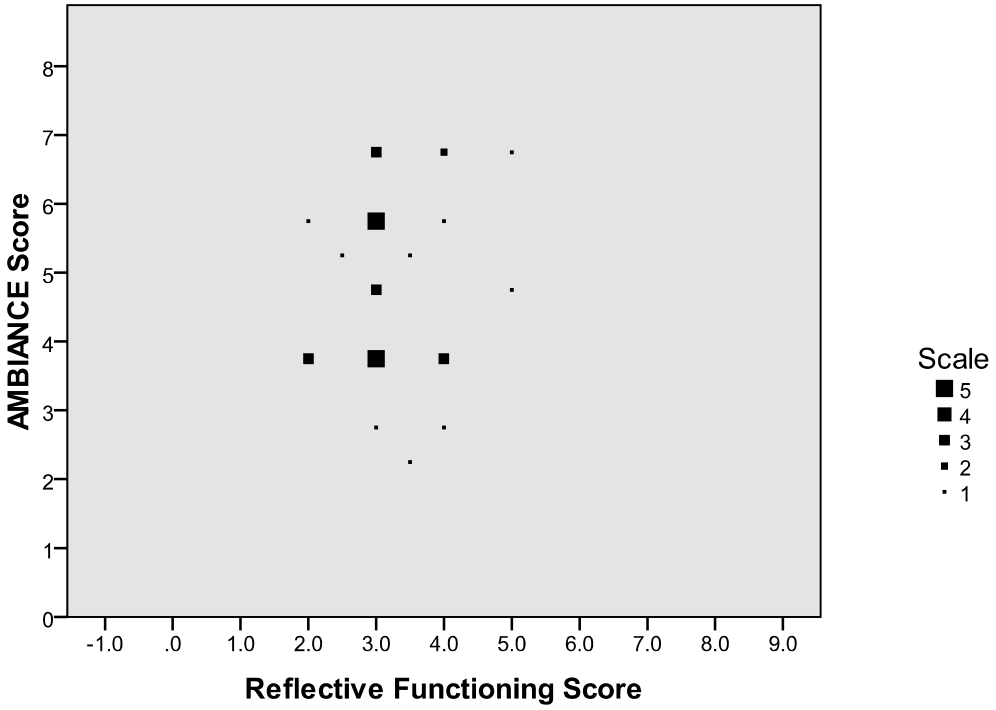

Figure 3. Scatter plot of reflective functioning scores by AMBIANCE scores.

Despite the null finding, a decision was made to consider the possible relevance of several demographic and background variables including the age of the mother, the age of her baby, the baby's second apgar score, and a history of medical problems in the

mother or baby during pregnancy or the months leading up to the videotaping. None of these variables exhibited any meaningful relationship to the focal variables in the study (i.e., affective communication or reflective functioning), and thus no further data analyses were pursued.

Chapter 5 Discussion

We have been shaping and reworking the question about what factors support or compromise consistent and sensitive parenting for a long time—first in the clinical setting when Winnicott (1960) woke us from our autistic slumber, opening our eyes to the real (as opposed to fantasied) mother and to the "holding environment" of the caregiving relationship between mother and baby. Then later, after Bowlby (1969) introduced the theory of infant attachment relationships, clinical and developmental researchers (e.g. Ainsworth et al., 1978; Main et al., 1985) began to try to capture the day-to-day, moment-to-moment events between mother and baby that coalesce into the patterns that come to characterize a mother-baby relationship. It was during this period that the field of infant mental health was born, and Selma Fraiberg and her colleagues (1975) introduced us to the ways in which a mother's own early family history haunted her relationship with her baby through the influence of unconscious and disavowed traumatic experiences. Maternal representations and maternal caregiving behavior became the focus of parent-infant treatment and research.

There were limitations in the research models which identified maternal representations of attachment relationships or maternal sensitivity as the main predictors of the quality of mother-infant relationships (see van IJzendoorn, 1995). The need for new conceptualizations of the factors that contribute to healthy or disrupted mother-infant interaction patterns emerged. In recent years, there have been two main shifts in the theoretical approach to attachment research, both of which emphasized affect regulation in directing the course of attachment relationships. In the first theoretical shift, Fonagy and his colleagues (1991, 1995, 2002) skillfully redirected our attention to the central role

of maternal reflective functioning (Slade, 2005) in supporting a mother's ability to read, to respond to, and to co-regulate her baby's physical and emotional states. A mother's mentalizing capacity provides a foundation for understanding maternal and infant behavior in terms of underlying feelings, desires, intentions, and motivations, and this capacity has been found to contribute to the quality of maternal affective communication with babies (Grienenberger et al., 2005).

Similarly, in a second theoretical shift, Lyons-Ruth and her colleagues (Lyons-Ruth, 1999; Lyons-Ruth et al., 1999a; Lyons-Ruth et al., 1999b) have narrowed our focus from maternal sensitivity overall, more specifically to the quality of affective communication with babies during emotionally charged moments. A mother's ability to acknowledge, to appropriately respond to and to co-regulate the infant's negative affects in particular, including anger, fear and distress has become of great importance. Disruptions in maternal affective communication with their infants have been linked to insecure and disorganized attachment patterns (Lyons-Ruth et al., 1999a, 1999b; Slade et al., 2005), and in turn, hostile/helpless states of mind connected to early experiences of relational trauma have been linked to problems in maternal affective communication with babies (Lyons-Ruth et al., 2005).

In this study it was hypothesized that a mother's reflective functioning—her ability to think about her own and others' feeling states and behaviors and to consider how these states and behaviors dynamically affect one another—would provide some protection against disrupted affective communication patterns between her and her baby, patterns in interaction that have been associated with disorganized attachment (Lyons-Ruth et al, 1999a, 1999b). It was suggested that a mother's capacity for reflective

functioning would support her ability to read her baby's cues and to respond to them appropriately. Reflective functioning allows for the co-regulation of affective and physical states between mother and infant, an experience particularly important during moments of distress and fear in the baby (Fonagy et al., 2002). It also provides a mother with greater means to see the impact of her behavior on her baby, and to alter this behavior should it be distressing to the infant, thus repairing periods of misattunement. Reflective capacity might also provide a mother with tools to process traumatic experiences (Fonagy et al., 2002) and to create greater integration of her self-states, perhaps decreasing the likelihood of dissociated states of fear that have been found to negatively impact parental behavior with infants (Main and Hesse, 1990; Lyons-Ruth and her colleagues', 1999a; 1999b). For all these reasons, it was hypothesized that greater reflective functioning would be related to less disrupted affective communication between mothers and their babies. To date, only one other study has explored this relationship. Grienenberger and his colleagues (2005) found a significant relationship between maternal reflective functioning assessed when infants were 10 months of age and maternal affective communication assessed when infants were 14 months of age in sample of middle-class mothers. The current study extends these findings to parental reflective functioning during pregnancy and affective communication assessed in early infancy in a high-risk sample of mothers.

As expected, the mothers in this high-risk sample of young, first-time parents tended to be more limited in their levels of reflective functioning, as measured during pregnancy. They also tended to present with more disrupted affective communication patterns in their interactions with their babies, as compared to other samples. For

example, in the study mentioned above conducted by John Grienenberger, Kristen Kelly, and Arietta Slade (2005), the researchers found that AMBIANCE ratings of their middle class sample were normally distributed across the full range of the scale, with 27% of the sample scoring in the disrupted communication range (i.e. AMBIANCE scores 5-7). They considered this to be an elevated rate of disruption for this population. Lyons-Ruth and her colleagues (1999b) found that in their sample of low-income mothers and infants, 46.2% of the mothers were rated with disrupted affective communication. In the sample from the current study, 57.6 % of AMBIANCE scores fell in the disrupted range, indicating a very high-level of risk for pathology in the mother-baby relationships. However, as described in the analysis of the data generated from the current study, maternal reflective functioning during pregnancy did not predict maternal affective communication when the babies were four to seven months old.

At the time of the data analysis for this study, two main competing hypotheses concerning this null finding were generated. In the first, it was thought that when levels of reflective functioning were as low as they were in this group, RF capacities might not be sufficient to protect against disrupted affective communication patterns. The second hypothesis was that the lack of an organized relationship between RF during pregnancy and affective communication was due to the impact of the home visiting intervention. As it turned out, both hypotheses were highly relevant to the study of this population.

In the first of these two hypotheses, the reason for this unexpected finding was thought to center on the distribution of reflective functioning scores in a small range at the lower end of the scale, representing scores limited to low levels of reflective functioning—levels really considered to be pre-reflective. Although it was expected that

this sample might present with more limited reflective functioning, it was surprising that only two of the mothers demonstrated a basic capacity for mentalization, and that none of interviews met criteria for high levels of reflective functioning. While it makes theoretical sense that a capacity for reflective functioning would relate to more attuned and less disrupted affective communication between mothers and babies, it is unclear what level of reflective functioning would be adequate to see this effect. Almost none of the participants evidenced a "definite or ordinary" capacity for reflective functioning, a level which demonstrates a clear understanding that emotional states and behavior are related. In this way, almost no one in this sample was truly mentalizing during the Pregnancy Interviews.

John Grienenberger (2002) suggested that low reflective functioning does not necessarily lead to disrupted affective communication. He found that 88% of the subjects in his middle class sample with RF scores above the mean (i.e., high RF) had AMBIANCE scores below the mean (i.e., healthier affective communication), indicating that high reflective capacity limited disrupted communication patterns. However, only 47% of his subjects with low RF ratings had AMBIANCE scores above the mean. The group of mothers with low RF ratings were almost equally likely to have disrupted or undisrupted communication patterns. He goes on to conclude (Grienenberger, 2002, p.75), "Low RF is not necessarily a sign of more severe problems depending on other potential stressors such as socioeconomic status, family history, or physical health." Reflective functioning may play a more powerful role in attachment relationships for families with difficult histories (Fonagy et al., 1995). The life stressors, trauma histories, and low socioeconomic status of the current sample, may account for the higher

percentage (57.6%) of disrupted AMBIANCE scores in our group of mothers with low reflective functioning scores, as compared to Grienenberger's middle class sample. It is unclear how pre-reflective capacities relate to affective communication during actual interactions between mother and baby.

As for the second hypothesis, it was suggested that the mothers in the intervention group were already in the midst of therapeutic change at the time of the four-month-interaction, and that this period of transformation resulted in unpredictability in the quality of their interactions with their babies. Between the time of the administration of the Pregnancy Interview and the videotaping of the face-to-face interactions, both the nurse practitioner and the clinical social worker had been working with the families for up to six months of treatment. These relationships between the home-visitors and the mothers may have already begun to have a powerful influence (positive and negative) on not only the mothers' reflective functioning when the babies were four-months-old, but also on the mothers' own emotional states and affect regulation, including the intensity and variability of their moods, rage, anxiety, and fearfulness.

At the time of completing the current study, preliminary data from the control group in the Minding the Baby intervention project became available, providing support for this second hypothesis. It appeared that the home-visiting intervention was indeed already transforming the relationships between the mothers and babies in the intervention group, as compared to the dyads in the control group (Slade et al., 2009). Contrary to the null finding with the intervention group, additional data analyses revealed that in the small group of mothers in the control group (N=18) who did not receive any intervention, reflective functioning in pregnancy did, in fact, significantly predict the quality of

affective communication between mothers and babies at four-months of age (N=18, r=-.493, $p < .03$), confirming the main hypothesis of this study; the more reflective the mothers were during pregnancy, the less disrupted their affective communication patterns were when the babies were four months old. RF ratings between the control and intervention groups were comparable, with no significant differences between their mean RF ratings during pregnancy, indicating that the reflective capacities of mothers in the control group were just as limited as those of the intervention group (Slade et al., 2009). According to these preliminary results from the control group, even differences in reflective functioning scores at pre-reflective levels measured during pregnancy can predict the degree of disrupted affective communication in interactions between mothers and babies. However, while differences in pre-reflective capacities may have an impact on the degree of disruption, these capacities may not be sufficient to protect against disrupted communication patterns as 57.9% of the mothers in the control group were rated in the disrupted range of the AMBIANCE scale.

In this way, our findings regarding the impact of low reflective capacity on affective communication differed from those of Grienenberger's (2002) study of a middle class sample. Perhaps differences in reflective functioning at the low range of the scale significantly influenced the degree of disrupted affective communication in this study, due to the additional stressors present in the histories and current life-circumstances of the families in our at-risk sample. Reflective functioning may play a more crucial role in families that have experienced deprivation, loss, or abuse (Fonagy, 1995); however, this is also the population that may be most at risk for impairments in mentalization, as trauma has been found to disrupt reflective functioning (Fonagy et al., 2002).

In terms of the difference in findings between the control and intervention groups, analysis of the interaction effects of group assignment (intervention versus control) and reflective functioning on affective communication was significant, so that the relationship between RF and affective communication was dependent on whether a mother was in the control group or the intervention group (Slade et al., 2009). While there was no predictable relationship between the variables in the intervention group ($N=48$, $r=.11$, n.s.), for the control group, there was a significant inverse relationship between RF and AMBIANCE scores ($N=18$, $r=-.493$, $p < .03$); the more reflective the mothers were during pregnancy, the less disrupted their affective communication patterns were when the babies were four months old.

It appears then that a mother's level of reflective functioning does indeed influence the quality of her affective communication with her baby, even when her capacity for mentalization is at a pre-reflective level. While this relationship between RF and later mother-infant interactions held for the mothers in the control group, the Minding the Baby intervention seemed to complicate the relationship between these variables for the mothers in the intervention group. It seems that being in a relationship-based treatment during this transition between pregnancy and motherhood tosses up our predictions about reflective functioning and how these mothers will later look with their babies, landing them into new, unexpected and perhaps transitory configurations, as the mothers learn to parent in the midst of change. The reflective, relationship-based intervention was potentially having both positive and negative effects on the mothers' emotional states and thus their interactions with their babies, depending on individual differences in the treatments. It may be that some of the mothers were already

experiencing greater affect regulation due to the treatment relationships when the babies were four months old. Others may have been experiencing greater dysregulation of affect as attachment-related emotions were opened up in relation to the therapeutic relationships, resulting in some mothers who might have looked better in the interactions and some who might have looked worse at this stage of treatment, as compared to the control group participants.

Although the treatment was clearly having an impact when the babies were four months of age, the mothers needed more time in the intervention before a positive therapeutic effect could be observed for the intervention group overall. Six months of treatment was not enough to significantly alter the quality of the mother-infant relationships as compared to the dyads in the control group. At the point in treatment when the babies were four months of age, there was no significant difference between the control and intervention groups in the AMBIANCE ratings for affective communication (Slade et al., 2009). Furthermore, disruptive communication patterns were still quite prominent for both groups with over half of the dyads rated in the disrupted range (i.e., 59% disrupted in the intervention group (N=39); 57.9% disrupted in the control group (N=19)). For the women in the intervention group, perhaps the musculature clenched around vulnerable feelings and rigid defensive postures were loosening up in these early months of life with the baby, but destabilized, these mothers were not yet at the stage in treatment where they could find a safe and flexible balance in their relationships with their babies and perhaps in their relationships with their home-visitors, as well.

For many of the mothers, this balance and security was clearly present by the time the babies' celebrated their first birthdays. When the babies were 12 months of age—

about 14 months into treatment—differences in the quality of parent-infant relationships between the intervention and control groups became apparent. Infant attachment was assessed using the Strange Situation Paradigm (Ainsworth et al., 1978), and there observable differences between the groups in the rates of secure and disorganized attachment relationships. There was a higher percentage of secure infants (20 infants, 71.4%) and a lower percentage of disorganized infants (8 infants, 28.6%) in the intervention group as compared to the control group (8 secure infants, 57.1%; 6 disorganized infants, 42.9%) (Slade et al., 2009). In this way, between the sixth and 14th month of treatment, many of the dyads in the intervention group began to break free of patterns of disrupted mother-baby relationships, as compared to the dyads who received no treatment. Although it was not measured at the one year mark, the capacity for mentalization was also likely to be developing for the mothers in the intervention group during this period in that the mothers were significantly more reflective than they had been during pregnancy when the children were two years of age (N=21, mean change in RF=.548, SD=.893, $p<.011$) (Slade et al., 2009).[1]

A positive therapeutic response across the intervention group did not emerge until later in treatment. While there was no clear indication of positive change in the mother-infant relationships across the intervention group as a whole when the babies were four months of age as compared to the control group, by the time the babies were 12 months old, the mother-baby relationships were growing healthier, as reflected by the high percentage of secure infant attachment ratings in the intervention group. This pattern

[1] This was not the case for the mothers in the control group (N=3, mean change in RF=.500, SD=.866, $p<.423$ n.s.), but there were too few mothers in the control group included in this data analysis to provide a true comparison group.

may be indicative of the trajectory for change in patients in psychodynamic, relationship-based, mentalization-focused treatments such as the Minding the Baby intervention.

There is support that psychoanalytic treatments may involve periods of regression, and that many patients are likely to require more than six months in treatment before full therapeutic effects are observed (Vermote et al., in press, 2009). In their longitudinal study of 70 patients diagnosed with various personality disorders in a year-long hospital-based psychoanalytic treatment, Vermote and his colleagues (in press) found that different clusters of patients had specific trajectories for progress during and after treatment, but that as a whole there was no significant therapeutic change during the first three months of treatment with progress occurring thereafter. Furthermore, in one group of patients characterized by anaclitic features (Blatt, 2004, 2008), a more fluctuating pattern of change was observed (Vermote et al., 2009). In this group, there was an initial rapid increase in the patients' experiences of felt safety (Sandler, 1960; Winnicott, 1971), and then a period of regression occurred in which both felt safety and mentalization decreased for a time. Following this regression, both variables gradually improved. There was another period of regression in felt safety and mentalization at the end of treatment as separation issues were reactivated. Following discharge, mentalization improved again. It seems that progress in treatment may be non-linear for some patients and there are indications that periods of regression of reflective functioning may occur, perhaps in conjunction with subjective experiences of decreased safety. It is also possible that rather than a regression in RF, individuals who demonstrated this pattern tended to maintain distinctly different levels of reflective functioning depending on their intrapsychic and interpersonal contexts (Fonagy et al., 2002), and that the early

period of treatment triggered states of fear, anxiety and poor mentalization. Taken together with the results of the current study, these findings suggest that treatment may become more destabilizing for some patients before improvements can be observed and that longer-term treatments may be essential for therapeutic progress to take hold.

In this way, relationship-based treatments may temporarily complicate or suppress the use of reflective functioning and its relationships to other variables like affective communication. To better understand how and if prenatal reflective functioning relates to later parent-infant affective communication during the baby's first months for mothers in treatment, rather than looking for a broad relationship that can be applied between the variables across a group of mothers, we may have to look at the level of individual case studies—at the individual profiles of maternal states of mind, object relations, representations of the relationship with the baby and developing parental identity, and the degree of integration versus dissociation of self-states, in addition to the quality of mentalization. Individual case studies will be presented later in the discussion.

This approach might begin to elucidate the ways in which a mother's mentalizing capacity is used when she talks about her baby during pregnancy, and how this relates to the ways in which she later interacts with the real baby. Furthermore, how do we understand the role of pre-reflective capacities? The empirical findings generate a host of questions regarding how mothers think about their own and their babies' internal experiences in the absence of reflective functioning during live interactions between mothers and babies. How much reflective functioning is actually needed to accurately see the baby's needs and respond to them? What level of mentalization would be sufficient to support a regulating response when the baby is content versus distressed? Or

when the mother is content or distressed? How would it be if she could identify her own feeling states, but not those of others during measures of RF, or if her reflective functioning operated at distinctly different levels depending on her context and emotional state? Can we perceive differences in the quality of interaction between a mother who thinks about mental states as related to behavior, versus one who can identify some emotional states, versus a mother who does not conceptualize her lived experience in terms of feeling states much at all?

Perhaps the pre-reflective ability to identify different feelings may be enough to allow a mother to see the baby's basic emotional and physical states and respond to them. However, this might not be enough to have her repair the interactions when they go awry. To effectively change her behavior according to the infant's responses, it would seem that at minimum, that level of reflective functioning would have to include not only a recognition of different feelings in herself and others, but also an understanding that behavior and feelings are related. To be of real use in supporting her interactions with the baby, it would be important for a mother to understand how her behavior has an impact on her baby's emotional states, and perhaps on how her emotional states affect her behavior, as well. Taking these scenarios a step further, it may be that a more deeply contextualized understanding of how feelings and behavior in oneself and others in different social situations dynamically affect one another would be necessary to allow a mother to plan ahead to protect herself and her baby from overwhelming circumstances. This would be in contrast to a lifestyle characterized by a chronic state of crisis for the mother and baby, as is sometimes observed in at-risk families. What level of mentalizing is good enough?

Our findings suggest that it is not so clear how these pre-reflective capacities operate in the affective communication patterns between mothers and babies, particularly for women in treatment. Perhaps an exploration of how limitations in reflective functioning manifest both in narrative and in interactions for the dyads in the intervention group would be helpful. In this next section I will describe how limitations in the ways that the mothers were able to hold their own feelings and their babies' experiences in mind were demonstrated in not only how they talked about their experiences of pregnancy, but also in their later behavior with the baby. Rather than a true mentalizing or reflective stance (Fearon et al., 2006), during their interactions with the babies these mothers intermittently engaged in a pre-reflective stance, momentarily orienting their attention towards the baby's perspective or feelings without demonstrating full mentalization. I will then present two individual case examples and describe implications for treatment approaches. In conclusion, I will discuss limitations to this study and directions for future research.

Characteristics of Pre-Reflective Capacities in Pregnancy Interviews

To begin, how can we qualitatively describe the pre-reflective stance of the mothers in this sample? The mean and mode level of reflective functioning ratings in this high-risk sample fell into the "Questionable or Low RF" range of reflective functioning scores (i.e. an RF score of 3; 17 out of the 33 mothers had interviews that were rated at this level of RF; mean RF score=3.23), according to the reflective functioning scoring manual (Slade and Patterson, 2005). The interviews scored at this level contained some suggestion of mentalizing efforts by the mother, but lacked statements that made

reflective functioning explicit. These interviews may have included words for feelings, but no mention of mixed emotions, conflict, or uncertainty about others' beliefs and emotions. They also lacked evidence of an understanding of how feelings and behavior may affect each other. As described in the RF coding manual for the Pregnancy Interview (p.23, Slade and Patterson, 2005), "The response may frequently make use of mental state language such as 'happy,' 'sad,' 'loved,' or 'secure' without making clear or explicit that the mother genuinely understands the implication of her statement (e.g., the mother fails to elaborate upon these statements). The response may appear somewhat clichéd, banal, superficial or 'canned,' or may be excessively deep and detailed yet unconvincing and/or irrelevant." These mothers were pre-reflective. Although they could identify some emotions, they failed to demonstrate a capacity for reflective functioning; they lacked a model of their own mind in relation to another's—that is, the capacity "to make sense of experience in terms of thoughts and feelings" in a consistent way, as would be indicated by an RF rating of "5 Definite or Ordinary RF" (Slade and Patterson, 2005).

Here are two segments from the pregnancy interview transcripts that illustrate this level of "Questionable or Low RF." While there is some mention of feeling states, many of the responses are accounts of actions or feelings with little elaboration or explanation.

> **Interviewer:** This is your first pregnancy. How did you feel when you first became pregnant, when you first found out you were pregnant?
> **Mother:** I didn't believe it. I was like, "No, are you sure? Are you positive?" I couldn't believe it. I got like a heat flash. I didn't know. I ran to the phone and I'm like stuck, like I didn't know who to call first. I know I'll wait to get home to tell my mother and tell my baby father. That's about it.
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> **Interviewer:** What was the father of the baby's reaction when he found out, when you told him finally?
> **Mother:** He ran, he hugged me, gave me a kiss on the cheek. He was happy, too, 'cause he wanted another baby. He already got a daughter and she's ten, so he's always telling me, "I want a baby, I want a baby," so he was happy.

In another example:

> **Interviewer:** What about some of the good feelings that you've had during the pregnancy?
> **Mother:** When I can feel the baby moving, that's funny, that's pretty much it, because I was upset that I didn't get an ultrasound picture. I didn't, so everyone else got one except me, but just the thought of feeling the baby move and stuff like that, and sometimes the reaction of people, like my boyfriend, the way he acts sometimes. He acts like he's very interested in the baby, and then there's times when he doesn't, but I guess that's typical, right? But pretty much that's it.

As these examples illustrate, many the responses on the Pregnancy Interview lacked depth, richness or elaboration. In many of the interviews, the women described a concrete series of actions and things said, and the level of reflective functioning was limited to some mention of feeling states that were not well explained, so that the listener is left with a desire to ask for more information or clarification.

The RF ratings of these transcripts may reflect a mother's optimal level of reflective functioning. There is a difference between an individual's reflective functioning in *conversation about* an attachment relationship and her reflective functioning during *active engagement* with the partner in that attachment relationship. It seems likely that mentalizing during social interactions is more challenging than mentalizing while discussing relationships and interactions after the fact. For example, many of us have had the experience of falling in love in a new relationship and reflecting on our feelings, thoughts, plans and desires, and the influence of past relationships concerning the object of our affections, when speaking with our friends, only to find ourselves dazed and swept up in the moment when face-to-face with our lover. Similarly,

how often we find our reflective capacity curiously absent during heated arguments with our loved ones, despite the detailed descriptions of what triggered the fight, the underlying feelings of each party, and the events that escalated the conflict that we are able to offer to friends later in the week. During live social interactions, we must rapidly attend to and process a great deal of information including sensory stimuli from the environment, the other person's emotional verbal and non-verbal communications, our own thoughts and feelings, all while speaking and performing actions in coordination with our partner. Add the intensity of emotions in attachment relationships to the mix, and it becomes clear how different a task being reflective during face-to-face interactions might be in comparison to reflective functioning during an interview with a stranger.

Reflective functioning in the interactions between a first-time parent and baby has its own particular difficulties. The baby is a dependent and helpless person whose communication is completely non-verbal, with rapidly changing emotional and physical needs. The baby also thinks about and experiences the world very differently from an adult in terms of cognitive complexity and ability, as well as motor abilities—requiring a parent to account for the baby's developmental level and relate to the baby in some ways as someone very different from him- or herself. Without a means to speak and explain, babies are somewhat mysterious, and their internal life is more opaque than perhaps that of their larger, grown-up counterparts. As such, babies are inherently emotionally evocative, and serve as powerful objects of transference for all of us (Trout, 1987, Fraiberg et al., 1975). No one is neutral about a baby, least of whom his first-time parents. With the intensity of parents' emotions about the baby, the baby's total dependency, his quickly changing needs and states, his developmental level, and the

ambiguity surrounding the baby's inner life, parental reflective functioning during interactions with a baby may be particularly challenging.

When maternal reflective functioning was assessed during the Pregnancy Interview, each mother was free to think about her responses and to describe past events with the time and space to consider her thoughts. In contrast, it was likely that making use of that mentalizing capacity was much more challenging in vivo during the rapid exchanges between mother and baby in the face-to-face interactions. How does the level of a mother's mentalizing capacity and contexts in which it is used when a mother *talks* about her baby relate to the ways in which her reflective functioning is used when she *interacts* with her baby? The distinction between the use of RF in narrative and RF in interaction is noteworthy, and we need to understand this relationship better, particularly as we attempt to bridge research and clinical applications of these constructs.

The Quality of Mother-Infant Interactions

Now let us turn to the quality of the face-to-face interactions in general, and then I will describe how evidence of pre-reflective capacities was demonstrated behaviorally during these interactions. In the mother-baby interactions particularly those in the disrupted range, the mother's tended to be non-contingent and misattuned with the babies. These findings were in line with Kristen Kelly's (2004) observations of dyads rated in the disrupted range during 4-month-old face-to-face interactions. She concluded (Kelly, 2004, p.83), "…nearly all of the dyads assessed as having disrupted levels of affective communication appeared to suffer from either very imbalanced or altogether insufficient amounts of contingency and/or affective mirroring."

In this sample, there was a failure to establish a back-and-forth rhythm between mother and baby, with interactions lacking the quality of a conversation or dance between the partners. The turn-taking circles of communication, dyadic coordination and contingency between mother and infant that have been described in developmental theories and mother-infant research (Greenspan & Wieder, 1998; Beebe & Lachmann, 2002; Stern 2004) were mistimed. Some of the mothers sped ahead of their babies in a flurry of stimulation, switching from activity to activity without waiting for a response from the baby, as though engaging in a monologue. The mothers tended to be the ones who were actively doing something to their baby or trying to entertain the baby with songs and games without waiting for the baby's active participation. The babies were then relegated to a reactive role in the interactions. This was reminiscent of descriptions of the imbalance of control in the interactions of individuals with hostile/helpless models of attachment, in which one person is active while the other relinquishes agency and takes no initiative—the roles in these relationships are limited in their conceptualization to that of victim or aggressor (Lyons-Ruth et al., 1999a).

There was little sense of the mothers as seeing their babies as intentional beings with their own perspectives. Sometimes there was such a disconnect between the mother's facial expression and the baby's state (i.e., a smiling and laughing mother and a distressed and crying baby) that the mother looked as though she were seeing a different infant; in these cases the mothers were not registering the baby's communications at all. Often the mothers responded to their baby's distress by trying to override the negative emotions with inauthentic, positive affect, attempting to distract the babies with happy and fun displays, despite the rise of the mother's own negative feelings. The mothers

rarely reflected back to the babies an understanding of what the babies were feeling or experiencing, and there was little vocal mirroring, just as Kelly (2001) observed in her study. The vocal affect mirroring and affect attunement observed between mothers and babies was markedly absent (Stern, 1984, 1998; Fonagy et al., 2002). Often the mothers were intrusive, interfered with the infant's self-regulation, and played in an over-stimulating way.

Beebe and Lachmann (2002) described the bi-directional coordination between mother and infant, in which each contribute to the expectations and responses of the other in split-second changes in facial expression and orientation. In healthy relationships, the mother and baby move together in the same "affective direction," modulating up or down as a couple along dimensions of positive and negative affect, and increased or decreased arousal. They found that a high-degree of coordination between mother and infant facial expressions indicated a risk to secure attachment, while temporal coordination in the mid-range supported secure attachment (Beebe & Lachmann, 2002). Low coordination indicated that the two partners were acting relatively independently of one another rather than together as a couple. High coordination was seen as "an index of vigilance, overmonitoring, or wariness," an adaptive attempt to decrease disturbance in the interactions (Beebe & Lachmann, 2002, p. 103). Flexibility in the degree of coordination was flagged as an indicator of health, as the tightness of coordination was seen as variable and context dependent. Perhaps the imbalance of control in the interactions described in the current study, contributes to hypervigilance and high coordination between mother and infant. Microanalysis of split-second temporal coordination was not conducted in this study, but in many of our dyads, the mothers and babies seemed to be

moving in different affective directions, and the mothers did not seem to know how to coordinate their behavior to sensitively regulate their babies up or down in affect or arousal.

Additionally, many of the mothers could not tolerate the infants gazing away, sometimes appearing angry or taking offense to the infant's behavior. They engaged in the "chase-and-dodge" behavior described by Beebe and Lachmann (2002), in which mothers interfered with the babies' self-regulatory behavior of looking away by looming close to the babies' faces, while the babies tried to turn further away. Many mothers in this sample interfered with their babies' freedom to regulate the intensity of social contact by looking away or downward to make "breaks" in visual contact (Stern, 1977). Some of these mothers looked frustrated, angry or depressed when their babies were preoccupied with an object or looked away, reactions that may have stemmed from representations of themselves as the less powerful, victimized member of the parent-child relationship. Similar to the model of hostile/helpless states (Lyons-Ruth et al., 1999a), Bugental and Happeny (2004) have observed that parents who perceived their child as more powerful and in control than themselves were prone to seeing their unresponsive infants as behaving with intent, resulting in parental reactions of helplessness or anger.

However, even in the group of dyads rated as having disrupted communication patterns, there was a range in the degree to which mothers expressed joyfulness and love towards their babies. In addition, there was a group of mothers who were rated on the cusp of the undisrupted range of the AMBIANCE scale. Although their interactions were still somewhat uncoordinated with the babies and the mothers sometimes demonstrated

the need for the infant to attend to them, the interactions overall had a benign quality and the mother's appeared to accurately "see the baby before them."

Behavioral Examples of a Pre-Reflective or Proto-Mentalizing Stance

As a psychological construct, maternal reflective functioning can only be inferred based on a mother's verbal statements or her actions. In the past, parental reflective functioning has been assessed on narratives from interviews (e.g., Grienenberger et al., 2005). To look for evidence suggesting the engagement of reflective capacities during interactions, we must comb through a mother's communications and actions with the baby for indications that she is thinking about her own or the baby's inner experiences. This is easier when a mother verbalizes these thoughts to the baby, but this may be more likely to happen for mothers with definite mentalizing capacities. There is evidence that mothers who spontaneously talk to their children about their emotions tend to have children with greater reflective capacity, particularly concerning emotionally charged topics (Denham et al., 1994; Dunn, 1996; Fonagy et al., 2002). Furthermore, reflective mothers are more likely to talk to their children about their feelings, intentions and desires than relatively un-reflective mothers (Rosenblum et al., 2008).

As we search for behavioral clues for pre-reflective capacities, we may need to look more closely at what is communicated in a mother's actions in addition to what she says, with careful attention to moments when a mother directs her attention to the baby's perspective. These may be brief moments when her mind opens with curiosity towards her baby's inner life. They may be fleeting behaviors that suggest the mother sees the

baby as someone who has intentions and goals, and a subjective perspective even at the level of concrete sensory experience (e.g., what the baby sees).

These pre-reflective behaviors may fit better with a teleological model of the social world rather than a mentalizing model—a perspective on others that prioritizes concrete goals over mental states as the explanation for behavior (Fonagy et al., 2002). An example of this type of behavior might be when a mother sees the baby reaching for her shoes. Rather than saying, "You like your shoes, you want to get them!" which would suggest a mentalizing stance, a pre-reflective mother might say, "You're trying to get your shoes?" Our minds are primed from infancy to be sensitive to goal-directed actions in the early development of intersubjectivity (Stern, 2004), and some examples of maternal behavior suggestive of pre-reflective capacities may be characterized by this goal-directed reasoning.

The analysis of behavioral manifestations of reflective functioning in parent-infant interactions is important, because a parent's mentalizing capacity during these interactions affects her care-giving behavior with the baby, which in turn contributes to the child's attachment style (Grienenberger et al., 2005; Schechter and Willheim, 2009). This type of analysis also allows for the contextualization of reflective functioning—finding greater specificity concerning the level at which a mother understands her baby's experiences and the circumstances under which she uses that understanding. It also provides a means to identify the circumstances that trigger a failure to hold her baby in mind. As Fonagy and his colleagues write (2002, pp. 60-61), "…reflective capacity in one domain of interpersonal interaction should not be expected to generalize to others. Reflective function does not begin as a general capacity, but is a particular skill tied to

the task and domain where it is learned—a specific category of relationship. Reflective function as a skill may be more or less present in situations as a function of contextual support and emotional states that push an individual up or down a developmental strand." Some individuals function at different and distinct levels of reflective functioning that are context- and affect-dependent (Fonagy et al., 2002). Furthermore, the relevance of maternal RF for affective communication may be domain specific, in that a mother's capacity to be reflective about the child's negative affects in particular, may provide the greatest protection against disruptions in affective communication (Grienenberger, 2002). Thus, the specific emotional context in which reflective functioning is used is crucial information.

Within these interactions, there were different behaviors that seem indicative of what might be considered a pre-reflective or proto-mentalizing stance, defined as a moment when a mother's mind is oriented toward the baby's perspective without fully thinking about the baby's experience or *re-presenting* it back to the baby in a way as to provide affect regulation. Each of these examples represents some component of a mentalizing experience without full realization or integration of thought, empathic and marked expression of feeling, and communication back to the baby in a way that would be regulating.

At the most basic level, the beginning of a pre-reflective stance might be demonstrated behaviorally in a mother who simply looks in the direction that the baby is looking without saying anything about it; this is a moment of "parallel looking" in which the baby and mother may or may not socially reference one another. This might be considered similar to establishing joint attention (see Bretherton 1991a), however, these

instances lack the feeling that both parties are engaged in the activity *together*, but rather they are engaged in an activity of looking *in parallel (*Gerry Costa, Ph.D., personal communication). For example, the baby is looking upward and the mother looks up briefly, but does not comment to the baby. She recognizes that the baby is visually attending to something of interest, but beyond this, recognition of the baby's subjectivity in relation to the object and herself is markedly absent.

There were some instances when mothers could reflect back to the baby their observations of the infant's behavior, if not the baby's internal states. As in the example above, a baby might look up at the ceiling. The mother looks up as well and then says to the baby, "You're looking at the light?" The baby then looks at the mother when she says this. In another example, a baby grabs the strap on the infant seat, and the mother says, "You have the strap?" The mother and baby make eye contact. Here, each mother sees the baby as someone doing something, and she can share that experience with the baby. Attention is triangulated between the baby, the object of interest, and the mother. It is in this case that the mother sets the stage for an experience of joint attention with the baby.

From the baby's perspective, s/he might have the simultaneous experience of three ideas: I see the light; Mommy sees the light; Mommy sees me looking at the light. It also may convey to the baby a feeling that the mother is interested, paying attention, and with him or her even when the baby is absorbed in something other than the mother, thus supporting the baby's future capacity to "be alone in the presence of another" (Winnicott, 1958). If matched to the baby's timing and intensity, perhaps these early experiences of learning in the presence of a mother who enjoys attending to and talking

to the baby about his or her actions—the baby looking, grasping, and mouthing as the mother watches and comments—could be precursors to the baby's later development of not only the capacity to "be alone in the presence of another," but much later, the capacity to experience working or learning by oneself without feeling lonesome, empty, and anxious—or alternatively, disconnecting, abandoning, and avoidant of others in order to have the space for personal work.

One can see in these instances a mother's ability either to support or to thwart the baby's sense of security in engaging in intellectual life and exploration of his or her environment, *even before the baby is mobile*. Some of the mothers in the sample were able to make these kinds of reflective observations of the baby's actions. A few were able to reflect on the baby's emotional and physical states, as well. Others could not tolerate the baby's attention diverted from them, even for a few moments, responding instead with their own distress.

"Being together with the baby in the baby's experience" was outside of the relational repertoire of most of the mothers in this sample. Many of the mothers felt anxious, alienated and distressed when the babies attended to anything but them, and they did not seem to find pleasure in joining the baby in the baby's experience. These mothers could not tolerate normal self-regulatory behaviors such as looking away or the infant's developmentally appropriate interest in his or her own clothing or the surroundings. This mode of relating, "being together in the other's experience," demands some degree of reflective functioning in that it requires at minimum a conceptualization of the baby as someone who has intentions and acts upon the world in relation to these intentions. The degree of reflective functioning evidenced in this mode of interacting can vary in that it

can be done at a purely behavioral level—as described in the visual referencing examples above—or at a level involving great richness in describing the baby's intentions, preferences, and affective and sensory experiences, as well as the communication of the parent's internal responses to the baby. When this style of interacting with the baby was evidenced at all, the mothers talked to the babies about what they were doing rather than what they were feeling, as described above (e.g., "Are you touching your toes?").

Another example of a pre-reflective stance is seen when a mother is able to formulate a question about the baby's internal state, but fails to move beyond this point of curiosity to generate some ideas for herself and the baby about what the baby is experiencing. During the face-to-face interactions, many of the mothers asked the babies, "What's the matter?" but offered no suggestion about what might be the problem. Similarly they would ask, "What are you looking at?" or "What are you doing?" without venturing a hypothesis. At that point, neither mother nor baby could provide an answer.

The question itself seems important in that it signals to the baby the beginning of a self-reflective stance—the baby is prompted by the question to direct attention towards himself or herself and to observe. However, standing alone, the question is insufficient. For this activity to have affect-regulating potential for the baby, the caregiver would need to continue to talk to the baby about what is happening, offering viable suggestions in an emotionally empathic tone of voice, with marked mirroring of the affect (e.g., Awww, what's the matter? Did something happen? Is that seat getting uncomfortable for you?") (Fonagy et al., 2002). Alternatively, for this activity to have greater learning potential (as opposed to the goal of affect regulation) for the baby, the parent would need to scaffold the baby's activities with further elaboration or explanation of the baby's experience (i.e.,

"What are you doing? You're holding the seat strap? Oh, you're chewing it. Does that feel good on your gums? Oo, it's tough and chewy.").

The instances when a mother asks a question regarding the baby's state without generating a hypothesis are examples of a pre-reflective maternal stance that might demonstrate slightly more awareness of the baby as a person who has a subjective experience. In these cases you can see how the mother is aware of something happening within the baby. Her question suggests an orientation towards and curiosity about the baby's intentions or experience, but in that moment she is limited in her mentalizing capacity in such a way that she cannot generate any thoughts about what is happening in the mind of the baby. This may be due to limits on her range of reflective capacities or due to her own emotional experiences that are making it hard to think about what might be happening inside the baby's mind. For some, at the point when the mother's mind is opening towards the baby's mind, processes of projection take over, and rather than reflecting back to the baby an accurate understanding of the baby's states, the mother reflects a distorted view of the baby that does not match the baby's internal states (i.e., "You don't want to play with Mommy?", "Why are you being so mean?"). Here then, projection precludes the pre-reflective stance of curiosity about the baby's mind. As a result, rather than finding an aspect of himself reflected his mother's face, the baby discovers distorted affective expressions that threaten his sense of self (Fonagy et al., 2002).

In this sample, this projective phenomenon was particularly common when the babies were looking away from the mothers, when they became distressed by the mothers' actions, or when the babies did not comply with the mothers' commands. At

these points, the mother's negative affective states—sometimes painful rejection, shame or rage—so flood her consciousness, the baby merely becomes a repository for a complementary force to the mother's own distress (i.e. rationalization such as, "I feel so upset; therefore, you must be trying to upset me."). For the mother, who the baby is in that moment becomes based on how the baby "makes" the mother feel. This type of projective phenomenon is an example of Fonagy and his colleague's (2002) psychic equivalence mode of functioning when subjective internal experience is believed to be the only truth in objective, external reality (Susan Robertson, personal communication).

In addition to the expression of curiosity about the baby's state, vocal rhythm matching (Beebe & Lachmann, 2002) and marked affective mirroring with the baby are often viewed as components of reflective functioning (Fonagy et al., 2002). Some of the mothers demonstrated aspects of these activities without evidencing a full reflective capacity that would help regulate the baby. Sometimes the mothers demonstrated a moment of vocal mirroring with appropriate affect attunement (Stern, 1985), without a verbal label for the experience. For example, a baby sneezes, and the mother says, "Oo!" or a baby begins to fuss and the mother says with feeling, "Awww," without further elaboration. In contrast, there were instances when a mother verbally reflected back to the baby her understanding of the baby's states, "You're tired?" but she made these statements without any empathic feeling in her voice. These are maybe examples of 'feeling without reflective thinking' and 'thinking without empathic feeling' rather than evidence of reflective functioning proper, in that these examples do not meet criteria for Target's description of mentalization as "thinking about feeling" and "feeling about

thinking." As such, these interactions may not have been adequate to provide regulation for the baby.

Given the pre-reflective level of mentalization demonstrated in many of the face-to-face interactions, it is noteworthy that none of the mothers received AMBIANCE scores in the lowest end of the scale, representing optimal affective communication. This was due in part to their style of interacting with the babies. As mentioned above, many of the interactions were one sided, with the mother as the active party doing things to the baby or for the baby's entertainment to elicit an emotional response, using games and songs rather than using oneself in talking with the baby or in participating in the baby's activity during the interactions. Examples included playing peek-a-boo or tickling without adequately waiting for or registering the infant's response, or singing a song for the baby to distract the baby from his own distress. Very few of the mothers engaged the baby by simply being with the baby in the baby's experience, as would be indicative of an AMBIANCE score of one or two. As described above, this is a particular way of interacting with a baby in which the parent is fully absorbed in the experience of the baby, watches his or her actions and reactions, helps when appropriate, and talks to the baby about what s/he is doing and feeling—during which the parent experiences pleasure in immersing him- or herself in the baby's experience and communicates this pleasure. It seems that individuals vary in their familiarity with and the degree of pleasure invested in this mode of relating.

A mentalizing stance provides a stabilizing keel—enabling a parent to monitor the course of the interaction and make adjustments accordingly. Should a parent have relatively healthy object relations, the absence of dissociated states, an average level of

everyday stressors, and a defensive style that provides good affect regulation with access to a full range of emotions, affective communication between that parent and baby could be quite good even without a high level of reflective capacity. In contrast, a parent with a more troubled history, who presents with hostile/helpless object representations, dissociated states of fear or disavowed anger, a defensive style that involves the constriction of information or emotional experiences from conscious awareness and impairments in reflective functioning is at high risk for disruptions in affective communication. Without a mentalizing stance during moments of the infant's distress, this parent is strongly pulled to control the interaction in a such a way as to limit his or her own frightening dysregulation through whatever means were in her repertoire of interaction styles; unchecked by an ability to step back and think about the feelings experienced and the related behavior, projection onto the baby and defensive needs would likely predominate over an orientation towards the baby's feelings, needs and intentions. Furthermore, this parent is likely left without the means to make sense of and repair the misattunement. The risk for cycles of projection, rejection, and mutual coercion are high (Fearon et al., 2006). The question of how much mentalization is enough or whether pre-reflective capacities are enough would be in part dependent on how loaded a parent's developmental history and current life circumstances were in terms of relational trauma and stressors.

Case Examples

Let us now examine two cases from the sample of mothers in the intervention group. In order to make connections between each mother's reflective capacities and

states of mind during pregnancy and later affective communication patterns with the baby, an attempt will be made to take into account each mother's profile along the following dimensions: the level reflective functioning, representations of object relations including the representation of the relationship with the baby, representations of their own developing parental identity, defensive styles, and the level of integration versus dissociation of affect and self-states.

Although the Pregnancy Interview is not designed to assess for hostile/helpless states of mind, signs in the interviews that may be suggestive of these states of mind will be noted. These include narrative indications of the hostile subtype (Lyons-Ruth et al., 2005) such as responses in which at least one attachment figure is described in globally negative terms; there is evidence that the interviewee identifies with this hostile or devalued attachment figure; descriptions of difficult or traumatic childhood events in a frank, "tough," "tell it like it is" tone; tendency to block out or constrict feelings of vulnerability through humor in the face of pain; laughter at ostensibly painful experiences (e.g., "dark humor" with entertainment or shock value); the discourse structure is concise; and there is evidence of "hot" devaluations of attachment figures, while expressions of anger are remarkably absent at other points in the interview. In addition, interview responses suggestive of the helpless subgroup include evidence of pervasive feelings of fearfulness and helplessness in relation to a variety of unrelated and non-traumatic events; identification with a victimized attachment figure; some denial of vulnerability; globally negative self-representations; greater preoccupation with unsuccessful efforts to make sense of painful attachment relationships; a passive and/or tangential structure to the discourse; and intermittent passages of dismissing features such as devaluation or

minimization of vulnerability, and seemingly autonomous features such as frank descriptions of negative experiences in early childhood (Lyons Ruth et al., 2005).

For each case, the data from the Pregnancy Interview will be presented, and then the face-to-face interactions will be analyzed. In both of the cases presented below, the affective communication in the face-to-face interactions was rated as being highly disrupted with few or no ameliorating behaviors (a score of 7 on the AMBIANCE scale), but the ratings of reflective functioning on the interviews differed. In the first dyad presented, Julia and Nina, the mother Julia received a reflective functioning rating of "3 - Questionable or Low RF." In the second dyad presented, Michelle and Evonne, Michelle was among two mothers in the sample to receive a reflective functioning score of "5 – Definite or Ordinary RF." How these varying levels of reflective functioning were manifested in the face-to-face interactions will be examined in each dyad.

Julia and Nina

Our first mother-baby dyad, Julia and Nina, presented in the face-to-face interactions with highly disrupted affective communication patterns with few ameliorating behaviors, falling within the Intrusive/Self-Referential subtype. During pregnancy, Julia's reflective functioning was rated in the "Low or Questionnable" range, with some mention of affect states. What is most striking about Julia's way of interacting with her baby is the intensity and desperation in her need to capture Nina's gaze and attention, and the depressed sadness and anger that results when she fails to keep Nina focused on her all the time, as would be impossible. In terms of reflective functioning, what is interesting about this dyad is that Julia uses her limited reflective functioning in

fleeting moments as a means to have her own needs for the baby's attention met, rather than as a means to help regulate Nina or to support her interactions. For the baby's part, Nina presents with an easy-going temperament, and despite some gaze avoidance with her mother, she does try several times to meet her mother in her repeated attempts to engage the baby.

Julia was an 18-year-old mother of Puerto Rican descent. Nina was the product of a full-term pregnancy. There were no complications with pregnancy, labor or delivery, and there were no major medical problems for either Julia or Nina in the early months. However, the home-visiting nurse noted that Julia did not go out of the home with the baby during the first four months, and Julia was very angry and depressed during this period in Nina's life. Nina was 24 weeks old at the time of the recording of the face-to-face interaction. During Julia's last trimester of pregnancy, she moved to a new home, "a bigger place, with a bigger room for the baby." She planned to raise the baby with her boyfriend who was not the biological father; they had started dating during her pregnancy. There was a rupture in the relationship with the father of the baby, and he was no longer in contact with the family.

In her Pregnancy Interview, Julia's reflective functioning was rated as being "Low or Questionnable." She used a few words for emotions including "happy," "excited," and "worried," but mostly answered the questions using concrete descriptions of physical experiences or people's actions. At times, she could not generate any hypotheses about the mental states underlying other people's behavior. For example, she did not have any idea why the father of the baby left the relationship. When asked about his response to learning of the pregnancy, she said, "Um, he was excited at first, and then

we had problems, and we kept having problems, so things didn't work out and he took off." When asked why this happened, she responded, "I don't know. To be honest, I don't know why he reacted that way." Similarly, she did not explicitly acknowledge any ways that her pregnancy had affected her relationship with her current boyfriend positively or negatively. When asked about this, she said, "Umm…relationship hasn't been affected, you know. Well, he knew what he was getting into when he decided to have relationship with me. I let him know everything that went on. Well, now we are just happy and waiting for the baby to come. We have each other, happy that we are having a baby together, having a family. He does get on my nerves sometimes, but that is normal."

Her level of reflective functioning seemed a little more complicated when talking about her mother in that Julia was able to recognize her mother's intentions as separate from her subjective experiences of her mother's behavior. However, Julia's use of reflective functioning here seemed to function defensively as a way to protect her mother from her own anger towards her. The response begins in descriptions of their behavior during arguments, and is even dismissive of a mentalizing stance when she says it is "just pregnancy." However, at the end Julia makes this distinction between her mother's intention to try "to help out" and her own experience of having her role as the actual mother of the baby undermined. When asked how her relationship with her mother has changed, Julia responded as follows:

> "Very umm, I don't know the words, very, not arguing a lot, but we just, I don't know, I guess it's just pregnancy. I've always got something to say about something, and she has to say, I don't know. We are not always arguing, but we are always going at it, because she thinks she knows better than me. She knows what's best, better for the baby. I'm just like, "Okay." So I guess sometimes she thinks she's better, she knows how to do things better. I let her know I can handle

> it. She keeps insisting. It's fine other than that. We don't hate each other, we talk to each other. Sometimes she gets in the middle of things she doesn't have to get in the middle of.
>
> [Would you say this is different from what it was like before you got pregnant?] Yeah, 'cause, you know, we never argued. We were fine, but now the baby's here, well not here, but coming soon, you know, she wants, I guess, she wants to not interfere, but she's just trying to help out. She just gets too much into it, and you know, I have to let her know I'm the mother here, you know? Let me handle this…Well, I'm going to be the mother."

In this last excerpt, Julia expressed anger at her mother for being intrusive and unsupportive of Julia's developing competency as a parent. She felt that her mother repeatedly asserted her own superiority of knowledge over Julia's in regard to the baby. Her use of reflective functioning here reveals a tendency toward role-reversal with her mother. Julia was unable to maintain her stance concerning her anger towards her mother and her perception that her mother had limitations in understanding her needs at this sensitive time as she entered parenthood. Instead, Julia took on the role of caretaker using her capacity for reflective functioning to reinterpret her experience to include her mother's need to "help her," despite her mother's intrusiveness. This way Julia protected the relationship from her own aggression and maintained some benevolent representations of her mother. Perhaps this allowed her to sustain a feeling of connection to her mother, despite the rupturing effect of her anger in remembering their disputes. (Recall her self-reassuring comment, "We don't hate each other. We talk to each other.")

In terms of her representations of object relations in attachment relationships, such as with her romantic partners, there is a theme that others can "automatically" abandon her. Rather than attributing this behavior to some internal motivation or feeling, Julia viewed this behavior as a characteristic or fact about people, particularly men (i.e., it's the way people are; it's what they do). About the father of the baby leaving, Julia

said, “Well, I wasn’t surprised because I heard that guys do that automatically, so I wasn’t shocked or surprised whether he took off or not, because you know. No, I wasn’t surprised or anything like that. I just let him go. I don’t care.” Earlier in the interview she said about the father of the baby, “Well, I don’t really have contact with the guy, but you know, I have someone there to help me. You know, that takes his place.” People may be seen as interchangeable then, as long as they fulfill the roles needed. Consequently, she had a defensive style of trying to be one step ahead in anticipating rejection and abandonment (e.g., “I wasn’t shocked or surprised.”), and of dismissing or disavowing attachment needs and vulnerable feelings (e.g., “I don’t care.”). Similarly, talking about who will be available to help, Julia began to talk about friends, but then dismissed her desire for their support, “I have friends that you know, cannot help me, help me, but you know, they are around, so I don’t want nothing.”

Furthermore, she had the expectation that when she reached out to others with her attachment needs they would become angry and argumentative. The reality of this experience of attachment relationships is underscored by her statement that her boyfriend was the only one she could talk to when she was upset, and before him there was no one. When asked about what was helpful in speaking to her boyfriend, Julia said, “He will help me. He won’t just start another argument over what I’m saying. You know, that makes it better. I can speak to him and he will help me out.” The implication here is that he will help, instead of exacerbating the problem by arguing with her. This idea of others making the problem worse when she needs help is also seen in her description of her mother as someone who yells and screams in response to difficult situations.

Her representation of her relationship with the baby was primarily based on her concrete, physical experiences of the baby's movements. She defined her relationship with the baby in terms of how her baby responded to her actions, and described the experience in terms of her interest in the "funny" quality to the physical sensations of the baby's responsive movements. She said the following when asked whether she felt she has a relationship to the baby, "Yeah, kind of, I mean not fully. Like I can talk to her and she responds, but I say little things to her, whatever, and she like move or she does something that I like. I will say something to her and she sometimes, she gets out of the way. Sometimes she doesn't." When asked for two words to describe her relationship with the baby, Julia said, "Two words, two words, funny and, two words, funny 'cause, it's funny. Nobody thinks…just the way I speak to her, you know? Or it could even be a him, the way I speak to the baby…You know, the reaction, no, not the reaction, but just the way it moves sometimes. Sometimes you can feel it inside you, like the way—[The connection?] Yeah, you feel something inside you." It does not seem that Julia necessarily felt a clear emotional connection with the baby that she could articulate. It was hard for her to generate an abstract feeling between them. She relied on the concrete reality of the physical sensations of the baby's behaviors for evidence of her connection to the baby.

Furthermore, the style of role-reversal with her mother may also be manifested in a subtle way in her representations of the way she provided care for the baby. She described caring for the baby in the womb by talking to her so that she would "know" her voice. The interviewer interpreted this as using her voice to provide comfort to the baby, but it is not clear that this was Julia's meaning. It is possible that this is an example of

role-reversal with the baby in that Julia may actually have meant just what she said in concrete terms—"To hear my voice"—her need for the baby to recognize and hear *her* voice. When asked what she gives the baby now during pregnancy, Julia replied, "Um, just to hear my voice and know my voice. [Okay, your presence?] Yeah, let her know I am here and have a …to my voice." Perhaps related to some ambivalence about her role in providing care for the baby, her language then became defensively distancing and vague in the antecedents of the pronouns she used when she talked about how she felt in providing for the baby's needs, "Um, I feel happy that I can. I got somebody there to help out, that I can do things for them that they can't do for themselves. You know, I can do so many things. They going to need my help. The baby is going to need my help, so I feel happy that I am able to do things like that."

There is a subtle mention of having a feeling of helplessness and loss of control that may be trauma-related. This is seen in her description of telling her family about this pregnancy that was so shocking to them, because she doesn't "…let things like that happen." Doing things differently while pregnant was seen as difficult and forced upon her. About this Julia said, "…but you can get by, I guess you have to." Furthermore, there was a slip, indicating some confusion of roles when she discussed her desire not to use her father's style of abusive corporal punishment when she disciplined her future child. This may indicate some inability to contain aggressive affects in relation to the abuse, and a disrupted state that may be related to having been helpless against her father's beatings. Julia said, "I'm, mean, yes, I'm not going to beat my kids whatever, but if my kids do need a spanking or a slap on the butt, *I, they*, will get it, but I am never

going to beat the kids. Not to the point of belts and sticks and hangers and all that, no." (emphasis in italics added)

In terms of her representation of the baby, her fantasy of what kind of person her baby will be like indicates a self-representation that is poorly integrated in terms of her "bad" states of rage and her quieter, "down-low" self-experiences. This description was incoherent; it is hard to know what she was really talking about as she projected these polarized self-images onto her fantasy of the future baby. As she tried to imagine what her daughter would be like in the future, Julia said:

> "Umm, I can see her very smart. I don't know, really smart. Umm, quiet, but not so quiet, like more, more of a down-low person. Maybe, but at times she could be loud when she wants. Just smart, going to school all of the time. Might have a little problem with her. [Why?] Well, because, I'm like that, because growing up I was bad. Of course, every kid's bad. I went to school, I did good in school. I was smart. I am quiet, but at the same time I can be very loud. I can be very, very loud. Umm, more of a down-low person, I am, you know? I am always in my house. I don't go nowhere, I don't go party. I don't do none of that."

In her representation of her parental self, there are additional indications that she may have had trouble containing her aggressive and angry feelings, particularly toward the baby. She may have disavowed how angry she was about having this unwanted pregnancy, the kind of event that she doesn't "let happen," fathered by a person she did not want to impregnate her. As she talked about this she said, "I didn't want to be pregnant, not by the person I'm pregnant by, so." At points in the interview she could express mixed feelings of not only excitement in looking forward to seeing what the baby "looks like," and " how she's going to react," but also worry about being able to care for the baby so that "everything will turn out fine." At other times, she idealized the anticipation of the baby's arrival as simply a "happy" and "exciting" time. This is in counterpoint to her worries about her rageful behavior causing a miscarriage. In

describing this concern Julia said, “Well, no, because I was told for miscarriage, that miscarriage happens a lot in the beginning of pregnancy when you are stressed out and yell a lot and you know when you have high blood pressure and all that. So, I was going through a lot at the beginning of my pregnancy. I was yelling, I was arguing, I was stressing…I feared I was going to get a miscarriage. Now I talk to my boyfriend, because I have someone to talk to, before I was, umm, I don’t know, I was just out there yelling and screaming and ready to grab somebody and…that’s the way you feel. But now, when I am feeling frustrated, I’m angry, I just talk to him.” Despite her potential ambivalence and disavowed anger toward the baby, she is able to take up her parental role in planning some details regarding breast-feeding, work, and school.

It is likely that Julia’s development of a coherent and positive representation of her parental identity is further complicated by her almost completely negative representations of her mother and father’s parenting styles. She completely rejected them as models for her own parenting, wanting to be different than both of them. She recognized no positive qualities that she might wish to emulate in either parent, and she was unable to draw any connection between her negative experiences of them and what might be difficult for her in the parenting of her own child. Their parenting styles were completely disavowed. Her mother was described as a woman who was overwhelmed by emotion, “yelling” and “screaming” when something went wrong, rather than maintaining her parental role. In talking about how she will be different from her mother, Julia said, “I will be more patient. I’ll be more patient and more calm about things. Instead of just yelling when something goes wrong or screaming when you don’t like something that’s going down. You know, I’ll be different.”

As she described how she would parent differently from her father, Julia indirectly described her father as someone who beat her. She said, "I will be different from my father. I won't beat my kids, I'll tell you that. I mean, yes, I'm not going to beat my kids, whatever, but if my kids do need a spanking or a slap on the butt, I, they, will get it, but I am never going to beat the kids, not to the point of belts and sticks, and hangers, and all that, no. That's one of the ways I won't be like my father." This broad disavowal of any positive aspects of either parent's care leaves Julia with few options for drawing upon positive representations of parenting she received from either her mother or father, as she develops her own parental identity. She also denied any worries of what she might do with her daughter in relation to these experiences of her parents, so that she was unaware of how these experiences had become a part of her.

In Julia's face-to-face interaction with Nina at 24 weeks of age, the themes and patterns observed in her Pregnancy Interview manifest with her baby, particularly in the way Julia reverses her role with the baby, demanding that Nina meet her mother's needs for attention and recognition. Her defensive use of reflective functioning as a way to protect against aggression also emerges at the pre-reflective level. For Julia, the use of pre-reflective capacities becomes a strategy to obtain care from the baby and subdue her own anger, rather than as a means for regulating the baby's states. Julia's disavowed needs for care and attention surface in her unrelenting bids and demands for Nina's undivided attention. When she fails to receive this attention, her sadness, pain, and sense of rejection is palpable. In contrast, the few moments when she gains Nina's visual attention enliven her and fill her with relief.

Her tendency to anticipate rejection predominates in the interaction, as Julia interprets Nina's age-appropriate behaviors of looking away or playing with objects as evidence of her rejection. Julia becomes angry at Nina and she has tremendous difficulty regulating these strong feelings, although to her credit she does not become physically intrusive and aggressive. She then tries to appeal to Nina in an inauthentic, positive tone of voice, as she thinks about Nina's experience enough to suggest some concern for how Nina might be feeling, tilting her head to the side in a supplicating body gesture. This use of pre-reflective capacities functions in the service of having Julia's own needs met by the baby, rather than in the service of regulating the baby. She does not know how to enter into the baby's perspective for a sense of togetherness or how to sustain an emotional connection to the baby without behavioral evidence of that connection from the baby, so she desperately demands Nina's attention. When Nina does engage with her, Julia tries to control the interaction so that Nina will comply with her directions, according to Julia's timing and rhythm rather than baby's.

These patterns begin immediately in the first few seconds of the face-to-face interaction. Julia demands Nina's attention saying, "Hello, look, I'm talking to you, hey!" She touches Nina's hands a few times, and then sits there for a few seconds with her hand open, out-stretched toward Nina for some response. She then has a sad and hurt expression on her face. She switches strategies and tries to smile at Nina, engaging her pre-reflective capacities as she appeals to the baby, "What do you want? Your shoes? Hey." When this fails to hold Nina's attention, Julia takes on a blank and distant facial expression as she continues to call for the baby's attention, "Tutti, Tutti."

For a moment, Nina looks into her mother's eyes and Julia's face transforms into an expression of joy and relief, revived by the baby's gaze. Smiling widely she says, "I's talkin' to you!" You can almost imagine Julia as the baby, trying desperately to gain and hold her mother's attention. Nina looks away again, and Julia seems to try to collect herself and regroup by shifting the baby up in her seat. She calls the baby's name twice. When this fails to draw Nina's attention, Julia's voice shifts into a tone expressing surprise and shock with a facial expression conveying angry disbelief, as she calls the baby's name. Then with clear anger, Julia says, "Nina! I'm talking to you. What's going on here? Hey!" She then smiles through her distress, laughing during her pain and anger to let off steam.

The baby reaches for her shoes. Julia's face flickers with an expression of anger as though to say, "I can't believe this!" She says to the baby, "What? No! You can't play with your shoes," with an offended and strongly disapproving tone. Julia continues to call out for the baby's attention, "Hey! Hey! Heeey! Look!" Julia then shifts into an inauthentic, positive, sing-songy tone of voice, expressing mixed signals to the baby. She smiles singing, "You can't play with your shoes! No, you caaan't. You can't play with them." When this fails again to draw the baby's attention, Julia looks hurt and angry again, and returns to repeating the baby's name.

Desperate to attract some form of the baby's attention to herself, Julia tries to get the baby to play with her fingers. This is successful for a little while. She wiggles her fingers in front of the baby and says, "Heeey, look at my fingers. Look at my fingers." She looks so relieved when the baby is at least looking at some part of her. She says, "There we go-oh. There we go." Then it is almost as though she cannot help but feel

that there is always some part of her that is being overlooked or rejected. The baby holds onto the thumb on her right hand and gazes at it. Rather than staying with this for a moment, Julia says to Nina, "Hey, hey, look at my other fingers. Look at my other fingers!" wiggling the fingers on her other hand—the ones being neglected. She asks the baby to grab each of her fingers in turn, according to Julia's direction and timing. She wiggles the target finger, "Grab this one…now this one…now this one…" As Nina fails to keep up with her mother's pace and directions, the baby's attention begins to slip away, and Julia becomes increasingly anxious. She then looks hurt, sad, and rejected again. She says, "You're not going to pay no mind to me? Huh? Sp, sp." She is becoming disorganized as her voice shoots up into a tense, high-pitched, and squeaky tone as she repeats, "Tutti, Tutti, Tutti." Julia smiles in a supplicating and appeasing way as she wiggles her fingers, repeating again in a high, squeaky voice, "Tutti, Tutti, Tutti, Tutti." The baby arches in discomfort, and Julia closes her fingers with a defeated look on her face. She momentarily gives up and becomes sad. Julia looks at the camera with an expression that is hard to describe. It is unclear what she feels in that moment whether it might be self-consciousness awareness of the viewer, shame, frustrated defeat about what is expected, or bewilderment.

Then Julia regroups and tries to re-connect with the baby, using her pre-reflective capacities again as a means to get the baby to pay attention to her. She thinks about what Nina might be experiencing and asks her about it, but the mixed affect in her voice fails to convey comfort and soothing. She asks Nina, "You're getting uncomfortable?" but does not say this in an authentically empathic tone, and as such this statement fails to have a regulating effect for the baby. Julia then repeats her high, squeaky voice, and

smiles saying, “Tutti, Tutti, Tutti.” The baby looks at her for a moment. Relieved with being found again Julia smiles brightly, but her tone carries a warning of threat to the baby, “Hi baby! Hi! Pay attention to me!” The inauthentic, positive tone, conveys a mixed message to the baby to draw closer to her mother on the one hand and to be wary on the other, as the underlying tone of threat and anger communicates the message, “Pay attention to me, or else.”

Michelle and Evonne

Michelle was a 20-year-old African American mother. Her daughter, Evonne, was 25 weeks old at the time of the face-to-face interaction. Evonne was the product of a full-term pregnancy, and there were no complications or major medical problems for either mother or baby during pregnancy, labor, delivery, or Evonne’s early months. During pregnancy Michelle was living with her mother and cousin, with frequent visits from her sister and her children. She planned to move out into a place with the father of the baby.

Michelle was rated as demonstrating one of the highest levels of reflective functioning in our sample during the Pregnancy Interview with “Definite or Ordinary RF.” Surprisingly, this capacity for reflective functioning was not sufficient to protect against disrupted affective communication patterns. Michelle’s interactions with her baby fell in the highly disrupted range with few ameliorating behaviors. Unlike most of the mothers in this sample, she met criteria for Subtype II-Helpless/Fearful on the AMBIANCE scale (as opposed to Subtype I-Intrusive/Self-Referential). Rather than presenting as intrusive and over-stimulating, she was at times distancing and withholding

with her baby. This subtype was very rare in this sample, and has been found by Lyons Ruth and her colleagues (2002) to be more common in groups not considered to be at-risk.

As mentioned above, Michelle's capacity for reflective functioning was clearly demonstrated on her Pregnancy Interview. Not only was she able to acknowledge different emotions, but she also demonstrated a capacity to understand how someone else's emotions affected the way she felt, as well as how her feelings changed over time. For example, in talking about how she and her boyfriend reacted to learning of the pregnancy she said the following:

> "Well, it was surprising because I was upset a little bit that I couldn't find out sooner, like a month sooner, 'cause I just bought a two-door car (laughs), and so we had just bought the car, and I thought, 'Okay, what are we going to do? Where are we going to stay?' And all these questions started coming in, just like bad timing! Really bad timing! You know, if it was a little bit sooner. [And do you remember D's reaction when he found out?] Just happy. All around, just extra, extra happy. Just trying not to smile, just looking at me, with that look in his eye (laughs). [Describe the moment.] I just really wanted to push him. I just didn't feel quite the same way that he felt, so him being so happy made me more unhappy, because I wanted to feel happy, but I couldn't feel happy at that moment. And then he was very, very happy. And he had that look, and he's looking at me all weird, and he's just smiling uncontrollable, and I'm just not."

In terms of Michelle's representations of object relations in attachment relationships, she described having very limited support in terms of who she could talk to when she was upset. She relied on her boyfriend, Daryl, but while he was described as reassuring and supportive of her at times, she also described him as someone who at other times stopped listening, leaving her needing so much more. When asked about who she went to for support she said about Daryl, "Usually I just tell him about my issues. He's a good ear most of the time, but I think sometimes he doesn't want to hear all of it, because sometimes it's about him. So I don't think he always wants to hear those parts all of the

time. But usually he's the best one and sometimes I just talk to the baby, and I'll talk to myself, and other times I don't talk, I just cry, I (laughs)." Her boyfriend was the only option available to her, other than the baby and crying alone.

She was able to make use of Daryl's support and reassurance at times. She described how he was able to reassure her about their future with the baby and her ability to be a good mother. She said, "He actually told me, he said, 'You know what? I think you're going to be a good mother.' And I just said, 'You really think so?' And he said, 'Yeah.' And I was like, it just got me, and I felt much better about it. That kind of boosted my confidence level." She also relied on him to think things through about the future in a way that allayed her anxieties. She went on to say about him, "So talking to him is always reassuring. I don't know if he's just doing it for my benefit or if he has his own doubts, but he's very good at just saying, oh, you know, things are going to be okay, and this is going to happen. And he'll say if we don't have day care, my parents will watch the baby, and if we don't have this, don't worry about it. And we'll get this and we'll that, and so on and so forth. And even if he's just making it up, it makes me feel better."

However, she sometimes experienced his support as intermittent rather than consistent. In contrast to the supportive, reassuring image of him described above, she also talked about Daryl as someone who just "shuts off" and "doesn't listen." In talking about how she did not want her baby to be like this, Michelle said, "I don't want her to be hardheaded like her father. He doesn't listen. Sometimes I don't think his ears work all the time. Most of the time, but then sometimes they just shut off, I guess. They go into overload or something. They just don't work."

There are also indications of hostile relationships and rifts between family members. She said that she wanted to move away from all the "crazy people" in her house. She later described a conversation with her sister in which her sister is surprised that Michelle did not tell her about the pregnancy. Michelle talks about what she said to her sister, "It was because I really don't like you (laughs)…And I was like, 'I don't like you that's why I didn't tell you. You're not my friend, you know.' Kinda like, 'Why are you even talking to me?' Just a little animosity." She also described an altercation in which her sister assaulted her. Describing the fight, she said, "Yeah, but I didn't really do anything. I just kind of sat there because I was too sick. I just kind of just balled up and got beat up, but um, it was...[So she beat you up?] Kind of, yeah, but she didn't really beat me up, because she can't fight. It's kind of funny that she tried. But I couldn't really do much of anything because I was sick that morning."

Descriptions of Michelle's mother reflect a third kind of experience in attachment relationships in which the other is intrusively anxious. She described her mother's tendency to annoy her by worrying and fussing over what could happen to Michelle. She viewed her daughter as fragile given her pregnancy. Michelle went on later to describe how her mother was irritating in her failure to acknowledge Michelle's competence. Her mother explained how to do things step-by-step even when Michelle already knew what to do. About her mother, Michelle said the following:

> "I guess she's a little bit more, she's more annoying to me (laughs), because she's so, did you eat, did you do this, did you do that? I say, 'Leave me alone.' She just gets under my skin, but we haven't gotten closer, we haven't gotten closer. We're kind of the same. [More examples?] That was really it. Like one day, I wasn't feeling that good, and she's a little bit more touchy. I guess it's almost like I'm made out of the glass now, so she's little bit more worried. It's kind of back to me being her little girl again. She has to make sure I'm being taken care of. I wasn't feeling well, and I told her later on when she came home, and she

> was like, 'Don't be in the house by yourself, and not tell someone that you're not feeling good, and you're having a baby, and something could happen, and you're in here by yourself, and nobody will ever know, and…and I'm like okay, you know? Breath, you know? It'll be okay. So she's, I guess from her point it might have changed, but for me she's just more annoying."

Furthermore, Michelle had a defensive style of being dismissing of attachment related affects. She had a kind of dark humor. She frequently laughed about difficult topics and talked about loving feelings in a joking and dismissing way. One example is how she described her boyfriend's expression of joy about the baby as "goofy" and "weird," although she also seemed to appreciate it. She also dismissed her own vulnerable needs and feelings. After she talked about crying by herself as one thing she did when she was upset and in need of support, Michelle went on to attribute it to hormones and how she had been a big "cry baby." She wished she could stop being a cry baby after the pregnancy. As described above, she even downplayed the impact of her sister's violence on her and how afraid she must have felt, although she later acknowledges her fear that the attack may have cost her the pregnancy.

Given the quality of these attachment relationships, there are several themes that emerge suggesting strong internal conflicts in her stance towards relationships. One involves her ambivalence towards her attachment needs. On the one hand, she wished that she could be content without anyone. For example, she told a story where she described herself as a child who was perfectly content to just play by herself, rather than needing to play with other children or to be "entertained"; she holds this example up as a model for what she wished for herself and for her baby. On the other hand, she felt afraid of abandonment, with needs that were greater than the other was willing to give. She then longed for the other person to be there for her so much more. This resulted in a

push-and-pull quality to her attachments, where she felt as though she "can't stand" the other, and simultaneously can't bear to be without them.

This conflict was expressed in her relationship with her boyfriend to whom she explained her mixed feelings. She seemed to experience her attachment to him as a struggle between pushing away and pulling closer, with a fear both of abandonment and of her intense needs. This "pushing away" or distancing can also be seen in how she almost always referred to Daryl as the baby's father in the interview, as opposed to her boyfriend, which would identify him as someone connected in a relationship directly to her. This dynamic of "pushing away," being afraid of losing the other, and also feeling intense need for more contact, can be observed in her description of how the pregnancy had affected her relationship with Daryl. She described the following:

> "It's been stressed (laughs). It's really been stressed, because I'm just so emotional. And I say, 'You make me so sick, but I still always want to be around you.' I said, 'It's like I can't stand you, but I can't help, but want to be around you twenty-four-seven. You see what hormones do to you? They make me just like you!' It's like he's not even doing anything, it's just that little things just push me over. He doesn't really understand. I'm trying to tell him, you know, I'm sorry, I can't help it. It's just that my body's taking over, and my mind is doing its own thing. And sometimes I just think things that aren't really there and it's just, you know.
>
> [Like what, for example?] Like you don't call me! I get so emotional when it comes to things like that, because you always hear the horror stories in the back of your head. It's like, oh, the guy leaves the girl when she's pregnant. It's not like I think he's going to do that. I really have no thought that that's going to happen, but then it's like, you didn't call, you didn't come by, and then it…And he's like, what am I going to do (laughs)? And then his new job where he gets out of work at 8:00, and he works every day except for Sunday.
>
> [So he's been working more since you've become pregnant?] Yes, he works all day. All day, every day but Sunday, pretty much. So it's like, okay, I know he needs time to do other things, but it's still back to this, so he's been stressed with that a little bit, but it really doesn't have anything to do with the baby. [It's made you closer in some ways?] Yeah, I mean in the beginning he was definitely my biggest supporter. He made everything, made me feel a whole lot better about

> everything, about not having a place to stay, and things. So he's definitely a big supporter an A+ job, but still. [Then there are these moments of feeling you need more, or that you're not getting enough.] I'm like, oh! I need more. And he's like, I can't give any more right now.

Another theme that emerges again and again in the interview is her ambivalence with being passive versus active in relationships, the one in control who is the leader versus the one who sits back and helplessly takes orders. When she was the one who sat back, she experienced resentment that emerged from a feeling of having no choice or being forced. The phrase, "you have to" came up again and again in the interview. She described her boyfriend reassuring her by "stepping up" and "taking control," the implication being that she was not in that role in that moment. She said, "Because usually he's, well I was usually the optimistic one, but with the baby, he's just the one who's just stepped up and taken control, and has pretty determined that our future's going to be butterflies and cupcakes (laughs)." About her boyfriend helping with the baby, she said, "Of course, the baby's father. He has to, he has no choice, even if he didn't want to, but he does, which is nice, too." She also said that her boyfriend was telling her to get more exercise and she joked, "So, I have to because he told me to (laughs), which is fine if he pays for it (laughs)." She said in preparing for motherhood, "you kind of have no choice." The description of the time her sister beat her up might also be seen along this control-helplessness/active-passive conflict in that she described her sister beating her up and how she remembered just "balling up" and doing nothing. This last representation of her sister is one example of how her representations of being helpless and forced into a situation sometimes takes on a more malevolent tone where the other is seen as "bullying" or aggressive; the other instances appear in her fantasies about the baby, as will be seen below.

Michelle's descriptions of the pregnancy and also the baby were woven through with aspects of these two conflicts: the issue of control versus helplessness or victimization even, and then the ambivalence towards attachment relationships. The push-and-pull quality to her attachment style came up in her excitement for the baby, but also in her wish to push a "pause" button on the pregnancy. These feelings included the risk of rejection, and it was not clear whether Michelle was afraid of being the one rejecting the other or the one being rejected. The intensity of needs that arise and the wish not to have those needs also came up in her fantasies about the baby.

The pregnancy was described as an experience of losing control of her body to the intrusiveness of the baby. For example, discussing how she felt about making the changes in her life due to the pregnancy, Michelle said, "It's interesting. It's so interesting how my body's not even mine. It's just taken over, like I haven't had ankles for the past couple of days (laughs). It's like you know, she just comes and she takes over. I have no control over anything, and it's like, okay, I'm just here. Do what you want, I have no control over it."

Michelle's ambivalence over the attachment relationship to the baby is also suggested in the following excerpt where she talked about being "stuck" with the baby forever, and then worried a little that the *baby* might not want to be with her so long. She did not acknowledge it, but it seemed likely that she was the one who might have been unsure of how it would be to "stick" around that long with the baby. It may have been almost a relief to her to think that there was "no choice," as to feel less frightened by her desire to withdraw from the relationship or by her fear of being left.

> "It's definitely interesting in that aspect, too, you know, changing roles in life, preparing for things. You know, I was worried about me, now I'm worried about

> me and the baby. It's kind of, you know, a transitional point in life, preparing you for motherhood. You kind of have no choice. I mean, you sort of have a choice in terms of how well you prepare, but it's kind of nice. It's okay to change from just me to me and someone else, and to know that I'm going to be stuck with this person forever. It's kind of nice to know that, too. I just hope she likes me enough that she wants to stick around that long (laughs)."

Michelle's aggression towards the baby may have been unacknowledged and too frightening or guilt-ridden for her. Although she described some very joyful feelings in regard to thinking about the baby, she also talked about wishing she could put a "pause button on the baby," when she felt anxious about the future. She talked about the "bad timing" of this pregnancy. She then felt very guilty about the "horrible" feelings she had in the days following her discovery of the pregnancy, and described how she had worried that it might relate to a miscarriage because "karma comes back" and something "terrible might happen."

The descriptions of the baby did become more malevolent at times, with the baby represented as the active one and the mother as the passive victim. The baby was represented as a non-human entity, "like an alien spawn" who could control her actions and drain her from the inside. Although Michelle was capable of metaphor here, which might have been useful in her treatment, the feeling of the baby's intrusion and control may have been very real to her. When asked about whether she felt she had a relationship to the baby already, Michelle said the following about her relationship with the baby and then about the pregnancy:

> "Yes, I feel like I know her very nicely. She's a, She's bossy already, she's kind of pushy (laughs). If something's on here, she doesn't like it. She'll move it out of the way. She tries to move my ribs out of the way. She tries to move the seatbelt out of the way…She's territorial. That's what it is. This is her area, and she wants it the way she wants it. I say, she get's it from her father (laughs)."

> "So it's really been interesting, like someone tried to tell me before, you know, the baby's kind of like a parasite. You know people are, so the baby's a little parasite, and I said, 'No, more like an alien spawn trying to take over,' which is true. You have this thing that if you don't want to eat, it still wants to eat. It's going to suck the life out of you if you're not careful."

Michelle's ambivalence toward the pregnancy is also seen in how she described her baby as the "opposite" of herself, in "not-me" terms. As she talked more about it, she gradually tried to find some similarities that allowed her to like the baby more. She said, "Something's got to click that can make you like each other." This dynamic is seen in the two words she picked to describe the baby. She said that she and the baby were "opposites" in that the baby was "territorial," and that the baby liked to dance to music, which Michelle did not like to do. She then tried to find similarities in how she and the baby both liked to eat, and how similar to herself, the baby did not like to get stressed out or argue.

The "push-and-pull" quality to Michelle's attachments through which she experienced ambivalence about needing others versus being content alone was also expressed in her representation of the baby, as was her conflicts about being active or passive in relationships. She said that she hoped her baby would be "one of those kids who can play by themselves, to learn the value of herself. You don't always need to be around other people. And also I don't want her to be so much of a follower, and I don't always want her to be the leader, I want her to be able to do both, to know, okay, it's time to step up, and then it's also time to fall back and look." She went on to say:

> "Because that's what I want. I guess it's more like who I would like to be, or kind of some of the things that I felt that I was when I was growing up, that I was the type of kid who didn't need anyone to play with, I'd go play all day long, all night long by myself. I didn't need a single person to entertain me. Which was nice, I guess a little, you want kids to play with kids, that's nice too, but I was happy by

> myself, really content. So if she could have a little bit of that, that would be nice."

This also suggests some mixed feelings about providing the attention and care that the baby might need. She talked about appreciating the convenience of having the baby inside her, rather than having to begin the nighttime feedings and worrying about the baby's needs. She said, "Yeah, she kind of likes it in there, because I have the baby and I still have to do things right, but she's kind of self-sufficient in a certain way (laughs). You know, a self-sufficient baby is a nice baby."

As Michelle tried to develop her own parental identity, she was motivated to try to build a sense of confidence and to find an emotional anchor for her feelings about this baby coming. Sometimes she found this in her boyfriend's encouraging words. At other times, she tried to grasp this feeling of strength and confidence in her parenthood though the idea that she had "no choice," and she just had to do it, put her "game face on," and simply do it. There was one point in the interview when she idealized the experience of parenthood as she said, "I think I'm going to be happy the whole time." She also described the birth of the child as a moment when "all the emotions will come," and "everyone in the room will be happy." She was trying to locate this feeling of ultimate, unambivalent joy about the baby in herself.

However, she worried about her emotional capacities with the baby, expressing concern about staying calm and not losing her patience with the baby. In addition, she did not know whether she could trust her feelings about the pregnancy and her relationships during this time. She said, "It's just like I want my hormone level to return to normal, that I can realize if I'm being emotional or if this is really how I feel, because sometimes I'm having a hard time with that now. It's like I have to stop and think, am I

really feeling like this or is it just my hormones taking over. It's kinda hard to tell sometimes. I'd like that back, and I'd like to stop being a crybaby." Similarly, she worried about her difficulty "to be calm" during the pregnancy for the baby. She says, "I just fly off so quickly. I'm an unpleasant person (laughs)…That's the hard one, staying calm and not flying off." Similarly about her worries about meeting the emotional needs of the baby, Michelle said the following:

> "Oh, she's definitely going to need me to have some patience, because like I said, that's been hard lately. Um, just definitely a lot of patience, and time, definitely a lot of time that I will have to gladly give up, or at least have to give up. Again, calming down, I think she's still going to need that. For me not to get stressed and kind of read into that, I think. A nice calm environment will still be nice to have for her. [How will you feel taking care of those needs?] Yeah, those are the hard ones, I think. Changing diapers and feeding, I think those will be pretty routine. You know that's got to be done, the physical needs, but I feel that the more emotional, I think it's good for both of us to have those things."

As Michelle worked to develop her parental identity, the task was maybe made more difficult by the poor integration in her representations of her mother as an object of identification. She was presented on the one hand as a noisome worrier and on the other as a "nice" and hard-working mother who put her family first. In addition, her father was never mentioned or asked about in the interview. However, her grandmother and sister were noted as other mothers to whom she began to compare herself.

As discussed above, one representation of her mother involved a woman who fussed and worried over her daughter's fragility and the impending dangers that might befall her. She was also described as someone who undermined Michelle's sense of competence in the world in the way that she laid out step-by-step instructions for everything Michelle did from "making rice" onward. The other representation of her

mother was somewhat idealized as a self-sacrificing, hard-working provider. These representations were not well integrated. She described her mother:

> "Oh goodness. Well, my mother was, I actually think she did a good, so let me see. She was never the real mean one, she was always a nice person. Everyone always said, 'Oh, your mother's so nice. So, I'd love to be nice like her. And I'd love to cook like her, because I had meals growing up, and I'd like the baby to have meals growing up. She did cook for dinner. I'd like that, I'd like to have home-cooked meals. And um, yeah, I'd just like, her personality is very nice. She has a very calm demeanor about her most of the time. So she never was a big one to fuss a lot, and you know, she was always the one to understand that kids will be kids, which is good because a lot of people don't understand that. I mean, kids are not little grown-ups, they're kids trying to be grown-ups. So you know? You've got to let them do, they do what they gotta do…
>
> She did work a lot, so she did try a lot to make everything great for her family, which was nice. I'd like to have that too, where family was very important. You go to work not for the fancy car, you got to work to provide for your family, to make sure they're taken care of, I mean, she's given up a lot for us. I mean, she wouldn't buy clothes for herself. I mean, she sent us to private school off of making chump change from where she worked, and yet my sister and I both went to private school. And you know, she bought her house and all this stuff, so she put herself last, and we were first, which was something that I definitely would like to do; baby first, me after her.

Michelle described not really wanting to be different from her mother in any significant way, except that she wanted to be a little more firm. She felt that her mother was "so nice, sometimes it's easy to be a pushover." She felt she and her sister got away with things they shouldn't have. In contrast, she was co-parented by her grandmother who she described as having a "more stern hand" and taught them "respect really nicely." Little more is said about her. The most concerning description of a mother is found when Michelle completely disavows her sister's role as a mother as a point of reference for herself. She said, "No, my mother didn't really do anything evil that I wouldn't want to pass along. She was a good mother, so I can't even really think of anything else, that I would say, 'I don't want to do that.' I can say things about what my sister does that I

don't want to do. I can definitely say that I don't want to be a mother like my sister, definitely not. She is the, she's not the greatest, exactly. I don't want to be like her. I want to make sure they eat, and I want to make sure they wash, and I want to make sure they're taken care of." One wonders whether the comment about wanting to have the "stern hand" that she wished for from her mother might have been directed toward some "weakness" in her mother that resulted in a failure to protect Michelle from her sister.

For Michelle, pregnancy brought up so many strong, conflictual feelings—emotional storms that she wished would simply vanish with the end of pregnancy—artifacts of an existence as a "hormonal" "crybaby" that could be packed away with the maternity clothes. Reflected in her interview during pregnancy, these conflicts involved confusion about being active or passive, "nice" or "stern" as a parent. She was prone to vulnerability to rejection or abandonment and experienced intense, unmet needs in close relationships that she mostly dismissed.

In the face-to-face interaction between Michelle and her 25-week-old baby, Evonne, these conflicts persisted. There are moments of authentic pleasure in the baby and moments when Michelle is able to see the baby's perspective and intentions at a pre-reflective level. However, her conflicts about being forced to do things, the resentment that results from it, her difficulty with anger, and her desire to "sit back" in relation to the baby come to the fore. Her feelings are so strong that they overwhelm her capacity to use full reflective functioning during the interaction.

What is interesting about Michelle's use of pre-reflective capacities in the interaction is that at times she clearly demonstrates a cognitive understanding of Evonne's perspective; however, she lacks empathic feeling in her voice. She can see the

baby's discomfort and distress, but does not allow herself to be moved by it. This may be due to a lack of reflection about her own emotional state. Although she can think a little about what the baby is experiencing, she is unreflective in that moment about how angry and resentful she feels. She also seems unaware of how her feeling states are influencing her behavior and her emotional experiences of the baby. There may also be some projection onto the baby, as Michelle may feel that the baby is the one responsible for putting her in her current situation.

This is also a mother who has a wide range in the way she presents with the baby—sometimes engaging and at other times withdrawn into a depressed state. There are periods when she tries to play with Evonne, although she sits far back in the chair and only uses the tips of her fingers to make contact with the tips of the baby's toes. In addition, she has moments when she smiles broadly and looks to be experiencing genuine pleasure in the baby. There are also brief points where she affectively mirrors the baby. In contrast, later in the interaction, she suddenly shifts into a very withdrawn state in which she is seen sitting all the way back in her seat. She speaks in a very joyless, depressed tone to the baby and demonstrates a marked reluctance to act on the baby's behalf. At times she looks distant and dissociated. The interaction then takes on a sadistic quality in which Michelle's resentment is played out with the baby through her withholding or delaying of her caretaking response.

At the beginning of the interaction, Michelle is seen sitting back in her seat, which is relatively unusual for mothers in the face-to-face interaction protocol. She smiles in a genuine way at Evonne and asks her, "What do you see?" This could be considered a moment of pre-reflective functioning, because she does not go on to talk about what

Evonne might be seeing. Evonne makes a grunting noise, and then Michelle says without empathy, "You gotta stay in there. You gotta stay in there." Then Evonne grunts and arches her back in displeasure. At first Michelle mirrors in an empathic way, "Aww…," but then she takes on a disappointed tone, "No, we just started." She then goes to touch Evonne, presumable to provide some comfort, but she does not follow through fully. Michelle reaches out towards Evonne, but her hand stops short at the edge of the baby's seat, never making contact with the baby herself. Michelle then seems frustrated and blaming of Evonne as she says again, "We just started."

Michelle seems to attempt to collect herself and reconnect to the baby. She smiles and readjusts the baby in her seat. Michelle's voice then takes on a really soft and strangely faint tone as she says, "Okay, okay…" and she just lightly strokes the baby's arm with her index finger. There is a strikingly timid quality to this, as though she is trying to be so "nice" that she is not expressing enough in her voice or her body language to be adequately containing and regulating for the baby. (This is reminiscent of Michelle's mother who is described as so "nice" as to be a "pushover.") Meanwhile, Evonne persists in her grunting noises and arches her back.

Evonne continues to communicate her discomfort to her mother; she grunts and arches her back. Michelle responds in a gentle and considerate tone of voice, "Okay, we'll take your shoes off." The baby is quiet for a moment, and then she vocalizes again. Her mother says in a neutral and cynical tone, "That wasn't it, was it?" In the pause before words are spoken or gestures made, Michelle's eyes take on a depressed and angry expression, although her mouth is still smiling.

Then there is a change in the mood of the interaction. Mother and baby fall into a brief, pleasurable rhythm. Michelle smiles and says, “I got your toes,” grabbing onto Evonne’s feet. Mother and baby go back and forth, seeming to have fun. Evonne’s legs appear strangely tense in a stiff, straight-legged posture for most of the time. Soon, it is not so clear that Evonne is enjoying herself, despite her mother’s continued smiling. Evonne’s expression may be more like a half-smile, half-grimace, and it does not seem like she raises her eyes to meet her mother’s. She appears to be gazing down at her toes exclusively.

Michelle becomes frustrated, perhaps in an unreflective way. She tickles the baby as she makes her point, “You should have taken a nap today.” Evonne communicates her discomfort to her mother. Michelle replies, “It’s true,” as though the baby were denying her point. She continues, “But you wanted to play with [unintelligible name].” Michelle blames the baby for the current state of affairs. She then sits back in her seat, and her face darkens into a depressed and withdrawn expression.

Not giving up, Michelle tries to engage Evonne again. She begins to help the baby to reach her toes. The baby is still holding her legs stiff and straight. Michelle asks Evonne to bend her legs so that she could reach those toes. The baby cannot do it. Michelle is so disappointed and angry, she plucks at Evonne’s big toe with irritation. She sits back in her seat and calls Evonne a “fussbox.”

Rallying again, Michelle tries to re-engage Evonne in a game of tickling her feet. This takes on a slightly sadistic quality, because although Michelle is smiling with pleasure, Evonne has a more mixed facial expression. Her face is scrunched up into a half-smiling/half-grimacing expression. When Michelle tickles her feet, Evonne quickly

jerks her feet all the way back in a defensive posture. She is also gazing downward, rather than meeting her mother's gaze. Michelle continues the game; she smiles and tickles Evonne as she says repeatedly, "You're going to make my arms tired." Then she says, "Can we play something else?" Here Michelle and Evonne are moving in different affective directions. Evonne is winding down in affect and arousal, while Michelle is continuing her highly stimulating game.

Michelle moves in close to Evonne, holding the baby's feet. She has a genuinely warm expression on her face. The baby then looks absorbed in some internal activity. Her mother's expression becomes flat and negative as she says, "What's the matter?" The baby is having a bowel movement and straining hard. In a moment of pre-reflective engagement, Michelle takes Evonne's perspective and mirrors with feeling, "Oh!" scrunching up her nose to show the effort she sees. Then she laughs slightly and says with sarcasm, "You have the best timing. The best timing." It has a negative and critical tone.

Through these cycles of withdrawal and attempts at re-engagement, it does not seem as though Michelle is able to make use of her reflective functioning. Although there are moments of true warmth and connection to the baby, these are brief. For most of this time, Michelle seems to try to establish a game between them, but fails to allow herself to see her baby's perspective outside of her own resentment.

The interaction then takes a more distressing turn. There is a break in the protocol, presumably while Michelle changes Evonne's diaper. When they reappear, Evonne has her shoes back on, and her mother becomes very withdrawn. She sits all the way back in her seat and speaks in a completely deadened, affectless voice. The baby is

looking at the seat strap and then looks up at her mother. Michelle sees and understands what Evonne is doing, but she has no emotional connection to what is occurring. Her face shows little affect as she says in a neutral way, "You found something?" The baby looks down again, and Michelle looks downward with a sad, distant expression, which she holds for several seconds.

The baby begins to reach down to her shoes. Her mother talks to her as though she were talking to an older child, "Those look interesting?" Again she sees the baby's actions and her perspective, but her pleasure and interest in the baby is currently distant, perhaps just as Michelle's entire emotional experience may appear distant to her in that moment in time. Then again, as though she were talking to a much older child, Michelle comments with a resentful edge in her voice, "You don't want to wear shoes today? Your grandmother bought you those shoes. Your Daddy said to wear them today." One wonders who was in the leadership role that morning, giving Michelle her instructions that have now seemingly misdirected her to this dismal point.

Michelle watches her baby playing with her shoes. She laughs to herself. Then in what might be considered a passive aggressive or slightly sadistic tone, she half sings to Evonne, "They don't come oooff." Then Evonne tries to reach her mother; she looks up at her face. Michelle seems to soften for a moment. She smiles and says, "Aww, you want them off or you just want to have it?" The tone of this statement has the feeling that it is not quite enough to connect to the baby, somewhat like the gesture earlier when Michelle went to touch the baby, but fell just short of her body. Furthermore, having acknowledged some understanding of Evonne's intentions or desires, Michelle fails to act. She waits. Then a few seconds later, she says blandly, "You can do it."

It seems as though Evonne is able to engage her mother's pre-reflective capacities through her social referencing. When Evonne looks up at her mother's face, Michelle is prompted to think about the baby's perspective, but re-presents it back to the baby in a verbal utterance, stripped of feeling. Like Michelle's description of the parasitic baby who threatens to "suck the life out of you," the warm, interested feeling has been sucked out of the activity of observing the baby.

This dynamic is demonstrated again. Evonne looks up into her mother's face. Michelle says defensively, "I'm not taking them off." Her verbal expression and body language suggest that she is being "put upon" by the baby's unspoken request. There is resentment in her voice. One can imagine that the series of events in this exchange might be confusing to Evonne. Her mother had clearly seen that she was trying to get her shoes off. Her mother had then encouraged her to figure it out. When she looked up for help, her mother refused with an offended tone of voice, but Michelle offers no explanation to us or the baby.

Yet, Michelle is still responsive. Evonne sneezes and looks up at her mother. Michelle responds with a genuine smile and mirrors back, "Huh, bless you!" A moment of surprise bumps Michelle into Evonne's affective universe. This mother seems temporarily enlivened by her baby's gaze.

Then Evonne becomes interested in finding the seat strap again. Her attention now diverted, Evonne evokes her mother's retaliatory sadism. As the baby gropes around, her mother says in a condescending tone, "You can't get it." The baby sneezes again, and Michelle responds. Evonne then begins to generate spit bubbles. Her mother seems tickled by the sight of them, smiling lovingly. Then unable to abide them,

Michelle continues to smile, but wipes them away. The baby protests the wiping. Her mother becomes angry again and withdraws.

Michelle then sees Evonne getting frustrated with her shoes, she mirrors the baby's feeling, "Oh!" Then instead of springing into action, she waits and watches. Then she appears to relent to the pressure of her baby's communication of need, "Okay, I'll take them off." She rubs Evonne's leg in a too gentle, unconvincing communication of soothing; smiling weakly she says softly, "Okaay." This is so "nice" and gentle it is not enough to provide real soothing, rather it may convey a submissive position in relation to the baby. She then waits even longer, pausing to ask again, "You want them off?"

Evonne is distressed by this point, and her mother's smiling expression in the face of this distress gives the interaction a sadistic quality. This baby has to become more and more frustrated, before her mother will accede to meeting her needs, in part because the baby's communication of distress may sometimes be perceived as coercive, expressions of power over her mother. In response, Michelle's pre-reflective capacities are only activated in so far as to identify her baby's intention or desires. Without empathic connection to the baby's states, she uses the knowledge of the baby's intention to re-assert her own power over her daughter, and achieves this through her refusal and delay of her parental response. In essence, she communicates that she will act when and if she sees fit, rather than contingently on the baby's moment of need.

Finally Michelle rallies to join Evonne's team again, as she says, "Okay, okay, let's see what we can do here, alright?" She takes off the baby's shoes. The baby is still vocalizing her frustration. Her mother says, "Is that better?" as though she were saying,

"Happy now?" Her voice then loses affect as she says, "That's not better? No, that's not better?" Michelle then begins a tickling game on Evonne's legs and torso repeating, "Yum, yum, yum, yum." Evonne grunts in response. Michelle's facial expressions appear to be in the same intensity as the game, but her voice is very subdued as she repeats, "Is that so? What else? Anything else to tell me?" Soon, the game becomes displeasurable for the baby. Michelle says to the baby, "I know you're getting restless." She is still smiling at the baby, and it is as though she were looking at a different baby than the one before her.

Although Michelle's pre-reflective and emotional capacities are sometimes engaged with the baby, particularly when Evonne looks in her eyes, there are repeated periods of disconnect between Michelle's cognitive observations and her emotional experiences. It is likely that projection of a "bullying," "territorial" baby takes effect, particularly in moments when Michelle feels her efforts at playing with the baby are rejected, and even more so when the baby communicates distress. It also appears that this mother experiences some states of dissociation when her facial expression takes on a depressed and distant look. This might also be suggested by her faint smiling in the face of her distressed baby.

Summary of Case Examples

For each dyad described above, there were links between how they presented during the Pregnancy Interview and how they later interacted with their babies. Just looking at mentalization as one dimension, it seemed that Julia used her pre-reflective capacity to label some affect states in interaction with her baby much as she did during

pregnancy. Michelle demonstrated a higher level of pre-reflective capacity than Julia during the interactions in that she talked to the baby about her actions, desires, intentions and perspective. However, the quality of reflective functioning seemed to fall below what one might have envisioned as her optimal performance given her capacity for full reflective functioning during the pregnancy interview. During the interaction, she could cognitively recognize the baby's perspective, but her statements to the baby lacked affect attunement. Each mother used her pre-reflective capacities in response to different triggers in the interactions and to meet different intrapsychic needs based on her particular patterns in object relations and in rigid defensive strategies for self-regulation. These needs took priority over meeting the regulatory needs of the babies. For both mothers, impairments in their capacity to be reflective about their own negative affect states as a means to regulate and process their strong emotions, limited their ability either to appropriately acknowledge, to interpret and/or to respond to their baby's signals.

For Julia and Nina, Julia's reflective functioning was used relatively independently of Nina's behavior; if a trigger could be identified, it might be moments when Nina's visual gaze was directed away from her mother. Julia's unmet and unacknowledged attachment needs were so powerful and raw, they overwhelmed her capacity to think about the baby's experience outside of her feelings of painful, rejection. This mother opened her mind towards her baby's experience as one of a few strategies for earning the baby's attention. Short-lived, this strategy was quickly abandoned as soon as it seemed to fail in its aim towards garnering care for the mother.

For Michelle and Evonne, Michelle had a much higher (optimal) capacity for mentalization on her Pregnancy Interview, but she was unable to access her full capacity

during her interactions with her baby. Evonne's gaze during social referencing seemed to stimulate her mother's capacity to reflect on the baby's intentions and emotions, but due to angry and resentful feelings and perhaps projective processes Michelle could not pleasurably enter into Evonne's experience in a consistent way. Her verbal responses lacked affective color.

Yet, even in these examples of highly disturbed affective communication patterns, one can see how very robust a mother's desire to connect to the baby is, and similarly, how willing a baby is to meet his or her mother, even in brief exchanges during non-optimal intrapsychic and interpersonal conditions. Neither mother nor baby completely gives up on the other. Though feeling upset and defeated time and time again, each of these mothers continued to rally herself to try and re-engage the baby. Seligman (personal communication) views the intersubjective matrix (Stern, 2004) and attachment system as fundamental primary motivating systems for human behavior. One could argue that both mothers in these case examples tried again and again to feel an intersubjective connection to their baby—striving towards engagement, mutual influence, and a sense of doing something together through their imperfect coordination of action and affect. In terms of attachment as a motivating system, it is likely that both mothers were also motivated in part by the desire to be able to meet the baby's needs for care alongside their own, despite their difficulty with recognizing and prioritizing the baby's needs.

Each of the babies also tries to seek out her mother for engagement and care in brief periods of eye contact and play. It should be noted that both babies were able to tolerate the face-to-face interactions without completely falling apart, suggesting some

temperamental strengths; perhaps Nina presented as a little better organized than did Evonne in the success of her strategies for self-regulation. Evonne's grunting, grimacing, and the stiffening of her body were concerning. However, it is doubtful that either baby could have afforded to fall into a hard crying fit with their mothers during those interactions.

These mothers faced the almost impossible task of making sense of powerful emotional experiences evoked in the context of caring for their babies—affective experiences rooted deeply in their own attachment histories. How were these mothers supposed to understand the intensity of these emotions, without any idea that their histories heavily influenced their responses as parents—that their experiences with their own caregivers heavily pulled their daily emotional life with their babies into paths first traversed in childhood and then likely well-worn in every attachment relationship since. Without another framework with which to understand these feelings and with defensive patterns that promote denial and dissociation, it seems almost inevitable that a mother in this position would look for the culprit of her own suffering within her baby. Perhaps this pattern is almost inevitable if not for the support of a psychodynamic, relationship-based, reflective approach in treatment as was provided in the intervention study. Interestingly, in later assessment through the Strange Situation Paradigm, Nina was rated as being securely attached to her mother, while Evonne was rated as having a disorganized attachment style.

There were individual differences in each dyad in the sample along the dimensions discussed in the case presentations, dimensions that included the capacity for reflective functioning, the quality of object relational patterns, representations of

attachment experiences and relationships, representations of developing parental identity and potential objects of parental identification, defensive structure, and the degree of dissociation versus integration of affect- and self-states. It seems that where a mother falls along these dimensions partially determines the quality of her interactions with her baby. When the capacity for reflective functioning is low, object relational patterns are more malevolent, the development of a competent and loving parental identity is conflictual, the defensive structure is rigid (with tendency towards splitting, denial, and projection), and dissociation predominates, the interactions are likely heavily weighted toward the parent's defensive needs. Consider then the addition of real life stressors in a mother's current situation, and one might see serious disruptions in a mother's affective communication with her baby.

In these cases, interaction patterns tend toward maternal control in the interaction, rather than creating a balanced turn-taking between mother and baby. The mother often does not have the capacity "to be with the baby in the baby's experience" in her relational repertoire. She is active while the baby is reactive. The mother either does things for the baby in order to elicit the baby's response (e.g. singing for the baby's entertainment to see the baby attend and smile) or does things to the baby in a non-contingent way, inappropriate to the baby's communications (e.g. tickling the baby, playing peek-a-boo and looming close into the baby's face, or frequently wiping and grooming the baby). Sometimes in these cases the mother cannot tolerate the baby's gaze directed at anything other than her face. She may require not only the baby's attention, but also the baby's compliance. Unable to regulate her own or her baby's negative affects, she sometimes engages in projective processes, and frightening, hostile, or dissociated behaviors.

For the baby's part, rather than normal patterns of engagement and self-regulation through alternation of periods of eye contact with periods of looking away, the baby learns either to become primarily gaze avoidant perhaps with dampened affect, thus shutting both the mother and internal experience out of direct awareness, or alternatively, the baby may become hypervigilant in fixing his or her gaze upon the mother's face, not able to afford to look away even briefly. The babies in this sample in highly disrupted dyads were similar in this regard to Beebe and Lachmann's (2002) observations of gaze avoidance and hypervigilance in babies in chronically misattuned mother-baby dyads.

Depending on a mother's individual profile along these dimensions, the needs of a mother-baby dyad in treatment may differ. The quality of and patterns in their play interactions can provide an avenue towards understanding that individual profile. A videotaped, ten-minute segment of face-to-face play between a mother and a young infant also allows for later analysis of a mother's range of relational strategies, reflective capacities, responses to the baby's distress, and triggers for both maladaptive and appropriate affective responses; typically these interactions were somewhat repetitive in the cycles of play sequences, which in some ways may simplify the task of forming hypotheses about how the dyad is functioning. It seems that using a structured interview during pregnancy, such as the Pregnancy Interview, would also provide important information regarding the particularly strengths and weakness that are likely to develop in the affective communication patterns between mother and baby.

Furthermore, the assessment of the quality of reflective functioning in a parent would help one to understand at what level and complexity one should be suggesting reflective statements to optimally scaffold the mother's development: beginning to

generate pre-reflective statements (e.g., “The baby is crying so hard. What do you think she’s feeling?” or “I wonder what the baby wants to do.”); simply labeling feeling states in the mother; labeling feeling states in others; linking these states to behavior or to social contexts; discussing how feelings change over time; discussing how hard it is to actually know what someone else is feeling; making the connection between the mother’s feelings and behavior, as well as the impact of this on the baby’s feelings and then the baby’s behavior, etc. This may be particularly useful when a patient’s mentalizing capacity is very low, so as not to interpret too far above the patient’s ability to make use of the therapist’s comments. In addition to thinking about the level of reflective functioning in general, it seems useful to look at when a mother uses RF and to what purpose, as the women in the current study differed in these respects.

There may be ways to help a mother both to recognize the importance of having ways of regulating her own emotions and the importance of the need for care, nurturance and attention within the relationship with the therapist. Some of the needs that may seem misdirected toward the baby can even be met more successfully with the baby through semi-structured play experiences for the mother and baby taught by a therapist, who gently coaches the parent and supports a reflective stance. Once a mother feels more competence and pleasure in engaging her baby, and she begins to feel better regulated by and held in mind by the person of the therapist, the avenues to expand the mother’s depth and use of reflective functioning can open wide with room for curiosity and playfulness.

Conclusion

As Fonagy and his colleagues (1991) suggest, the transition to motherhood from pregnancy to the arrival of the "real" baby offers opportunity for changes in mental structure that may be positive or negative. Certainly, this transition period into motherhood with its reworking of identifications, object relations, and roles in the family and the larger community and the subsequent immersion into maternal preoccupation (Stern, 1995), proves to be a development crisis whose outcome when the actual care of the baby begins is far from certain. This transition time seems primed for the possibility of change through the therapeutic relationship, change that may initially appear more turbulent in the baby's first months before improvement occurs.

The results from the current study and the broader Minding the Baby project suggest that maternal reflective functioning is a significant factor that contributes to the quality of parent-infant affective communication (Slade et al., 2009). In this at-risk sample, reflective functioning assessed during pregnancy—even at pre-reflective levels—significantly influenced the quality of maternal affective communication with babies during face-to-face interactions when the infants were four months old (Slade et al., 2009). This relationship between pre-reflective capacities and maternal affective communication may be stronger for mother-baby dyads at risk as compared to low-risk samples (Grienenberger, 2002).

However, pre-reflective capacities were not sufficient to protect against disrupted affective communication patterns in that both the intervention and control groups had comparably high rates of disruption (Slade et al., 2009). The mother-baby dyads needed more time in the intervention before therapeutic effects on the mother-baby relationships

could be observed across the intervention group, overall. Evidence for a positive therapeutic response came later, as differences in the quality of attachment relationships between the intervention and control group were observed when the babies were twelve months old (Slade et al., 2009). This supports the argument for long-term parent-infant treatments with a minimum of a year of intervention work.

In addition, there was evidence that reflective, relationship-based treatments may temporarily destabilize the relationship between RF and affective communication. For mothers participating in the Minding the Baby intervention, the relationship between RF in pregnancy and later affective communication was disrupted by the changing dynamics of the mother-baby, mother-therapist, and mother-nurse relationships. The relationship between reflective functioning and affective communication was not significant for the intervention group, in contrast to the significant relationship between these variables in the control group. Inconsistent for the intervention group overall, the connection between pre-reflective capacities and later affective communication patterns for mothers in treatment may be better understood through detailed individual case studies.

For mother-baby dyads in treatment, careful analysis of reflective and pre-reflective capacities may be integrated into clinical dynamic formulations. Integration of the concept of reflective functioning into psychodynamic treatment in parent-infant psychotherapy is just beginning. In addition to the Minding the Baby intervention model, there have been several treatment models striving to integrate the concept of reflective functioning into psychodynamic, attachment-focused clinical work in dyadic and group interventions with infants and toddlers (e.g., Pajulo et al, 2006; Schecter & Willheim, 2009; Reynolds, 2003). Particularly relevant to work with at-risk populations and

traumatized families, the analysis of pre-reflective capacities in vivo during live interactions with mothers and babies is a promising approach to better understanding the dynamic impact of disturbances in mentalization on parent-infant affective communication. Rather than viewing reflective functioning as an isolated dimension in clinical work, parent-infant therapists can integrate these concepts into their formulations of parents' real-life stressors, representations of object relations and attachment relationships, defensive structure, developing parental identity, and the degree of dissociative processes. For at-risk populations such as this one, attention to hostile/helpless states of mind may be particularly important (Lyons-Ruth et al., 1999a). Examples of this type of integration are now emerging (e.g., Seligman, in press).

Moving forward, there are many potential directions for further study. The findings of the current study are preliminary due to the small sample size, but given that the Minding the Baby project is on-going, opportunities for replication of the findings with a larger sample will soon be possible. Future data analysis of the control group in the Minding the Baby study will allow for comparison of the groups and examination of the ways in which the intervention affected the mother-baby dyads over the course of the 2-year-treatment. In addition, the examination of the relationship between reflective functioning in pregnancy and affective communication in a larger sample would offer not only greater statistical power in the data analysis, but also might yield a broader range in RF scores that would allow for the analysis of the relationship between the two variables at high and low levels of RF.

The empirical analysis of the ways in which high and low levels of reflective functioning in mothers manifest behaviorally during interactions with their babies would

also become possible. This might further our understanding of the observations generated in this study regarding evidence of a pre-reflective stance in mothers assessed to have little capacity for mentalization beyond the identification of specific feeling states. Further investigation of the ways in which maternal states of mind in relation to attachment and mothers' capacities for mentalization during pregnancy interact to influence later mother-infant interactions might also be fruitful, as there appeared to be a relationship between these states of mind, the particulars of the mothers' projective processes, and the inhibition of reflective functioning in the case studies presented here. Finally, it would also be interesting to compare the relationship between RF in pregnancy and later affective communication in at-risk samples like this one and other samples of mothers, to see whether the protective role of RF is more strongly linked to mother-baby communication patterns for mothers who have had histories of relational trauma and/or are living in conditions of significant life stressors such as poverty, as compared to low-risk groups.

There is so much more to learn about impairments in reflective functioning and how and when mothers engage their pre-reflective capacities in their daily interactions with their babies. A more contextualized understanding of these capacities would help us to map out not only the dynamics of affective misattunements and disrupted patterns between mothers and babies, but also the avenues for intervention that would support a mother in expanding and elaborating the islands of time when her attention and curiosity open towards both her own and her babies' internal life—existence rich in sensory and emotional experience. The mentalizing and co-regulatory functions of the therapist in this regard are central in creating a new possibility for safety in experiencing and holding

the baby in mind—a sense of security that is so fragile and elusive for many of the first-time mothers and their babies who enter our consulting rooms and community parent-infant programs.

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