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The Impact of a Home-Based Intervention Program on Maternal Reflective functioning in First-Time Mothers

Maia Rebecca Miller
The Graduate Center, City University of New York

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**The Impact of a Home-Based Intervention Program on
Maternal Reflective Functioning in First-Time Mothers**

by

Maia Rebecca Miller

A dissertation submitted to the Graduate Faculty in Psychology in
partial fulfillment of the requirements for the degree of Doctor of Philosophy,
The City University of New York

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_____   _____
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                                Chair of Examining Committee

_____   _____
Date   Maureen O'Connor, Ph.D.
                                Executive Officer, Psychology

                                Elliot L. Jurist, Ph.D.

                                Lois S. Sadler, Ph.D.

                                Steven B. Tuber, Ph.D.

                                Lissa Weinstein, Ph.D.
                                Supervisory Committee

THE CITY UNIVERSITY OF NEW YORK

Abstract

THE IMPACT OF A HOME-BASED INTERVENTION PROGRAM ON MATERNAL
REFLECTIVE FUNTIONING IN FIRST-TIME MOTHERS

by

Maia Rebecca Miller

Advisor: Professor Arietta Slade

The present study investigates the impact of "Minding the Baby," a home-based

intervention program, on maternal reflective functioning (RF). It was hypothesized that

the reflective capacity of mothers who received the MTB intervention would increase

over the course of the study, and that this increase would be reflected in the quality of

their responses to clinical interviews administered before and after birth. The guiding

premise of the intervention was that helping mothers develop a reflective stance would

enable them to become more regulating, sensitive, and autonomy-promoting caregivers

and thus positively affect a range of developmental outcomes in their infants.

The participants were 21 first-time mothers between the ages of 15 and 25, all of

whom were at high risk for parenting difficulties due to environmental, financial, and

social stressors. The mothers were interviewed using the Pregnancy Interview (Revised

Version, Slade, 2007) during their third trimester. They were given the Parent

Development Interview (Aber, Slade, Berger, Bresgi, & Kaplan, 1985) when their child

was approximately 24 months old. The Addendum to the Reflective Functioning Scoring

Manual for use with the Parent Development Interview (Slade, Bernbach, Grienenberger,

Levy, & Locker, 2004) was used to determine the level of maternal RF at the end of the intervention. In order to measure maternal RF levels at the beginning of the intervention, an Addendum to the Reflective Functioning Scoring Manual for use with the Pregnancy Interview was refined and updated (Slade, Paterson, & Miller, 2007), making it the first relatively reliable instrument for assessing reflective functioning in pregnancy.

Results supported the study's main hypothesis: The mothers' mean overall RF score increased from before to after the intervention, and the difference between the pre- and post-intervention means was statistically significant. These results are discussed in relation to implications for early intervention, developmental theory, and clinical treatment.

Acknowledgments

My first debt of gratitude is to my thesis advisor and mentor, Dr. Arietta Slade. Dr. Slade has served as a role model of a true scholar-practitioner, and her excellence in clinical work, research, and writing continues to be an inspiration to me. Equally important, she has been a strong source of emotional support over the years, always ready with words of encouragement.

I absolutely loved my years at City, which provided a secure base for my professional and personal development. I could not have been more fortunate in starting the program with Dr. Steven Tuber as the director, as well as my instructor for several courses. From my first day of graduate school, Dr. Tuber has been a guiding light for me, as a clinician, a teacher, a researcher, and a person. I am constantly striving to incorporate ideas that I learned from him into my work. Dr. Elliot Jurist, who took over the program reins, proved to be just as fine a director—as well as my first clinical supervisor. Dr. Jurist's first-rate intellect never ceases to impress me, but his compassion is equally remarkable.

Dr. Lois Sadler has been extremely generous with her data and her support, and I highly admire her dedication to at-risk populations as well as her outstanding research and analytical skills. I greatly appreciated Dr. Lissa Weinstein's sharp intellect, quick wit, and interdisciplinary talents. Finally, I am deeply grateful to Cheryl de Dios-Kenn and Denise Webb, two clinicians on the front lines in inner-city New Haven. Both were impassioned about the work they do, and also incredibly giving of their time and insight. It was an honor and a pleasure to collaborate with them.

Friends and peers were critical in writing this dissertation and surviving graduate school. The members of the RF Scoring Group—Emily Bly, Alex Crumbley, Libby Graf, Melissa Ilardi, and Olga Poznansky—not only coded my data, but made the process of developing and writing my dissertation both intellectually stimulating and highly enjoyable. Alba Cabral and Koby Frances were with me from Day One at City, and helped keep me sane and grounded throughout our years together. Dana Geva Grofman, my buddy from City and internship, kept me going through some very difficult times.

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In addition to my committee members, peers, and friends, I would like to thank my family for their continued guidance and support in my quest to become the "other kind" of Doctor Miller. I could not have sustained this effort without their encouragement and their unrelenting faith in me. In particular, my husband Kevin has been unbelievably kind, generous, and patient. His belief in my abilities has never wavered, and his encouragement was perhaps the most important of all.

Finally, this dissertation is dedicated to the loving memory of my mother, who embodied the intellectual acuity, social responsibility, and dedication to both work and family that I hope to achieve one day. She would have been very proud of this dissertation, and that makes it all worth it.

Table of Contents

List of Tables

CHAPTER 1

Introduction

For first-time mothers, pregnancy is a time of vast emotional, psychological, and physical change. The experience is inevitably a complicated one, as it entails enormous transition as well as conflicting emotions—mothers may feel exhilarated, hopeful, and proud, but also frightened, unprepared, and unsupported. For young high-risk mothers living in urban poverty, who are grappling with stressors such as unplanned or unwanted pregnancy, financial hardship, social isolation, and past or ongoing trauma, the challenges can become overwhelming. Moreover, in their efforts to meet their own and their child's needs, these mothers are drawing largely on their own experiences of care as children. Sadly, few of them enjoyed secure relationships with caregivers. Given that healthy mother-infant relationships start in pregnancy, interventions that begin before the baby is born hold great promise for enhancing the mother's ability to provide sensitive caregiving and encouraging the development of healthy attachments between mother and child.

Home visiting programs aimed at helping mothers develop positive relationships with their child have a long history in the U.S. and other developed countries. Two of the best-known and most-studied models are the Nurse Family Partnership (NFP) program, pioneered by David Olds and his colleagues 25 years ago (Olds & Kitzman, 1993; Olds, 2002), and the home-based infant-parent psychotherapy model initiated by Selma Fraiberg (1980) and built upon by Alicia Lieberman et al. (Lieberman, Weston, & Pawl, 1991; Lieberman & Pawl, 1993) and Christoph Heinicke et al. (Heinicke et al., 1999; Heinicke et al., 2000). Long-term studies of the NFP program consistently show a range

of positive outcomes with respect to mother-child interactions and child mental

developmental outcomes at 24 months. Specific positive effects of NFP interventions

include increases in employment and father involvement, as well as reduction of

smoking, preterm births, subsequent pregnancies, time on welfare, and visits to the

emergency room for illness and injury during infancy and childhood (Olds, 2002). Thus

Olds' model, which is delivered by experienced public health nurses, offers broad

protection against negative health conditions and life outcomes.

Fraiberg's home-based dyadic psychotherapy program has a somewhat different

aim: to address mental health and relational difficulties in high-risk mothers and infants.

In a larger-scale replication of Fraiberg's model, Lieberman and her colleagues (1991)

demonstrated that home-based parent-infant psychotherapy positively affects attachment

and maternal outcomes after one year. In a related study, Heinicke et al. (1999, 2000)

found that a home visiting program using specially-trained mental health workers

resulted in positive changes in the mother-infant relationship and in home environments.

Recently, Arietta Slade, Lois Sadler, Linda Mayes, and their colleagues have

developed a new interdisciplinary intervention model, called "Minding the Baby" (MTB),

that aims to integrate these two approaches. That is, MTB seeks to provide the kind of

nursing care offered by nurse home visiting models, while at the same time providing

in-depth mental health care not previously offered by these types of programs. MTB

draws on the strengths of both models: Because most public health nurses are not

extensively trained in mental health, they are often ill-equipped to deal with the mental

health issues that inevitably arise in high-risk families. At the same time, many families

who typically would not welcome strictly mental-health-based home visits are much

more willing to allow a nurse home visitor into their homes. In the MTB model, a nursing/mental health team, composed of a clinical social worker and a pediatric nurse practitioner, work together to provide a wide range of services to enhance health, mental health, parenting, and child development.

Among other things, MTB is specifically aimed at the development of parental reflective functioning, or mentalization. Reflective functioning (RF) refers to an individual's capacity to understand her own and others' behavior in terms of underlying mental states and intentions (Fonagy, Gergely, Jurist, & Target, 2002). RF is considered evidence of *mentalization*, which is defined as the capacity to envision mental states, including thoughts, feelings, desires, intentions, and beliefs, in the self or the other. In the context of parenting, RF refers to a parent's capacity to "keep the child in mind"—that is, to imagine and make sense of her child's mental states, and to use this understanding in guiding her own responses to her child (Slade, Sadler, & Mayes, 2005). The mother's reflective capacity, in turn, makes it possible for the child to discover his own mind and to experience himself as a feeling, intentional being. A series of recent studies by Slade et al. highlights the important role of parental mentalizing capacities; they found that maternal RF is predictive of secure attachment organization in the child (Slade, Grienenberger, Bernbach, Levy, & Locker, 2005) and that maternal RF is negatively correlated with hostile, intrusive, or withdrawn caregiving behaviors (Grienenberger, Slade, & Kelly, 2005). Previous preliminary findings on the MTB data suggest that maternal RF scores in the sample of at-risk mothers were low at baseline and that these scores improved at 24 months (Patterson, 2005; Sadler, Slade, & Mayes, 2005). This present study aimed to replicate and extend these findings. Overall, the present study,

which used a mixed method design, had three primary goals: The first was to refine and update Slade and Patterson's (2005) manual for scoring RF on the Pregnancy Interview (Slade, Huganir, Grunebaum, & Reeves, 1987). The second was to test the hypothesis that the Minding the Baby intervention promotes change in maternal RF. The third was to use qualitative methods—namely, interviews with the home visitors who worked with mothers in the Minding the Baby study, as well as close readings of the pre- and post-intervention maternal interviews—to examine the complex process of change.

CHAPTER 2

Literature Review

The present study investigates the impact of "Minding the Baby," a home-based intervention program, on maternal reflective capacity. The literature review is presented in four sections, beginning with the history of attachment theory. The early work of Bowlby and Ainsworth, and the subsequent paradigm shift brought about by Main's emphasis on representation, are discussed in the first section. The second section examines various methods that have been developed to evaluate the quality of adult representations of attachment and defines three related key concepts, *metacognitive monitoring*, *mentalization*, and *reflective functioning*. The third section focuses on parental representations of the child, reviewing the major theoretical approaches to the development of parental representations as well as various methods that have been devised to assess them. Related recent empirical findings are discussed, and particular emphasis is placed on parental reflectiveness as a necessary capacity for the development of parental representations.

The final section describes several relationship-based intervention programs for parents and infants, including the Minding the Baby home-based intervention study. It includes a review of the theoretical and historical underpinnings of MTB and a summary of preliminary quantitative and qualitative results from its pilot implementation.

Attachment Theory: A Historical View

<u>Early Foundations: Bowlby and Ainsworth</u>

Attachment theory originated in the work of John Bowlby (1969, 1973, 1980). A child psychiatrist trained at the British Psychoanalytic Institute, Bowlby was heavily influenced by a variety of disciplines, including biology, evolution, and ethology, in developing his theory of attachment. In particular, he was inspired by Spitz's (1946) observational studies of infants who had been deprived of maternal care, by Lorenz's (1935/1951) work with imprinting in geese, and later by Harlow's (1958) research on maternal deprivation in primates. Bowlby theorized that the infant is predisposed at birth to form an attachment to caregivers, and that the need for close relationships is universal among humans. Indeed, he viewed attachment as "a fundamental form of behavior with its own internal motivation distinct from feeding and sex and of no less importance" (Bowlby, 1982). According to Bowlby, these attachment relationships are critical for emotional and physical survival, and the child will mold his behavior and thoughts in order to maintain these relationships (Slade, 1999a). He identified five instinctive responses, which he called "attachment behaviors," that constitute the infant's proximity-seeking actions: sucking, smiling, clinging, crying, and following. In the Darwinist tradition, Bowlby holds that these behaviors are the result of natural selection—that is, these particular actions remained in the human repertoire because they made survival more likely by enhancing proximity to the mother.

According to Bowlby, the "attachment behavioral system" regulates the infant's behavior toward an attachment figure. When the infant becomes frightened—either by an

internal stimulus, such as hunger, or by an external factor, such as a change in the environment—the attachment system becomes activated. In this agitated state, the infant's primary goal is to seek out the caregiver for refuge. When the infant feels calm and secure, Bowlby asserts, the system is deactivated and the infant's attachment behaviors cease. Thus a given infant's attachment system is most visible when there is perceived danger and the infant seeks reassurance from a caregiver. Bretherton (1985) offers a variation on Bowlby's model, suggesting that the attachment system is continuously active, rather than repeatedly activated and deactivated by situations of perceived threat and perceived safety. Bretherton thus offers an important clarification of the relationship between the notion of the secure base, originated by Ainsworth, and Bowlby's concept of security-seeking behaviors. A child who perceives an absence of danger will feel free to engage in exploratory behavior at a distance from the attachment figure, using her as a secure base. If a child perceives a mild threat, he will engage in proximity-seeking behaviors that bring him closer to the attachment figure. Finally, in cases where the environment is perceived as highly threatening, the child seeks more than just proximity: He attempts to make contact with the caregiver. In addition, Slade and Aber (1992) comment that Bretherton's version has heuristic value in that it "demonstrates the functional equivalence of different 'attachment behaviors' at different stages of early development" (Slade & Aber, 1992, p. 156). That is, a 6-month-old's cry, a 12-month-old's movement toward the mother, and an 18-month-old's visual and verbal bids for contact from a distance can all be understood as attachment behaviors used by the child to increase proximity and felt security.

Although the focus of Bowlby's theory is on the infant and his bids for physical

protection and emotional comforting from the caregiver, the relationship is reciprocal from the beginning. The child's sense of security forms in reaction to the quality of the caregiver's protective responses. Throughout the course of development, the child and his caregivers repeatedly engage in their respective roles in the attachment system. Over time, the patterning of these transactions becomes the basis of what Bowlby termed "internal working models" (1969, 1973). The earliest of these internal working models, which Bowlby refers to as "internal working models of attachment," begin to form in the second half of the infant's first year of life (Bowlby, 1973, 1982). In general, an internal working model consists of mental representations of the attachment figure, the self, and the relationship between the two. Bowlby theorized that the child builds a set of expectations based on the history of his interactions with his primary caregiver. Internal working models direct subsequent appraisals of interactions with attachment figures, thereby allowing the infant to predict the mother's style of responsiveness. As a result, the infant learns how to engage with her in a manner that maximizes physical and emotional closeness. If the attachment figure consistently acknowledges the child's need for protection and comfort, while at the same time respecting his need to autonomously explore the environment, the child is likely to develop an internal working model of the self as self-reliant and valued. In contrast, if the child's need for comfort and autonomy are rejected or not acknowledged, he is likely to construct an internal working model of the self as unworthy or incompetent (Bretherton, 1992).

Mary Ainsworth's work set the second phase of attachment research into motion (Bretherton, 1992; Main, 1996). Along with her colleagues (Ainsworth & Wittig, 1969; Ainsworth, Blehar, Waters, & Wall, 1978), Ainsworth developed an observational

laboratory procedure, known as the "Strange Situation," that allowed for the assessment of qualitative differences in mother-infant attachment. Findings from Ainsworth et al.'s work empirically validated Bowlby's ideas about patterns of attachment responses. During the Strange Situation, mother and child undergo a series of separations and reunions; in the first separation, the child is left with a female stranger who attempts to comfort and play with the child, while in the second separation, the child is completely alone, with the mother looking on from behind a one-way mirror (Ainsworth et al., 1978). Ainsworth, who had initially designed the paradigm to examine differences in infants' exploratory behaviors depending on the presence or absence of the mother and/or the stranger, became interested in unexpected patterns of infant behavior at reunion. In examining the separation-reunion episodes, Ainsworth identified three patterns of infant behavioral response: "secure," "insecure-avoidant," and "insecure-resistant."

Infants labeled as secure (group B) were noted to show distress during their mothers' absence and to seek contact with her at reunion. These infants were easily comforted upon their mothers' return, and were able to resume exploration of the environment in her presence. The behaviors of children labeled as insecure tended to fall into two typical sets of responses. One group, classified as insecure-avoidant (group A), showed no distress at their mother's absence and snubbed or avoided her upon her return. Instead, their attention was focused on exploring the environment. Later studies revealed that despite their lack of observable distress during the Strange Situation, avoidant infants experience considerable physiological distress (Hesse & Main, 1999). The children in the other insecure group, classified as insecure-resistant (group C), were observed to be highly distressed during their mother's absence and had significant difficulty settling and

being reassured when she returned. During reunions, they manifested contradictory strategies of approach and avoidance behavior, simultaneously exhibiting comfort-seeking behaviors and angry resistance toward their mothers' attempts at reassurance.

Subsequent research by Main and Solomon (1986, 1990) identified a fourth attachment category, which they designated "insecure-disorganized/disoriented" (group D). This additional category emerged from of Main and Solomon's study of infants who were previously designated as "unclassifiable" under the three-category system. During the Strange Situation, children in this category exhibit chaotic, contradictory behaviors, such as stilling and freezing, mistimed movements, handclapping, and head-banging, in the presence of their caregiver (see Fonagy, 1996; Diamond, 2004). Main and Hesse (1990), in an exploration of the etiology of the disorganized pattern of behavior, found that many mothers of children in this category suffered from disorganization and dissociation due to unresolved loss and traumas in their own lives. More specifically, Main and Hesse found that these mothers had undergone traumatic losses that they were unable to mourn, which in turn led to the development of multiple internal working models of attachment that contained unintegrated fear and anxiety. As a result, Main and Hesse theorized, these mothers displayed both frightened and frightening behaviors during interactions with their children. This occurred because the intensity of the attachment relationship with the child stirred up dissociated fear from the mother's own early attachment relationship. Disorganized infants are thus caught in an unresolvable approach-avoidance paradox in which the parent is "at once the source and solution" of fear and distress (Main & Hesse, 1990, p. 163). That is, the parent's frightening behavior simultaneously activates the child's "escape" response (flight) and the child's attachment

behaviors (proximity-seeking) (Hesse & Main, 1999). The disorganized attachment

pattern has been linked to various forms of psychopathology, including borderline

personality disorder, affective and dissociative disorders, and psychopathy (Hesse &

Main, 1999; Diamond, 2004).

Among Ainsworth's most important contributions to the field of attachment

research was her discovery that the quality of maternal caregiving behavior is directly

linked to patterns of infant behavior, particularly the infant's attempts to seek comfort

(Slade, 1999a). In conjunction with her work with the Strange Situation, Ainsworth

collected observational data on mother-infant interactions during home visits to 26

Baltimore families. Data collection, which occurred monthly throughout the infant's first

year, focused on the mother's interactions with her child. Particular attention was paid to

the mother's behavior and responsiveness during feeding situations, face-to-face play,

physical contact, and moments of infant distress, which collectively became known as

"maternal sensitivity" or "sensitive reponsiveness." The effects of maternal sensitivity

were measured in the fourth quarter of the child's first year using the Strange Situation

procedure. Ainsworth found a significant correlation between the degree of maternal

sensitivity of the mother and the infant's attachment security at one year. Overall,

mothers of secure children displayed more sensitive and contingent responsiveness

toward their infant. In contrast, mothers of avoidant infants were insensitive and rejecting

of their infants' enjoinders for comfort and physical contact. Mothers of resistant infants

were characteristically inconsistent in their responsiveness, alternating between over- and

under-involvement. Finally, mothers of disorganized/disoriented infants became

disorganized and dissociated when discussing early traumatic experiences (Hesse &

Main, 1999; Slade, 1999a).

Mary Main and the Shift to the Level of Representation

Early research in attachment, such as the Strange Situation studies, emphasized the observation of behavior rather than exploring internal processes (Hesse & Main, 1999). In recent years, however, studies in the field of attachment have increasingly focused on the role of mental representations underlying attachment (Main, 1995). Bowlby (1969, 1982) theorized that attachment behaviors, such as those observed in the Strange Situation, are initially governed by instinct, but eventually come to be guided by cognitive processes in the form of internal working models of attachment (Slade, Belsky, Aber, & Phelps, 1999). Based on these ideas, Mary Main and her colleagues Nancy Kaplan and Jude Cassidy (1985) asserted that studying attachment processes at the "level of representation" rather than focusing only on behavior was a meaningful endeavor. In particular, they were interested in exploring links between children's attachment classification and their caregivers' mental representations of their own early attachment experiences (Slade et al., 1999). To this end, Main, together with Kaplan and Carol George, designed the first reliable measure for assessing attachment in adults, the Adult Attachment Interview (AAI) (George, Kaplan, & Main, 1984).

The AAI is a structured clinical interview designed, as Main has remarked, to "surprise the unconscious" (Main, 1991, p. 141). Participants are asked to choose five adjectives which best characterize their relationship with each parent during childhood, and then to provide specific episodic memories as illustrations. They are then queried about attachment-related childhood experiences of loss, rejection, and separation.

Further, subjects are asked to reflect on how these early experiences contributed to their adult functioning and personality development (Main et al., 1985). Due to the format of the interview, there are many opportunities for participants to contradict themselves or to fail to support statements consistently. Main and Goldwyn's (1984–1994) system of scoring the AAI is based on careful analysis of the fully transcribed interview, with particular emphasis on contradictions and inconsistencies in the discourse. Main (1991) later found the work of the linguistic philosopher Grice (1975) useful in coding the narratives for coherence. Grice's "Cooperative Principle," a general model of coherent discourse, identifies four maxims: quality ("be truthful, and have evidence for what you say"), quantity ("be succinct, and yet complete"), relation ("be relevant"), and manner ("be clear and orderly"). Main considers a given speaker's adherence to, or violation of, these maxims central to scoring the protocol (Main, 1991). Four attachment categories— or, as Main refers to them, "states of mind with respect to attachment"—have been identified using their coding system. Main et al. (1985) also found that these four states of mind, as reflected in the quality of the attachment narratives of both mothers and fathers, were correlated with their infants' patterns of behavior during the Strange Situation.

Adults classified as secure-autonomous, who tend to have securely-attached infants, are coherent, clear, and collaborative in discussing life experiences, and can readily access and discuss both positive and negative childhood memories and feelings surrounding caregivers. Additionally, secure adults value attachment relationships and are able to reflect on parental influence on their own personality and development. Their affect regulatory style remains flexible throughout the interview.

In contrast, adults with a dismissing style, whose infants tend to display insecure-avoidant attachment behavior, minimize the importance of attachment relationships and report painful early experiences of rejection or loss in a detached, sparse, sometimes contradictory manner. Dismissing adults are thought to use minimization, avoidance, and denial to overregulate negative affect, which they experience as particularly threatening. They often insist on a lack of memories involving early attachment figures, yet recent research suggests that they are able to recall non-attachment-related autobiographical events (see van IJzendoorn, 1995). Dismissing narratives violate Grice's maxim of quality in that these adults describe their parents in highly idealized terms but then contradict or fail to support that characterization over the course of the interview.

Preoccupied adults, who typically have insecure-resistant infants, present as confused, angry, or passive in relation to attachment figures. Unlike dismissing adults, they have little difficulty recalling their early history. On the contrary, they appear flooded by childhood memories; the interview questions appear to trigger excessive preoccupation with attachment-related memories at the expense of the quality of the discourse (e.g., once they begin answering a question, they become confused or unable to stop talking; Main, 1993). Also in contrast to dismissing adults, preoccupied individuals experience heightened affect throughout the interview and are seen as lacking in their capacity for affect regulation. Transcripts classified as preoccupied often violate Grice's maxims of manner (seen in the use of psychological jargon, nonsense words, and childlike speech), relevance (such as when a question about an early relationship elicits a response about a recent interaction), and quantity (for instance, failure to follow conversational turns) (Main, 1995).

Adults in the fourth category, which Main calls "unresolved-disorganized with respect to mourning or trauma," typically have disorganized infants. Interviews of unresolved-disorganized individuals are characterized by significant lapses in metacognitive monitoring (see below for a more detailed discussion). Specifically, these lapses of reason or discourse occur during discussion of traumatic experiences and are thought to reflect unintegrated memories or affects tied to these experiences. The signs of disorganization seen in these adults are thought to reflect a failure of defensive strategies (Fonagy et al., 1995).

The "Transmission Gap"

Following the development of the AAI, an impressive array of empirical studies have confirmed a transgenerational link between AAI classifications of mothers and the Strange Situation classifications of their infants (see Fonagy et al., 1995). In a meta-analysis of 18 research studies on the intergenerational transmission of attachment, involving 853 parent-child dyads, van IJzendoorn (1995) found a 70–80% correspondence between infant and parent attachment status across studies. This figure is particularly impressive given that the studies in question involved diverse populations, experimental designs, and cultural contexts (see van IJzendoorn, 1995, for a comprehensive review).

These findings have piqued researchers' curiosity about the mechanism through which a mother's state of mind is transmitted to her child. Main and her colleagues (Main et al., 1985), building on Ainsworth's data regarding maternal responsiveness, initially postulated that the mother's state of mind is conveyed to the child through maternal

behavior. Indeed, many researchers believed that secure mothers would be able to respond sensitively to their child's needs and that insecure mothers would lack this capacity, and that in turn these patterns of maternal behavior would predict attachment styles in infants. As van IJzendoorn (1995) showed, however, research has failed to produce consistent evidence of a link between maternal sensitivity and infant attachment status, and only weak links have been established between maternal attachment, infant attachment, and maternal behavior (Fonagy et al., 1995; Slade, Grienenberger, Bernbach, Levy, & Locker, 2005). van IJzendoorn (1995) coined the term "the transmission gap" in reference to the finding that maternal sensitivity does not fully account for the correlation between infant and parent attachment.

In a recent series of studies, Slade and her colleagues (Slade, Grienenberger, Bernbach, Levy, & Locker, 2005; Grienenberger, Slade, & Kelly, 2005) proposed that maternal reflective function is linked to both infant and maternal attachment style, and that it plays a key role in the intergenerational transmission of attachment. As described in more detail below, the concept of reflective function (RF), as defined by Fonagy and his colleagues (2002), refers to an individual's capacity to understand her own and others' behavior in terms of underlying mental states and intentions. In the context of parenting, RF refers to a parent's capacity "keep the child in mind"—that is, to imagine and make sense of her child's mental states, and to use this understanding in guiding her own responses to her child. The mother's reflective capacity, in turn, makes it possible for the child to discover his own mind and to experience himself as a feeling, intentional being (Slade et al., 2005). Slade et al.'s recent studies highlight the important role of parental mentalizing capacities; they found that maternal RF is predictive of secure

attachment organization in the child (Slade et al.) and that maternal RF is negatively

correlated with hostile, intrusive, or withdrawn caregiving behaviors (Grienenberger et

al., 2005).

The Quality of Attachment Representations

Narrative Coherence and Metacognitive Monitoring

Main's emphasis on the role of representation, and her study of the differential

cognitive and linguistic features of specific attachment categories, paved the way for a

revolution in researchers' understanding and assessment of representational processes

(Slade, 1999a). For Main, the capacity to represent past experiences in a *coherent*

narrative is the most significant aspect of adult security, as measured by the AAI (see

Slade, 1999a). To be coherent, an interview must possess "overall plausibility" and must

adhere to Grice's four maxims, as previously described. Attachment-related events and

their attendant emotions are conveyed, as required by Grice's model, without distortion,

contradiction, or derailment of discourse. In addition, the speaker engages in

collaborative processes with the interviewer, such as clarifying meanings and ensuring

that he is being understood. Main defined *metacognitive monitoring* as the adult's

capacity to "step back and consider his or her own cognitive processes as objects of

thought or reflection" (1991, p. 135). She further suggests that coherence and

collaboration with the listener are the product of the adult having successfully developed

a single, internally-consistent working model of attachment that allows for the integration

of the complexities of attachment experience. In contrast, when acknowledgment of such

memories is felt as threatening to the self or current relationships, multiple models of attachment are formed. The adult's distortions and incoherence on the AAI are the cognitive and linguistic manifestations of the existence of these multiple contradictory models. These multiple models persist into adulthood when failures of corrective metacognitive monitoring occur.

Reflective Functioning and Mentalization

Main's concept of metacognitive monitoring, and her focus on the importance of the capacity to "consider [one's] own cognitive processes as objects of reflection" (1991, p. 132), prefigure Peter Fonagy's notions of reflective functioning (RF) and mentalization. Fonagy and his colleagues (Fonagy, Steele, Moran, Steele, & Higgitt, 1991; Fonagy et al., 1995; Fonagy & Target, 1998; Target & Fonagy, 1998) have significantly extended Main's concept of metacognitive monitoring to include not only the capacity to observe one's own cognitive and representational processes, but also the ability to reflect on the mental states of others. In so doing, they added an important interpersonal and intersubjective element to Main's ideas of self-monitoring. Fonagy defines RF as an operationalization of the capacity for mentalization, or "the ability to apply a mentalistic interpretational strategy" (Fonagy, 2002, p. 430) and asserts that RF

> ". . . implies awareness that experiences give rise to certain beliefs and emotions, that particular beliefs and desires tend to result in certain kinds of behavior, that there are transactional relationships between beliefs and emotions, and that particular developmental phases or relationships are associated with certain feelings and beliefs." (Fonagy et al., 2002, p. 430).

Fonagy and his colleagues' focus on affective experience is another important expansion of the concept of metacognitive monitoring. They suggest that coherence and other signs

of metacognitive monitoring in discourse signal the capacity to reflect upon internal experience, particularly affective experience, in a complex, dynamic manner (Slade, 1999a). RF theory also has roots in current cognitive science research involving the child's developmental acquisition of "a theory of mind" or an "intentional stance" (Baron-Cohen, 1995; Dennett, 1978, 1987; Premack & Woodruff, 1978). For Fonagy, the capacity for mentalization, which he defines as "the capacity to perceive and understand oneself and others in terms of mental states (feelings, beliefs, intentions, and desires)" (1995, p. 7), is a critical developmental achievement for the child, and is greatly facilitated by secure parent-infant attachment. In children, the development of the ability to mentalize enables them to see others' behavior as predictable and meaningful and thus enhances their ability to respond adaptively to a wide range of situations. According to Fonagy, RF is essential for the experience of self-agency, as well as for the development of a complex representation of the self, inner processes, and close relationships (Slade, 1999a).

Within the mother-child relationship, RF allows the mother to understand and reflect upon her child's inner experience, which creates the context for a secure relationship. A mother who can reflect on her child's mental states as well as her own forms a representation of her child as an intentional being, someone who is "mentalizing, desiring, believing." The child perceives, and then internalizes, this image of himself as an intentional being represented in the mind of the caregiver. This internalized image then becomes "the core of [the child's] mentalizing self" (Fonagy et al., 1995, p. 257). Fonagy's theory also incorporates the concept of containment (Bion, 1962) as an important parental function. A reflective parent has the capacity not only to understand

her child's behaviors in light of his mental states, but also to re-present the child's experience to him in a tolerable, "metabolized" form (Fonagy et al., 1998). Indeed, Fonagy (1995) asserts that secure attachment is the result of successful containment and regulation, whereas failures in containment result in insecure attachment. Results from Fonagy et al.'s London Parent-Child Project (1991, 1995) suggest important links between attachment classification and RF. Parents with high RF levels were highly likely to be classified as secure on the AAI, and their children were highly likely to be classified as secure at 1 year of age. Similarly, low RF parents were likely to be classified as insecure on the AAI, and their children were likely to be judged insecure.

Furthermore, Fonagy and his colleagues underline the importance of reflective capacity as both a protective and mediating factor in cases of abuse or trauma. A child who can conceive of mental states in the other can also conceive of the possibility that the parent's rejection or maltreatment of him may be based on false beliefs. In this way, the child can moderate the impact of negative experience on his development of self. Moreover, once a child can mentalize, he can defensively manipulate mental representations to make the world a tolerable place. As long as the child cannot look beyond appearances, Fonagy (Target & Fonagy, 1998) asserts, he will understand a mother's inconsistency or hostility as a sign of something bad about him. A child who has reflective capacities, on the other hand, can understand his mother's behavior as a result of her emotional state. For example, a mother's rejecting behaviors can be understood as reactions to her own emotional needs, rather than to the child as a "bad" or undeserving object, thereby allowing the child to hold on to a positive view of himself. Research on an inpatient sample by Fonagy and his colleagues provided empirical

evidence that RF acts as a mediator between early traumatic experiences and later severe

psychopathology; among adults who had experienced early trauma, those who possessed

reflective capacities were much less likely to develop borderline personality disorder than

those who did not (Fonagy et al., 1995).

Parental Representations of the Child

As reviewed above, the AAI, in providing a means of examining qualitative

differences in attachment representations, has broadened attachment research in

important ways. As a result, the great majority of theoretical and empirical work over the

last two decades in the area of representations in adults has focused on the capacity, in

adulthood, to represent and reflect on past experiences. Bowlby's theory of attachment

(1969, 1982), however, suggests that just as children are instinctively motivated to

become attached their caregivers, parents are instinctively motivated to become attached

to their children. As a result, parents form representations or internal working models of

this relationship, and of their child (Slade & Cohen, 1996). These representations, much

more so than those tapped by the AAI, are understood as dynamic and open to change,

since they involve current relationships that are constantly evolving. Over the past

decade, several research groups have studied the nature and development of "parental

representations of the child," or representations that are being formed in the context of

current, ongoing parent-child relationships (Aber, Belsky, Slade, & Crnic, 1999; Benoit,

Parker, & Zeanah, 1997; George & Solomon, 1989, 1996; Slade, Belsky, Aber, & Phelps,

1999; Zeanah & Benoit, 1995). To this end, these researchers have developed two main

interviews and three coding systems. All of these approaches rely on verbatim transcripts of interviews with parents regarding their relationship with their child.

Zeanah et al.: The Working Model of the Child Interview

George and Solomon (1989, 1996) and Zeanah and his colleagues (Benoit et al., 1997; Zeanah & Benoit, 1995) have designed categorical classification systems, analogous to those used with the Strange Situation and the AAI, to score representational interviews. Zeanah and Benoit's Working Model of the Child Interview (WMCI) asks the parent to describe their child's personality and characteristics, their relationship with their child, and their reactions to their child's behavior in various scenarios. A parent's representation of the child is classified as either "balanced," "disengaged," or "distorted." These categories parallel Main's secure, dismissing, and preoccupied categories, and indeed Zeanah and his colleagues found high correlations between these categories and AAI classifications. Moreover, they report strong concordances between parental representations and Strange Situation classifications (Zeanah & Benoit, 1995).

In their first study (Zeanah et al., 1994), using a sample of 45 middle-class mothers and their one-year-old infants, Zeanah and his colleagues found a concordance of 69% between mothers' WMCI classifications and their infants' Strange Situation classifications. A subsequent study (Benoit et al., 1997) of 78 mother-infant dyads revealed that mothers' WMCI classifications obtained during pregnancy were significant predictors of infants' Strange Situation classifications at 12 months in 74% of the dyads. These findings suggest that infant security of attachment is predicted by mothers' descriptions of their infants assessed both prenatally and 1 year postnatally. A related

body of research (Fonagy, Steele, & Steele, 1991; Benoit & Parker, 1994) has shown

that parents' prenatal AAI classifications are predictive of infant attachment status at 1

year of age.

In a study (Benoit, Zeanah, Parker, Nicholson, & Coolbear, 1997) of infants

clinically referred for sleep disorders, failure to thrive, and other disorders, the authors

report that 91% of mothers of infants with clinical problems were classified as

disengaged or distorted, compared to 62% of mothers of children without clinical

problems. Taken together, Zeanah et al.'s findings suggest that a parent's representations

of her child (1) are related to her representations of her own early attachment

experiences, (2) influence the child's quality of attachment, and (3) are correlated with

child health outcomes.

George and Solomon: The Caregiving Interview

In contrast to Zeanah et al.'s system, which examines the parent's representation

of the child, George and Solomon's (1989, 1993, 1996) model focuses on the mother's

representation of herself as caregiver. To assess these representations, George and

Solomon adapted the Parent Development Interview (Aber, Slade, Berger, Bresgi, &

Kaplan, 1985) to create the Caregiving Interview (George & Solomon, 1993), which asks

individuals to describe themselves as parents and to discuss various aspects of their

relationship with their child. George and Solomon's system classifies parental

representations as "secure," "rejecting," "uncertain," or "helpless," categories that

correspond, respectively, to Main and Goldwyn's secure, insecure-dismissing, insecure-

preoccupied, and disorganized-unresolved categories. In a study of middle-class dyads of

mothers with six-year-old children, 26 of the 32 total cases were found to be concordant

for child attachment classification and maternal internal working models of caregiving,

and significant concordance (69%) was found between caregiving classifications and

AAI classifications.

Slade, Aber, and Colleagues: The Parent Development Interview and The Pregnancy

Interview

        Slade and Aber and their colleagues have explored the complexities of parental

representation during both pregnancy and early childhood, and they have developed two

interviews to assess these representations during each stage: the Pregnancy Interview

(PI) (Slade, Huganir, Grunebaum, & Reeves, 1987) and the Parent Development

Interview (PDI) (Aber, Slade, Berger, Bresgi, & Kaplan, 1985). Because these measures

are utilized in this study, they are discussed in detail below, followed by a discussion of

relevant research.

        The Parent Development Interview

        Slade and Aber, along with their colleagues, adopted a different approach from

that of Zeanah et al. and George and Solomon to evaluate parents' representations of their

relationship with their children. In contrast to the scoring systems of the two models

described above, the original scoring system for the Parent Development Interview,

developed in the 1980s, was dimensional rather than categorical, using a series of rating

scales that assessed affective and organizational features of the mother's representation of

the parent-child relationship (Slade, Aber, Belsky, & Phelps, 1999). These scales were

used to assess three major dimensions of maternal representations: (1) parental representations of the affective experience of parenting, (2) parental representations of the child's affective experience, and (3) parental state of mind in relation to the child. This scoring method was important because it enabled researchers to examine in detail specific affective domains of maternal representations of the child that are not necessarily captured in the categorical scoring systems of adult representations.

The PDI is a semi-structured clinical interview with 45 questions and probes designed to explore parents' representations of their children, of their relationships with their children, and of themselves as parents. Unlike the AAI, in which adults are asked about their past relationships with their parents, the PDI elicits representations regarding a current, ongoing, "live" relationship that is still evolving, that of the parent with her child. The parent is asked to describe her child's behavior, thoughts, and feelings in various situations, as well as her responses to her child in these situations. The parent is also asked to describe herself as a parent and to discuss emotions stimulated by the experience of parenting.

The PDI was first used for empirical study by Slade, Belsky, Aber, and Phelps (1999), working with a sample of 150 middle- and working-class rural mothers and their firstborn sons. The interviews were coded according to the three major dimensions mentioned above. Codes for the parents' representations of the affective experience of parenting included anger, neediness, separation distress, guilt/shame, joy/pleasure, and competence/efficacy. Parents' representations of the child's affective experience were coded for anger, child separation distress, child dependence-independence, and child joy/pleasure. Finally, the overall quality of parental state of mind was coded for

coherence of the representation of the child and richness of the perception of parental representations. Factor analysis of these 16 PDI variables yielded three clear factors: (1) Joy-Pleasure/Coherence, (2) Anger, and (c) Guilt-Separation Distress.

The authors then used this coding system to examine the relationship between mothers' AAI classifications, qualitative features of maternal representations of the child, and positive and negative mothering behaviors. They found that mothers who were judged secure on the AAI scored higher on the Joy-Pleasure/Coherence dimension than mothers judged insecure on the AAI, and that dismissing mothers scored higher than the other two groups on the Anger factor. In a separate analysis, mothers who scored higher on the Joy-Pleasure/Coherence dimension were more positive and less negative in their mothering behaviors than were mothers who scored lower. Additionally, mothers who expressed more direct anger were found to demonstrate less positive mothering.

Furthermore, an analysis was performed to assess the hypothesis that parental representations of the child play a mediating role in the link between adult attachment and mothering behaviors. The authors found that when they controlled for the influence of PDI scores, the relationship between security on the AAI and negative mothering became insignificant. These results suggest an interrelationship between parental representations of the child, parental representations of attachment, and parenting behavior. Further, they suggest that parental representations of the child may mediate the relationship between attachment and behavior. These findings have particular relevance for cases involving abuse or trauma, as they suggest that the mother's parental representations play a central role in breaking maladaptive intergenerational cycles of insecure attachment.

PDIs were also collected in an urban middle-class sample, and analysis of these PDIs

bolstered the construct and predictive validity of the interview. In one study, Hermelin-

Kuttner (1998) found correlations between mothers' ego flexibility during pregnancy and

low levels of anger and high levels of separation distress for the mothers on the PDI when

infants were 10 months old. Hartmann (1998), examining the relationship between

mothers' representations of their child at 28 months and the quality of dyadic play

behaviors, found that high levels of maternal separation distress were predictive of

responsive maternal play behaviors. The findings of these two studies suggest complex

relationships between maternal representations of the child and capacities of both the

child and the mother (Slade, 2005).

In recent years, Slade and her colleagues (Slade, Bernbach, Grienenberger, Levy,

& Locker, 1999) have adapted Fonagy's scale for measuring reflective functioning on the

AAI for use with the PDI. A number of studies using this coding system on the PDI have

been conducted; Grienenberger, Kelly, and Slade (2005) found a negative correlation

between maternal RF and hostile, intrusive, or withdrawn caregiving behaviors, and

Slade, Grienenberger, Bernbach, Levy, and Locker (2005) found that maternal RF is

predictive of secure attachment organization in the child. In related work, Mayes and her

colleagues, working with a high-risk sample, found that mothers who used cocaine during

pregnancy had significantly lower RF scores on the PDI than their drug-free counterparts.

In addition, results from this same study showed that maternal RF correlated positively

with child attention, social skills, and adaptability, and negatively with parent distress,

parent-child dysfunction, and child withdrawal (Truman & Levy, 2002).

Measuring RF Using the Parent Development Interview

RF is scored on an 11-point scale from –1 to +9, with higher scores reflecting higher levels of RF. The range of scores found in poverty samples is 1 to 6, with a mean of 4 (Grienenberger, Kelly, & Slade, 2005; Slade, Grienenberger, Bernbach, Levy, & Locker, 2005). In all studies, scoring reliabilities above .80 have been regularly achieved (Grienenberger et al., 2005; Slade et al., 2005).

The Pregnancy Interview

Recently, the scoring system for coding RF on the PDI has been expanded for use with the Pregnancy Interview (Slade & Patterson, 2005). As with the PDI, when the PI was first developed by Slade and her colleagues, the accompanying scoring system (Slade et al., 1994) was dimensional rather than categorical, and was designed to evaluate various dimensions of parental representation. In particular, the coding system assessed three principal areas of interest: the mother's developing representations of her baby, her parental representations, and her state of mind (Slade et al., 1994). This initial coding system was used in a small number of pilot studies (see Grunebaum, 1991; Reeves, 1992; Gerber, 2000; Graf, 2000; Sitrin, 2001).

To date, the RF scoring system for the PI has been used in a single pilot study by Patterson, Slade, and Sadler (2005), working with a sub-sample of the New Haven mothers used in the present study. Looking at relationships between RF levels, traumatic experience, and maternal representations of the child, Patterson et al. found a significant negative correlation ($r = –.43$) between trauma symptomatology and maternal RF level— that is, the fewer trauma symptoms reported by the mother, the higher the RF. In

addition, the mean RF score of mothers who reported a history of physical and/or sexual abuse was significantly lower than that of mothers who did not report such abuse.

Like the PDI, the PI is a semi-structured clinical interview that has been shown to predict to adult attachment classification. It has 39 questions and probes and was developed to assess the quality of a mother's representation of her relationship with her unborn child. The interview, which is administered during the third trimester, assesses a variety of aspects of the mother's view of her emotional experience with pregnancy and her expectations and fantasies regarding her future relationship with her child. Mothers are asked about emotionally difficult moments during their pregnancy, how their relationship with their own mothers has changed since becoming pregnant, and lifestyle changes they have made while pregnant.

Many questions on the PI tap into the mother's pre-natal representations of her fetus. For instance, the mother is asked to describe her current relationship to the fetus as well as what she imagines her baby will be like. In addition, the interview aims to capture the mother's pre-natal representations of herself as a caregiver, focusing in particular on the mother's capacity to identify with, respond to, and anticipate the needs of her fetus at present and her newborn in the near future.

Measuring RF Using the Pregnancy Interview

As mentioned previously, only one study to date (Patterson, Slade, & Sadler, 2005) has assessed RF levels using the PI. Working with an inner-city sample, Patterson et al. found a mean overall RF score of 3.15 on a scale of –1 to +9, with higher scores reflecting higher levels of RF. Scores ranged between 1 and 5, which is consistent with

findings from other studies of RF in low socioeconomic samples (Truman & Levy, 2002; Schechter et al., 2005).

Pregnancy as a Developmental Stage

Among psychoanalytic theorists, pregnancy—particularly a woman's first pregnancy—is considered a new developmental stage wherein the mother must navigate multiple internal and external demands, including "dramatic hormonal upheavals, radical bodily transformations, and significant shifts in social role expectations" (Frank, Tuber, Slade, & Garrod, 1994, p. 476). Bibring (1959) posits that all women, regardless of their previous psychological health, experience a "maturational crisis" during pregnancy, and that this crisis leads to extreme psychological disequilibrium. In a similar vein, Pines (1982) argues that the affective and psychic upheaval inherent in pregnancy makes it a time of developmental transformation on par with puberty and menopause. Benedek (1959, 1970) refers to impending motherhood as a "critical phase" in a woman's life; if she is able to meet the developmental challenges of pregnancy, she may achieve a healthy reworking and reorganization of her own early experiences of care and nurture, but if she is unable to manage the demands of this period, a developmental crisis ensues. For mothers who have received inadequate parenting themselves and lack support from their partner and family, the experience of becoming a parent can be enormously disorganizing and dysregulating. In these cases, "ghosts in the nursery"—that is, the mother's own unresolved and unintegrated past experiences—may intrude upon the present and interfere with her ability to act as a sensitive, responsive caregiver to her own child.

In the sub-sample of women in the present study, 62% of mothers are teenage

mothers. These mothers must undergo a "dual developmental" process (Slade, Cohen, Sadler, & Miller, in press) in which they simultaneously negotiate the developmental tasks of adolescence and of motherhood. Moreover, many teen mothers struggle with additional challenges, such as mental health issues, environmental stressors, histories of abuse, and single parenthood (Moore & Brooks-Gunn, 2002; Slade et al., in press). Thus teenage mothers require substantial support, both from family and from specialized programs designed for teen parents (Sadler & Cowlin, 2003; Sadler et al., 2007).

RF During Pregnancy

Reflective functioning during pregnancy, as measured on the Pregnancy Interview, is unique in that it is assessed through parental descriptions of an *imagined* relationship with the child. In contrast to the AAI, which asks for descriptions of relationships that were formed in the past, and the PDI, which refers to relationships that are ongoing, the PI asks parents to describe a relationship that has, as of yet, no basis in concrete reality. Since the baby is unobservable during pregnancy, the mother's prenatal representations of the baby, and of herself in relation to him, are governed by fantasy. RF becomes critical in this context because it enables the mother to "play" with her fantasies, both positive and negative, about her child and herself as mother. Slade and Patterson (2007) refer to this experience of "play[ing] with the idea of becoming a mother" (pp. 5–6) as a form of *reverie*. They posit that such reverie serves a critical purpose in regulating and managing the anxiety that naturally arises during pregnancy. In particular, Slade and Patterson emphasize the importance of *pleasurable* reverie during pregnancy— "that state in which the mother loses herself in the quiet but sometimes exquisite

pleasures of anticipating her child in all his perfection" (p. 6)—as a way of "making room for the baby." A mother who can engage in pleasurable reverie is likely to have predominantly positive prenatal representations of her baby and herself, paving the way for a smoother transition to motherhood.

Moreover, reflective function plays a vital role in pregnancy in that it enables the mother to begin to grapple with the "meeting of two minds": her own and the imagined mind of her baby (Patterson, Slade, & Sadler, 2005; Slade & Patterson, 2007). The mother must be able to imagine her child as a being that will have a mind of his own, with feelings, intentions, and desires that are entirely different from hers—that is, to hold his mind in her mind. At the same time, she must hold her own mind in mind in order to maintain a stable sense of self amidst the transformations inherent in pregnancy. Further, the mother must anticipate and adjust to the fact that the baby that was once part of her will become, at birth, simultaneously completely dependent on her and also separate and distinct from her. Slade and Patterson (2007) maintain that managing this tension is "at the heart of parenthood" (p. 4). Reflective functioning—the capacity to envision mental states, including thoughts, feelings, desires, intentions, and beliefs, in the self and the other, and to ultimately be able to think about and respond to one's own and others' mental states—is essential in preparing the mother for this dialectic.

Relationship-Based Interventions

In the 20 years following the publication of Bowlby's trilogy on attachment, attachment theory generated a great deal of research within the field of child

development. Yet as Slade and Aber (1992) and Lieberman and Zeanah (1999) note, changes in clinical practice were slow to follow. Lieberman and Zeanah attribute this lag both to "a dearth of clinical writings from the seminal figures in attachment theory" (p. 560)—namely Bowlby and Ainsworth—and also to the general hostility of leading psychoanalysts toward attachment theory at the time. As a result, for many years attachment theory was considered primarily of academic, rather than clinical, importance (Lieberman & Zeanah, 1999).

An important exception was infant-parent psychotherapy, developed in the 1970s by Selma Fraiberg and her colleagues Vivian Shapiro and Edna Adelson. Infant-parent psychotherapy was developed to treat disturbances in the parent-infant dyad in the first three years of life through visits to the home (Fraiberg, 1980). Like Bowlby, Fraiberg emphasized the role of the mother-child relationship in healthy emotional and social development (Lieberman & Zeanah, 1999). Another exception was the nurse home visiting program developed by David Olds, Harriet Kitzman, and their colleagues, also in the 1970s. Olds, who studied with Ainsworth, firmly believed in the importance of the parent-infant relationship and designed his intervention with the ultimate goal of improving this relationship. Both Fraiberg and Olds' models are *relationship-based*, meaning that they assume that the mutative factor in enhancing early attachments is the *curative relationship with an intervenor* (see Slade, Sadler & Mayes, 2005).

In the past decade, many more relationship-based interventions, some of them specifically designed to alter and/or measure attachment, have been developed and implemented. Both Alicia Lieberman and Christoph Heinicke have elaborated on Fraiberg's model and developed methods to empirically study the impact of infant-parent

psychotherapy on attachment. Glen Cooper, Kent Hoffman, Robert Marvin, and Bert Powell have created the Circle of Security (COS) project (Marvin et al., 2002; Cooper et al., 2005), which explicitly aims to modify attachment relationships in mother-infant dyads and uses attachment measures as an outcome variable. Similarly, "Minding the Baby," developed by Slade, Mayes, and Sadler (2005), is grounded in attachment theory and incorporates elements of both Fraiberg and Olds' models.

All of these relationship-based approaches share the central tenet that the success of the therapy largely lies in the "therapeutic" relationship between the parent and the intervenor. Olds et al. (1997) assert that the home visitor's relationship with the mother acts as a "parallel process" that helps the mother interact with her child. Lieberman refers to the mother-clinician relationship as a "corrective attachment experience" (Lieberman, 1991, p. 202), and Heinicke states that "the primary goal of the intervention . . . is to offer the mother the experience of a stable, trustworthy relationship" with the visitor (Heinicke et al., 2000, p. 137). Cooper et al. argue that "the reciprocal relationship between seeking protection and developing new capacities applies to the therapist-parent relationship in a manner parallel to that of the parent-child relationship" (Cooper et al., 2005, p. 140). Slade, Sadler, and Mayes state that "unifying all aspects of [their] intervention is the notion that all change is mediated through therapeutic relationships with the home visitors" (Slade, Sadler, & Mayes, 2005, p. 158). Commenting on relationship-based home intervention models, Daniel Stern (2006) points out the ramifications for theory and research of the "therapeutic relationship" concept:

> A greater effort must be spent on the process whereby the relationship itself becomes the point of research and study. . . . The subject matter of therapeutic interest no longer resides within the patient-client's mind nor within the home visitor-therapist's mind but rather in the products of the interaction. The process

of interrelating, itself, brings about change. It brings about new experiences, feelings, insights, and interactional skills (Stern, 2006, pp. 2–3).

The present study examines the impact of an interdisciplinary, relationship-based home visiting model on maternal reflective functioning.

The Nurse Family Partnership

The Nurse Family Partnership (NFP), developed by David Olds and his colleagues in the 1970s, is the most well-known, valid, and successful nurse home visiting model in the United States (Olds, Hill, Robinson, Song, & Little, 2000; Slade, Sadler, & Mayes, 2005). In Olds' model, which serves high-risk first-time mothers and their infants, specially-trained public health nurses conduct frequent home visits starting at the end of the mother's second trimester and continuing through the child's second birthday. To date, the NFP program has been tested in three randomized controlled trials conducted in Elmira, New York, Memphis, Tennessee, and Denver, Colorado. Long-term studies of the Elmira and Memphis trials consistently show that in comparison to control families, nurse-visited families had significantly better outcomes with respect to both mother-child interactions and child mental developmental outcomes at 24 months (Olds, 2002). Specific positive effects of NFP interventions include increases in employment and father involvement, as well as reduction of smoking, preterm births, subsequent pregnancies, time on welfare, and visits to the emergency room for illness and injury during infancy and childhood (Olds, 2002). A 15-year follow-up of the Elmira sample showed that low-income, unmarried mothers who received the intervention were less likely to have abused or neglected their children, and that these mothers had spent less time on welfare, had fewer behavior problems linked to substance abuse, and had fewer

subsequent pregnancies and fewer arrests. Further, the children in these families had fewer arrests, instances of running away, convictions/probation violations, sexual partners, and days of consuming alcohol (Olds et al., 2000).

Over the last 25 years, Olds and other researchers, in light of the results of these trials, have formulated several important questions about the NFP. One was whether such services could be delivered equally well by "paraprofessionals," lay community health workers with no formal training in the health professions. To address this question, Olds and his colleagues conducted a controlled, randomized trial in Denver in which mothers were assigned to either control, paraprofessional, or nurse conditions. The research team chose to employ paraprofessionals who had not completed any education beyond high school and who shared many of the social characteristics of the families they served, since it is commonly believed that such shared characteristics may enhance the visitor's empathy for the family; likewise, the family may be more likely to trust a visitor who is similar to them. The paraprofessionals were trained in the same program model that proved successful in the Elmira and Memphis samples. To date, findings from the Denver trial suggest that nurses have significantly greater success than paraprofessionals in producing positive outcomes. More specifically, for most outcomes on which the nurses produced significant beneficial effects, the paraprofessionals' effects were approximately half the size of those produced by nurses (Robinson, Emde, & Korfmacher, 1997).

Another question that has emerged from NFP trials is how to best meet the mental health needs of the high-risk mothers served by nurse home visiting programs. Research suggests that mothers challenged by substantial mental health issues often do poorly in nurse-only home visit programs, as their needs are overwhelming and preclude full

participation in the nursing intervention (Olds, Kitzman, Cole, & Robinson, 1997; Olds,

Hill, Robinson, Song, & Little, 2000; Boris et al., 2006). Robinson et al. (1997), working

with the Denver sample, attempted to address this problem by expanding the nurse

training component of the NFP model to include a focus on emotional development and

the dynamic affect regulatory processes that occur in mother-infant dyads. Moreover, in

1999, a new NFP program was initiated in Louisiana, following the same implementation

as the previous three trials but with one augmentation: the addition of a mental health

specialist who consults with the nurse home visitors in ongoing case conferences (Boris

et al., 2006; Zeanah, Larrieu, Boris, & Nagle, 2006). This modified version was

developed in response to the high prevalence of depressive symptoms in the Louisiana

sample; given the evidence of the negative effects of maternal depression on the mother-

infant relationship, it was hoped that an augmented version of the NFP program might

reduce depressive symptoms and thereby further improve mother and child outcomes.

Infant-Parent Psychotherapy

At the same time that Olds was creating the NFP model in the late 1970s, Selma

Fraiberg was developing her own home-based intervention model for high-risk mothers

and their families. Fraiberg described her treatment model as one that was used when the

infant has become

> the representative of figures within the parental past, or a representative of an
> aspect of the parental self that is repudiated or negated. In some cases the baby
> himself seems engulfed in the parental neurosis and is showing the early signs of
> emotional disturbance. In treatment, we examine with the parents the past and the
> present in order to free them and their baby from old "ghosts" who have invaded
> the nursery, and then we must make meaningful links between the past and the
> present through interpretations that lead to insight. At the same time . . . we
> maintain the focus on the baby through the provision of developmental

information and discussion. We move back and forth, between present and past, parent and baby, but we always return to the baby (Fraiberg, 1980, p. 61).

Fraiberg's metaphor of "ghosts in the nursery" refers to her premise that as a result of unresolved conflicts with attachment figures from their own childhood, parents perceive their infant's behavior and personality in distorted ways. Emotions and memories from the parent's past that remain unintegrated and unacknowledged in the present prevent the parent from hearing and responding to her baby. In Fraiberg's model, links between a parent's past and her present feelings and attitude toward her infant are of primary importance to the therapist in understanding and working with the parent-infant dyad.

Fraiberg's approach called for the baby to be present during the therapy sessions, a revolutionary concept at the time. Her rationale for this practice, which is now routinely incorporated into most treatments of infants and toddlers, was that parental report cannot substitute for direct observation of the infant and of the parent-infant interaction. During treatment sessions with the dyad, the therapist, as a trained observer, can gather information about important themes, distortions, emotional nuances, and the baby's development that would never emerge through parental report and description of the infant alone (see Lieberman, Silverman, & Pawl, 1999; Lieberman & Zeanah, 1999; Slade & Cohen, 1996). Furthermore, the baby's presence in the session allows for therapeutic intervention in the immediate moment, while affect is being experienced and can be addressed directly (Lieberman, Silverman, & Pawl, 1999).

Aside from insight-oriented interpretations, Fraiberg identified three additional therapeutic modalities utilized in parent-infant psychotherapy: (1) brief crisis intervention, (2) developmental guidance, and (3) supportive treatment. The specific needs of the family at a given time determine which approach predominates. Often the

therapist uses these modalities simultaneously within a session or alternates between them from one session to another. Despite psychoanalysis's disapproval of concrete interventions, Fraiberg recognized that in parent-infant work with high-risk families, real-life assistance with problems of living, such as providing a ride to the pediatrician or communicating with public agencies to secure goods and services, can play a crucial role in maintaining the therapeutic alliance. Lieberman and Zeanah (1999) attribute Fraiberg's openness to such non-traditional approaches to her dual training as social worker as well as psychoanalyst.

Alicia Lieberman and the Infant-Parent Program

Established in 1979 by Fraiberg and her colleagues at the San Francisco General Hospital, the Infant-Parent Program (IPP) grew out of the original Child Development Project at the University of Michigan in Ann Arbor (Fraiberg, 1980), which was designed to develop and test the effectiveness of infant-parent psychotherapy for relationship disorders of infancy (Lieberman & Zeanah, 1999). The goal of the IPP, which is partially funded by the city of San Francisco, is to offer infant-parent psychotherapy to families with infants between the ages of zero and three who are at risk for abuse, neglect, and relationship disorders. Many of the families seen at the program face harsh realities: They are among the most impoverished and disenfranchised, and challenges include lack of education, unemployment, homelessness, mental illness, substance abuse, and community and domestic violence (Lieberman & Zeanah, 1999).

Overall, the theoretical and clinical underpinnings of the IPP are identical to those of Fraiberg's initial model, but the original emphasis on links between parents' early

experiences and their current feelings and behavior toward their babies, while still a core component of the program, is balanced by increased attention to individual differences among babies as well an appreciation for the maladaptive caregiving patterns that can arise as a result of the very real and immediate effects of parents' stressful circumstances. As a result, therapists place great importance on being attuned to parents' experience. This requires listening to the parents' own description of their problems, their needs, and their expectations of treatment, as well as their response to the therapist's interventions. Under such conditions, the quality of the parent-therapist relationship is considered the primary mutative factor (Lieberman & Zeanah, 1999; Lieberman, Silverman, & Pawl, 2000). Common symptoms among the children in this population include failure to thrive, depression, separation anxiety, multiple fears, impulsiveness, and uncontrolled anger (Lieberman & Zeanah, 1999).

Regardless of the immediate presenting problem, IPP intervention always begins with an extended assessment period of about six weeks geared to building a strong working alliance with the parent, as well to obtaining an extended history. Sessions involve parent and child and take place either in the home or the office playroom. If possible, at least one home visit is conducted during the assessment process to assess the family's living conditions. Both the assessment and treatment sessions are unstructured, allowing prominent themes to emerge as a result of the parent's free associations as well as the ongoing parent-child interactions. The intervenor observes the relationship between parent and child and how each of them responds to emotional content that emerges during the sessions. Questions, joint play, developmental guidance, emotional support, and insight-oriented interpretations are used to help parents modify their

distorted perceptions of the child and to teach them a more empathic, nuanced set of behaviors to use in interactions with their child. The end goal is to enhance the child's feelings of security with the parent. Further, in all aspects of the treatment, the therapist is "aware of a parallel process between what transpires between the parents and the therapist and what transpires between the parents and the child" (Lieberman & Zeanah, 1999, p. 563). In light of this awareness, the therapist is always careful to be empathically responsive to the emotional needs of both parent and child, and to avoid forcing either the parent or the child to disclose or express negative feelings.

Research Findings: Lieberman and Heinicke

In a study of 100 anxiously attached mother-infant dyads, Lieberman, Weston, and Pawl (1991) conducted the first empirical research regarding the effectiveness of infant-parent psychotherapy. Lieberman et al. considered the study an "integration of the theoretical framework and research methods of attachment theory with the clinical contributions of infant-parent psychotherapy to infant mental health" (Lieberman, Weston, & Pawl, 1991, p. 199)—that is, an opportunity to apply attachment theory-based research techniques (such as the Strange Situation) and ideas (such as the concept of intergenerational transmission of quality of attachment) to the study of infant-parent psychotherapy. In their study, Lieberman et al. first used the Strange Situation to identify infants classified as anxious. These infants and their mothers were then randomly assigned to intervention and control groups. Securely attached dyads were included as a second control group. The researchers hypothesized that after the treatment, dyads in the intervention group would perform better than those in the anxious control group on

measures of maternal empathic responsiveness, infant avoidance, resistance, and anger at the mother, and mother-child partnership in negotiating disagreements.

Results of the study showed that the initial hypotheses were largely confirmed. Dyads in the intervention group performed significantly better than anxious control dyads in the outcome measures and were virtually indistinguishable from the secure control group dyads. Curious about how the treatment method was effective, the research team also evaluated each intervention group mother on three parameters: regularity of attendance at treatment sessions, mother's relationship with the intervenor, and level of therapeutic process achieved. They found that regularity of attendance was not correlated with any of the outcome measures, and that maternal relationship with the intervenor was only correlated with two outcome measures: Mothers who formed a strong positive relationship with the intervenor tended to be more empathic to their children, and their children tended to show less avoidance on reunion. The most influential variable was the level of therapeutic process—meaning the mother's ability to use the therapy to explore her feelings about herself and her child. High levels of therapeutic process were correlated in the predicted directions with most outcome measures both in the mother and the child. These findings suggest three important points about the therapeutic relationship: (1) that treatment attendance by itself does not tend to create change; (2) that the human quality of the mother-intervenor relationship has significant effects on both mother and infant, and (3) that the most impressive results occurred when the mother was able to use the relationship as a "secure base" from which to safely explore herself and her child.

Like Lieberman, Christoph Heinicke, along with his colleagues, has developed a

relationship-based home visiting intervention program, called the UCLA Family

Development Project, based on Fraiberg's principles. Also like Lieberman, Heinicke and

his team use data from their home visiting program, which serves high risk first-time

mothers and their families, to explore the impact of the intervention on maternal and

child variables, including the child's attachment status. In one study by Heinicke et al.,

mothers were randomly assigned to intervention and control groups. The intervention

consisted of weekly or bi-weekly home visits by mental health professionals, as well as a

weekly mother-infant group for dyads with 3- to 15-month-old children. Results show

that at child age 12 months, the mothers in the treatment group scored significantly

higher than their control group counterparts on measures of experienced partner and

family support. Heinicke and his colleagues theorize that because of this increased

feeling of support (from partner, family, and intervenor), mothers are able to explore and

work on personal issues involving themselves and their family, and as a result are more

emotionally available and responsive to their children (Heinicke et al., 1999). Indeed,

mothers in the intervention group were rated as more responsive to their children's needs,

and their children were more secure as measured by the Strange Situation. In addition,

children in the treatment group were more autonomous and task-oriented than their

control counterparts and were encouraged in this regard by their mothers (Heinicke et al.,

1999). Results from more recent studies (Heinicke et al., 2002; Heinicke et al., 2006),

that include measures of the mother's involvement in the intervention as well as her

prebirth attachment status as measured by the AAI, suggest that (1) mothers who are

rated as secure before the birth of their child will be more involved in the work of the

home-visit intervention, and (2) high involvement in the work of the intervention is

correlated in the predicted direction with maternal factors such as responsiveness, encouragement of the child's autonomy, and use of positive forms of control.

The Circle of Security Project

Unlike the programs developed by Fraiberg, Olds et al., Lieberman et al., Heinicke et al., and Slade et al., the Circle of Security Project, created by Glen Cooper, Kent Hoffman, Robert Marvin, and Bert Powell in Spokane, Washington, is not a home-based model. Rather, the Circle of Security intervention involves small groups of at-risk parents who meet for weekly group psychotherapy sessions over 20 weeks, with each visit lasting 75 minutes. The children are present only during pre- and post-intervention assessments, in which they participate in several videotaped activities including the Strange Situation as well as interactions in which the parent reads to the child for five minutes or encourages the child to clean up toys in the Strange Situation room. As part of the pre-intervention protocol, the parent participates in a one-hour videotaped interview, the Circle of Security Interview (COSI), which includes selected questions from the PDI and the AAI as well as probes developed by Marvin et al. Parents are also given a variety of standardized questionnaires concerning issues such as child behavior and stressful life events. Based on attachment classifications, clinical observations, and other factors, specific intervention goals are developed for each dyad. Among the basic premises of the Circle of Security project is that the caregiver has more "degrees of freedom" than the child in changing patterns of caregiving interactions—that is, the most effective intervention for disturbed caregiving relationships is to focus on the caregiver and to work on her behavior patterns and internal working models of attachment with regard to this particular

child. The resulting changes in parent-child interactions, in turn, modify the child's

behavior patterns toward more adaptive strategies (Marvin, Cooper, Hoffman, & Powell,

2002). In order to effect change in the caregivers' behavior and attitudes, the Circle of

Security team has developed a video feedback-based intervention using footage from the

pre-intervention parent-child interactions. During each group therapy session in weeks

three through eight, the group as a whole watches edited video vignettes of one dyad,

chosen to occupy the "hot seat" for that week (Marvin et al., 2002). These vignettes are

carefully edited to illustrate the issues that the group leader has identified as central to

that parent's caregiving strategies.

According to attachment theory, the parent must be capable of meeting the child's

need for exploration while also meeting the child's attachment needs. The underlying

assumption in the Circle of Security program is that all parents are more comfortable with

one of these abilities than the other, and that as a result they tend to over-use one and

under-use the other. To introduce parents to these concepts, Marvin et al. created a

graphic—the "Circle of Security"—that represents the full spectrum of the child's needs

as defined by attachment theory. The upper half of the Circle represents the child's

exploratory system; if the child trusts that his attachment figure will be available and

responsive, he feels free to explore the environment. The bottom half of the Circle

represents the child's attachment system, meaning his need for protection, reassurance,

and emotional and behavioral regulation from his attachment figure. Parents learn that all

dyads tend to be more comfortable on one side of the Circle than the other, and video

vignettes are used to show each parent where they fall on the Circle. Parents also learn

about intergenerational transmission of attachment styles and the links between their

caregiving behaviors and their own caregiver's parenting style. Moreover, parents are introduced to the idea that as a result of their own defensive strategies, they may be passing on insecure patterns of attachment by misinterpreting their child's signals. Over the course of the intervention, parents learn to better observe and reflect on their child's signals, as well as to identify and reflect on their own feelings that are stirred up by their child's needs.

Although the Circle of Security team has not published any formal empirical studies to date, in a recent article (Marvin, Cooper, Hoffman, & Powell, 2002) they report preliminary results based on data from 75 dyads that have completed the protocol. These preliminary results suggest a significant shift in child attachment patterns from Disordered (disorganized) to Ordered (secure, insecure-avoidant, or insecure-resistant) (from 55% to 20%), an increase in the number of children classified as Secure (from 32% to 40%), and a decrease in the number of caregivers classified as Disordered (from 60% to 15%) (Marvin et al., 2002). Additionally, the team describes a second ongoing study aimed, like Olds et al.'s Denver study, at determining if community-based therapists, with training and supervision, are capable of carrying out the protocol. Given the group format of the Circle of Security, as well as the lack of a home visitor, the Circle of Security protocol is promising as a cost-effective model of a relationship-based intervention.

Minding the Baby

In developing the Minding the Baby intervention, Slade and her colleagues focused from the beginning on enhancing parental reflective function as a way to facilitate change in parents and parent-child relationships along many dimensions.

In thinking about parent-infant psychotherapy (Fraiberg, 1980; Heinicke et al., 1999; Lieberman, Weston, & Pawl, 1991), as well as the Circle of Security attachment intervention (Cooper, Hoffman, Powell, & Marvin, 2005; Marvin, Cooper, Hoffman, & Powell, 2002), Slade and her colleagues determined that although those programs had not specifically emphasized the development of reflective functioning, it was likely that "much of these programs' success in changing parental representations of the child, and in altering caregiving practices, were actually the result of *changes in parental reflective functioning that were the by-product of focusing on the parent-child relationship*" (Slade, 2006, emphasis in original). In other words, changes in the parent-child relationship often reflect changes in the mother's capacity to mentalize about her child's thoughts and feelings, to consider his behavior in light of his mental states.

In addition, data from a variety of recent studies (Fonagy, Gergely, Jurist, & Target, 2002; Truman & Levy, 2002; Grienenberger, Kelly, & Slade, 2005; Slade, Grienenberger, Bernbach, Levy, & Locker, 2005) bolster Fonagy's assertion that parental reflective functioning is essential in enabling the child to develop self-regulatory mechanisms and to establish and maintain healthy relationships (Slade, 2005). In the high-risk population served by the Minding the Baby project, reflective capacities are often quite limited, mostly due to the mothers' own traumatic histories and the lack of consistent caregivers in their own lives. Thus enhancing reflective functioning in this population, while it poses many challenges, is a particularly important endeavor, with potential for change on many levels.

Minding the Baby (MTB) is a home visiting program for underserved families in inner-city New Haven. MTB, which grew out of an interdisciplinary collaboration

between clinicians and researchers at the Yale Child Study Center, the Yale School of Nursing, and the Fair Haven Community Health Center, aims to improve attachment, mental health, and health outcomes in mothers and infants using a wide range of approaches. In particular, MTB seeks to provide the kind of care offered by nurse home visiting models, while at the same time providing in-depth mental health care not previously offered by these types of programs. MTB draws on the strengths of both models: Because most public health nurses are not extensively trained in mental health, they are often ill-equipped to deal with the mental health issues that inevitably arise in high-risk families. At the same time, nurse visitors tend to be highly respected by families and more readily welcomed into the home; in contrast, mental health practitioners must overcome the stigma associated with mental health service delivery.

In addition, mental health professionals are not trained to address the physical health needs of mother and infant. Slade (Slade, Sadler, & Mayes, 2005) reasons that attention to physical care is an important addition to the psychoanalytic model of parent-infant therapy, as early trauma disrupts the individual's sense of bodily integrity and psychological and physical injury become intertwined. MTB is thus based on a team approach that incorporates elements of both nursing and mental health home visiting programs. MTB services are provided by two master's-level clinicians: a PNP (pediatric nurse practitioner) and a CSW (clinical social worker). The rationale for using well-educated intervenors was partially based on the previously described findings of the Denver NFP trial (Robinson, Emde, & Korfmacher, 1997), which suggested that professionals were significantly more successful than paraprofessionals in delivering home-based nursing services, as well as the work of both Lieberman and Heinicke, who

used master's-level clinicians in their interventions (e.g., Lieberman, Weston, & Pawl, 1991; Heinicke et al., 2006).

At present, the participants in MTB are 103 first-time mothers between the ages of 14 and 28, with a mean of 19.6 years. There are 60 subjects in the intervention group and 43 in the control group. The sample is 69% Latina and 26% African-American; the remaining 5% are of diverse ethnic backgrounds. Participants were excluded from the study if they had a serious medical condition or were found to be active substance abusers. The attrition rate of 10% is low, likely due to the home visitors' persistence as well as the positive relationships established between them and the mothers.

Mothers in MTB are at high risk for parenting difficulties due to environmental, financial, and social stressors. Many of the women, who live in low-income, inner-city neighborhoods, have histories of trauma, substance abuse throughout their family systems, and legal issues. In the intervention group, 80 to 90% of the women report a previous history of abuse, and many suffer from psychopathology: At baseline, 54% scored above the minimum cut-off point on a standard measure of depression (reduced to 46% at 12 months), and 27% scored in a range comparable with a psychiatric population on a measure of PTSD (reduced to 21% at 12 months). Chronic poverty, past and present interpersonal violence in the home, and substance abuse among family members are prevalent.

As part of the "Minding the Baby" study, mothers in both the intervention and control groups receive standard prenatal and postpartum care at Fair Haven Community Health Clinic (FHCHC), a community health clinic located in inner-city New Haven. The women are randomly assigned either to the home intervention group or to the control group; those in the intervention group receive the manualized MTB program, while the

others receive ongoing care at FHCHC only. This present study examines the functioning of the women in the intervention group only.

Weekly home visits begin during pregnancy and continue throughout the infant's first year, and then taper to every other week during the child's second year. Typically, home visits last 60 to 90 minutes and alternate between PNP and CSW visits, although the program is designed to be flexible. In general, the nurse visitor provides help related to physical health and caregiving, such as primary care health assessments, while the social worker provides mental health services for both mother and infant, including case management, parent-infant psychotherapy, and individual psychotherapy. Their roles overlap in a number of areas, including providing developmental guidance, crisis intervention, parent support, and a range of concrete services, such as medical supplies or emergency food (Slade, Sadler, & Mayes, 2005). Members of the treatment team must maintain a flexible, collaborative attitude in order to help these families at multiple levels.

Both visitors share an overarching goal to promote maternal reflective functioning. The therapeutic relationship is the key to this work; with the clinician holding the mother in mind, the mother can begin to know herself, and eventually, know her child. As Slade and her colleagues (Slade, Sadler, de Dios-Kenn et al., 2005) eloquently write,

> We have found that it is our clinicians' willingness to witness the mother's world, to witness her emotions and her body, to hold these in a safe way in the here and now, that makes the mother feel heard and ready to know the baby in all its complexity. (p. 83)

In concrete terms, the home visitors promote RF by keeping the mothers aware of their infants' mental and physical states, as well as by modeling a reflective stance toward parenting. For instance, visitors often use the "speaking for the baby" technique, a

well-known approach (see Carter, Osofsky, & Hann, 1991). As she observes the mother

and baby interact, the visitor refers to the baby's physical and mental states and links

them explicitly to behavior, making statements like, "He keeps looking around, I'll bet

he's wanting to know where you are" (Slade et al., 2005). Giving the baby a voice makes

the baby's physical and mental states understandable to the mother, and acts to reframe

the baby's intentions so that the mother no longer sees him as "bad" (Slade et al., 2005).

Visitors often find themselves speaking for the mother too, giving voice to her

unspeakable emotions and experiences and thereby helping her to keep her own feelings

in mind as she navigates the challenges of parenthood.

Statement of Goals and Hypotheses

The present study had three primary aims:

1. To refine and update Slade and Patterson's (2005) manual for scoring RF on

   the Pregnancy Interview (Slade, Huganir, Grunebaum, & Reeves, 1987);

2. To test the hypothesis that maternal RF changes over the course of the

   Minding the Baby intervention; and

3. To use qualitative methods—namely, interviews with the home visitors who

   worked with the mothers in the Minding the Baby study (see Appendix D for

   a list of questions posed to the home visitors), as well as close readings of the

   pre- and post-intervention maternal interviews—to examine the complex

   process of change.

Each of these aims is discussed in greater detail in the following chapters.

CHAPTER 3

Methods

<u>Sample</u>

The present study involves secondary data analysis drawn from a larger ongoing research project, "Minding the Baby: A Home Intervention Study," that is conducted by principal investigators Linda C. Mayes, M.D., Lois S. Sadler, R.N., Ph.D., and Arietta Slade, Ph.D. through The Yale Child Study Center, The Yale School of Nursing, and the Fair Haven Community Health Center in New Haven, CT. Minding the Baby (MTB) is a longitudinal study supported by grants from the Irving B. Harris Foundation, the Anne E. Casey Foundation, the Patrick and Catherine Weldon Donaghue Foundation, the Generativity Trust, the New York Community Trust: Edlow Fund, Pilot Study NIH/NINR (P30NR08999), and NIH/NICHD (R21HD048591).

The participants are 21 first-time mothers between the ages of 15 and 25, with a mean age of 18.4 years. The sample is predominantly Latina (n = 13, 62%), followed by African-American (n = 6, 29%) and mothers of diverse ethnic backgrounds (n = 2, 10%). Fifty-seven percent of the mothers (n = 12) had girls and 43% (n = 9) had boys. Sixty-two percent were teenagers (19 years old or younger; n = 13), while 38% were not (n = 8). Participants were excluded from the study if they had a serious medical condition or were found to be active substance abusers.

The participants in the present sub-study are young mothers at high risk for parenting difficulties due to environmental, financial, and social stressors. Many of the women, who live in low-income, inner-city neighborhoods, have histories of trauma, legal issues, and substance abuse. Chronic poverty, interpersonal violence in the home,

and substance abuse among family members are prevalent.

As part of the "Minding the Baby" study, mothers in both the intervention and control groups receive standard prenatal and postpartum care at the Fair Haven Community Health Center (FHCHC), a community health clinic located in inner-city New Haven. Roughly half of the women are randomly assigned to the home intervention group and receive the manualized MTB program, while the other half receives ongoing care at FHCHC only. This present study examines the functioning of the women in the intervention group only.

The larger study has been reviewed and approved by the Yale University School of Medicine Human Investigation Committee and the Fair Haven Community Center Institutional Review Board, and informed consent was obtained from all mothers participating in the study. In addition, the present study was reviewed and approved by the City University of New York Institutional Review Board.

Description of the Intervention

The first stage of the home visit program, the Engagement-Assessment phase, typically consists of three home visits. The first visit, conducted by the nurse practitioner, is aimed at obtaining a health assessment of the mother. During the second visit, conducted by the social worker, a psychosocial history is obtained. Finally, both the nurse practitioner and the social worker conduct the third visit, during which the social worker administers the Pregnancy Interview, a clinical interview about the woman's experience of pregnancy and expectations regarding the fetus, while the nurse practitioner observes the process. The intervention formally begins once all three visits are completed.

Weekly home visits continue throughout the infant's first year, and then decrease to every

other week during the child's second year. Typically, weekly home visits last 60 to 90

minutes and alternate between PNP and CSW visits, although the program is designed to

be flexible and to allow for changes depending on circumstance. For instance, in times of

crisis, families may be visited by both practitioners in a single week, or by one visitor

consecutively. In general, the nurse visitor provides help related to physical health and

caregiving, such as primary care health assessments, while the social worker provides

mental health services for both mother and infant, including case management, parent-

infant psychotherapy, and individual psychotherapy. Their roles overlap in a number of

areas, including providing developmental guidance, crisis intervention, parent support,

and a range of concrete services, such as medical supplies or emergency food (Slade,

Sadler, & Mayes, 2005). Members of the treatment team must maintain a flexible,

collaborative attitude in order to help these families at multiple levels.

Setting

The study is carried out in three locations:

1. The Fair Haven Community Health Center (FHCHC), New Haven, CT, where

   the mothers receive primary and prenatal care.

2. Home and research collection visits that are carried out in the mothers'

   homes.

3. The Yale Child Study Center, New Haven, CT.

Most instruments are administered by research assistants during research collection visits

in the mothers' homes. Research visits that require a laboratory space, such as the Strange

Situation, take place at the Yale Child Study Center. With few exceptions, the PI and PDI

interviews are administered during home visits.

<u>Procedures</u>

First-time mothers are recruited during pregnancy from prenatal groups conducted

by certified nurse-midwives at FHCHC. In order to identify potential subjects, MTB

home visitors sit in on prenatal groups beginning in the women's second trimester. After

attending several group sessions and becoming familiar to the women, home visitors

approach primiparas who meet inclusion criteria and describe the program to them. If a

mother shows interest in participating, the team makes a home visit in which both home

visitors describe the program in detail and answer questions from the mother as well as

other family members. This visit gives the mothers an opportunity to meet the home

visiting team and to experience the close relationship *in vivo*. After this introduction to

the MTB program, mothers who are interested give their consent to participate.

The level of pre-intervention maternal reflective functioning is assessed from the

PI administered during the first stage of the home visit program. The level of post-

intervention maternal RF is assessed from the PDI obtained at average child age 24

months. Research data collection visits occur when the infant is 12, 18, and 24 months

old. Both maternal variables (demographics, depression, mastery, reflective functioning

(RF), and maternal life course outcomes) and child outcome variables (health and

attachment classification) are measured during these postpartum visits. There is an

additional visit at four months at which the infant participates in a play session. The

mothers in both groups are reimbursed $25.00 after each of the following sessions: the

prenatal visit, the four-month play session, the Strange Situation, and the 12-, 18-, and 24-month visits. Mothers in the control group are reimbursed an additional $25.00 for completing the Pregnancy Interview (in their third trimester) and then another $25.00 for completing the Parent Development Interview (at 24 months).

The present study, as a secondary data analysis, uses only the mother's RF scores and demographic variables. Each of the elements and scoring methods relevant to the present study is thoroughly described below.

Measures

A. The Pregnancy Interview–Revised (PI–R)

The Pregnancy Interview (Slade, Grunebaum, Huganir, and Reeves, 1987) is a semi-structured clinical interview with 39 questions and probes that is administered to women during their third trimester of pregnancy. For the Minding the Baby study, a revised version (PI–R: Slade, 2007) of the original Pregnancy Interview was used. The PI–R is almost identical to the original PI but has 22 questions rather than 39. In revising the original interview, Slade removed or reworded questions that were redundant or confusing to subjects, as well as items that tended to pull for vague responses.

Over the course of about an hour, mothers are asked to describe their emotional experience of pregnancy, their expectations and fantasies regarding their future relationship with their child, and the feelings that arise when they imagine being a mother to the child. Furthermore, they are encouraged to describe emotionally difficult moments during their pregnancy as well as lifestyle changes they have made.

Many questions on both the original and revised PI tap into the mother's pre-natal

representations of her fetus. For instance, mothers are asked when they first "really believed" there was a baby growing inside them and whether they feel they have a relationship with their baby yet. Further, mothers are asked to describe their current relationship to the fetus as well as what they imagine their baby will be like. Moreover, the interview also aims to capture the mother's pre-natal representations of herself as a caregiver, focusing in particular on the mother's capacity to identify with and respond to the needs of her fetus at present and her newborn in the near future.

As mentioned earlier, the PI was initially scored using a complex dimensional coding system. For the purposes of this study, the PI–R was scored for maternal reflective functioning using the system described below.

B. The Parent Development Interview–R2 (PDI–R2)

The PDI (Aber et al., 1985) is a 45-item semi-structured clinical interview that takes about 90 minutes to administer. It was originally designed to explore a mother's representations of her child, herself as a parent, and her relationship with her child. Unlike the AAI, in which adults are asked about their past relationships with their parents, the PDI elicits representations regarding a current and ongoing relationship, that of the mother with her child. For the Minding the Baby study, a revised version (PDI–R2: Slade, Aber, Berger, Bresgi, & Kaplan, 2003) of the original PDI was used. Slade et al. developed the revised version based on their experiences in coding more than 500 PDIs. According to its authors, the PDI–R2 improves upon the original PDI by "represent[ing] a more streamlined, focused assessment of the relevant dimensions of parental representations" (Slade et al., 2003, p. 2). More specifically, the revised version allows

for assessment of reflective functioning across a range of domains, including in relation to the child, to one's own parents, and to the self. In addition, in developing the PDI–R2, Slade et al. included only those questions from the original version that consistently pulled for a wide range of responses and removed items that were redundant or poorly worded.

The PDI–R2 includes questions that ask the mother to describe times when the child may have felt stressed or rejected. There are also questions that are similar to the AAI, such as asking for five adjectives to describe the child, and then asking about the reasons a given adjective was chosen. Other questions focus more directly on the mother's relationship with the child, including what makes it pleasurable or difficult. The mother is asked to describe a time when she "clicked" with her child over the past week, as well as a time when she felt she "didn't click" with her child. Next, she is asked to describe herself as a parent, stating strengths and weaknesses as well as answering questions about specific feeling states such as happiness, neediness, guilt, anger, and joy. In addition, the mother is asked about her thoughts and feelings relating to separations from her child, as well as about what her child might be thinking or feeling during these separations. Several questions are similar to the AAI in that they ask about how she has been affected as a parent by experiences with her own parents. Finally, the mother is asked a series of questions about her relationship with her spouse or partner and the ways that the child's birth has had an impact on their relationship.

Many questions on the PDI–R2 have secondary probes that allow for a more thorough examination of the ways in which both members of the mother-infant dyad are affected by the feelings and behavior of the other. For example, the question, "Do you ever feel really angry as a parent?" is followed by the following probes: (1) "What kinds

of situations make you feel this way?"; (2) "How do you handle your angry feelings?";

and (3) "What kind of effect do these feelings have on your child?" The PDI–R2 was

then scored for maternal reflective function using the system described below.

Measuring RF on the PDI

The addendum to the Reflective Functioning Scoring Manual for use with the PDI

(Slade, Bernbach, Grienenberger, Levy, & Locker, 2004) is used to score the mother's

reflective functioning based on her responses to the PDI. This addendum follows the

same definition of RF outlined by Fonagy and his colleagues (Fonagy, Target, Steele,

& Steele, 1998) in the Reflective Functioning Manual Version 5.0 for application to the

AAI. Although RF has been extensively studied and scored in reference to the AAI, it

has been applied less frequently to the PDI. The original RF scale, however, was

designed with the intention of applying it to other narrative data sets such as the PDI

(Fonagy, Steele, Moran, Steele, & Higgitt, 1993). The judges who coded RF on the PDIs

were advanced doctoral candidates in clinical psychology. Arietta Slade, Ph.D., the first

author of the RF manual for the PDI and a co-Director of "Minding the Baby," directed

training on the scale for the PDI. Training lasted for approximately one year. All raters

achieved an acceptable level of reliability (.80 agreement on overall RF scores).

The process of achieving inter-rater reliability began with an introduction to

Fonagy et al.'s RF manual for the AAI and then to Slade et al.'s RF manual for the PDI,

as well as a review of the constructs and measures used in both. Coders then read,

discussed, and scored four PDIs—the "Training Set"—together as a group, led by Dr.

Slade. In the next stage of training, coders began scoring on their own, using a master set

of 10 interviews ("Reliability Set 1") previously scored by Dr. Slade and others. Coders

then compared their scores for both individual passages and overall interviews with the

master scores. Items that coders found particularly difficult, or on which coders

disagreed, were reviewed as a group and discussed with Dr. Slade.

During the final stage of training, coders scored a second Reliability Set (five

interviews) on their own, and results from both reliability sets were used to determine

reliability. All six doctoral students achieved an acceptable level of inter-rater reliability.

Five of these students scored the PDIs for the present study; each student scored between

three and five interviews.

Measuring RF on the PI

Similar to the process for coding RF on the PDI, coding for RF on the PI was

based on an addendum to the Reflective Functioning Scoring Manual designed especially

for use with the PI (Slade & Patterson, 2005; Slade, Patterson, & Miller, 2007). This

addendum is used to score the mother's reflective functioning based on her responses to

the PI and follows the same definition of RF as outlined by Fonagy and his colleagues in

his Reflective Functioning Manual Version 5.0. The three coders who scored the

Pregnancy Interviews for RF were Dr. Slade, a post-doctoral fellow in clinical

psychology at Yale University, and an advanced doctoral candidate in clinical psychology

at the City University of New York. The post-doctoral fellow and doctoral student were

trained by Dr. Slade. All three raters were blind to subjects' RF level on the PDI.

The process of achieving inter-rater reliability on coding RF on the PI–R was

similar to that used for establishing reliability on the PDI. The doctoral student, who was

already trained in coding RF on the PDI, was given a set of practice Pregnancy

Interviews to review and discuss with Dr. Slade. The student was then given a master set

of Pregnancy Interviews to score on her own. Her scores, both for individual passages

and for overall interviews, were compared with those previously assigned by Dr. Slade

and the post-doctoral fellow. Items that yielded discrepant scores were discussed with Dr.

Slade. Finally, the doctoral student scored a Reliability Set, and results from this set were

used to determine inter-rater reliability (100% agreement on overall RF scores).

Reflective Functioning & Pregnancy

Developing the RF Manual for the PI

The present study is among the first to examine parental reflective functioning

during pregnancy, and it is the first to publish related findings. As discussed above,

Patterson, Slade, and Sadler (2005) conducted a pilot study to explore the relationship

between maternal RF and trauma symptomatology in a sub-sample of mothers from the

MTB project, using RF levels on the Pregnancy Interview as their RF measure. As part of

the study, Slade and Patterson (2005) adapted the PDI RF manual for use with the PI. The

resulting manual was a working version, based on a limited number of interviews.

For the purposes of the present study, a crucial first step was to expand, revise,

and finalize Slade and Patterson's manual. One limitation of the initial version of the

manual was that it was largely developed with Pregnancy Interviews from the MTB

project in mind. Since mothers in the MTB sample are known to have limited RF,

examples of higher-level RF (i.e., scores above 5, both for individual passages and

overall interviews) are rare, and in some cases entirely absent from the transcripts. To

address this issue, Pregnancy Interviews from a less traumatized, higher socioeconomic

sample were reviewed, and examples from those interviews were included to supplement

the manual.

There is one slight methodological difference in the scoring of RF on the PI

versus the PDI: On the PI, all questions are coded for RF, while on the PDI, only

"demand" questions (i.e., questions that pull for RF) are coded for RF. The decision was

made to score all questions on the PI because the version of the PI used for this study is

fairly brief—22 questions—and all of the items are considered "demand" questions.

CHAPTER 4

Results

<u>Quantitative Analysis</u>

In order to test this study's main hypothesis, a paired samples t-test was

conducted to compare pre- and post-birth mean overall maternal RF scores. The results

confirmed the hypothesis that maternal RF changes over the course of the Minding the

Baby intervention. More specifically, the paired samples t-test was performed to test the

hypothesis that the mean overall RF score increased from Time 1 (pre-intervention:

x = 3.33, SD = .86) to Time 2 (post-intervention: x = 3.90, SD = .83). Results from this

analysis showed a significant difference in reflective functioning between the two groups

(t = –2.677, df = 20, p = .015). The effect size of this difference (r = .51) is in the large

range. Moreover, the modal score increased by 1 point, from 3 at pre-intervention to 4 at

post-intervention.

The range of overall RF scores on the pre-intervention measure was between 2

and 5, while the range of overall RF scores on the post-intervention measure was between

3 and 6. In terms of individual item scores, the range for both pre- and post-intervention

scores was from 1 to 7 (See Table 1 for pre- and post-intervention overall and individual

item RF scores.) As can be seen in Table 2, RF increased in just over half (n = 11, 52%)

of mothers in this sample; in seven cases RF stayed the same and in three cases it

decreased. In all three instances of decreased RF, the scores decreased by 1 point. For the

pre-intervention group, the mean overall RF score was 3.33, and for the post-intervention

group the mean overall RF score was 3.90, yielding a mean difference of .57 of a point on

the RF scale. Both means are significantly below what is considered to be average RF of

5 in the general population, and are consistent with other studies of RF in low

socioeconomic samples (Patterson, Slade, & Sadler, 2005; Truman & Levy, 2002;

Schechter et al., 2005).

Table 1: Pre- and Post-Intervention Overall and Individual-Item RF scores

Subject #	Pre-Intervention RF Scores			Post-Intervention RF Scores		
	Low	**High**	**Mean**	**Low**	**High**	**Mean**
1	1	3	3	1	6	4
2	2	4	3	1	5	3
3	1	5	4	3	6	6
4	2	6	4	1	5	5
5	1	4	2	3	6	3
6	2	5	3	1	7	5
7	1	3	2	1	6	4
8	2	3	3	1	5	4
9	2	5	4	1	6	4
10	2	5	3	1	5	4
11	1	3	3	1	5	3
12	2	5	4	1	7	4
13	2	5	3	2	5	4
14	3	5	5	3	5	4
15	2	4	3	1	5	3
16	1	3	3	1	5	4
17	2	5	4	1	3	3
18	2	5	4	1	4	3
19	2	7	5	2	6	5
20	1	4	2	1	5	4
21	1	5	3	1	5	3

Table 2: Distribution of Changes in RF

Change in RF from Pre- to Post-Intervention	Frequency	Percent of Sample (N = 21)
+ 3	1	4.8%
+ 2	2	9.5%
+ 1	8	38.1%
0 (No change)	6	33.3%
− 1	2	14.3%

Post-Hoc Analyses

Two post-hoc analyses of the data were performed to assess whether results differed significantly for the teenage (n = 13, 62%) versus the non-teenage mothers (n = 8, 38%) in the sample; that is, whether the mean change for the teenage mothers in RF from Time 1 (x = 3.23, SD = .93) to Time 2 (x = 4.00, SD = .91) was significantly different from the corresponding mean change in the non-teenage mothers from Time 1 (x = 3.50, SD = .76) to Time 2 (x = 3.75, SD = .71). Results from the first analysis, a repeated measures ANCOVA—which, given the small sample size, was likely under-powered—showed that the interaction effect of time and mother's age is clearly non-significant (F = 1.43, df = (1,19), p = .25). Results from a second repeated measures ANCOVA—again using a very small sample size—which simply controlled for the effect of mother's age, again showed the effect of maternal age to be clearly statistically insignificant (F = 0.001, df = (1,19), p = .98). Together, these findings indicate that not considering maternal age in the initial paired samples t-test does not distort the findings of the study. That is, as a group, the teenage mothers in this sample did not differ significantly—in terms of the change in RF level—from their non-teenage counterparts.

Case Studies: The Complexities of Change

Results from the present study provide compelling empirical evidence that as a group, mothers in the study increased in their level of maternal reflective functioning over the course of the Minding the Baby intervention. Yet a qualitative examination of individual cases reveals enormous complexities in the process of change. While some cases are straightforward and clearly demonstrate that the intervention worked as it was

intended to, others indicate that the intervention had a positive impact but in unexpected ways. Still other cases suggest that for mothers struggling with the most extreme adversity, even intensive interventions such as MTB are limited in their effectiveness and, as a result, produce mixed results.

The following three case studies—of Ana, Micaela, and Lourdes—provide an opportunity to examine the process of change at a clinical level. The first case, in which Ana's maternal RF level increased by two points, demonstrates clear improvement over the course of the intervention. In the second case, Micaela's RF level stayed the same from beginning to end, but her life improved in other ways as a result of the intervention. Finally, in the third case, although Lourdes's RF improved by two points, the overall impact of the intervention was mixed. Unlike Ana and Micaela, who both had babies that were securely attached, Lourdes's baby was insecurely attached, suggesting that despite the home visitors' best efforts, she was unable to serve as a consistently responsive, attuned caregiver.

Case 1: Ana[1]

Ana, whose RF level increased from 4 to 6 over the course of the intervention, is an example of a mother whose life—along with her baby's—improved in multiple ways as a result of MTB. Like all of the mothers in the MTB study, Ana faced considerable hardship at the outset of the intervention, yet by the end she showed remarkable gains, which were in turn reflected in her baby's healthy development.

When 17-year-old Ana first joined Minding the Baby, the home visitors and

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[1] Names and identifying details have been changed to protect confidentiality.

midwives were worried for her. Based on her reports of daily crying spells, increased irritability, and high levels of stress, the social worker diagnosed Ana with depression. The midwives recommended a trial of antidepressants, but like many of the mothers in the MTB study, Ana refused to consider medication. Ana reported that her anxiety and depression had been steadily worsening since she had revealed the pregnancy to her mother. Ana's mother, who had also given birth to her first child at age 17, was extremely disappointed in her daughter, whom she had hoped would compensate for her own failures and "redeem" the family; as Ana said, "I was the one that was supposed to get out of the ghetto."

Ana's mother had reacted to the news of the pregnancy by kicking Ana out of the house, forcing her move into her boyfriend Jimmy's chaotic household. Ana also endured criticism and taunting from other family members; her older brother told her that she was "throwing away her life" and that she was "just another teen pregnancy statistic," and her maternal aunt repeatedly called her a "loser" for dropping out of school. Before becoming pregnant, Ana had had ambitious academic and career goals: She had completed her GED and was on track to graduate from college at 19, and she had recently enrolled in a job training program. The pregnancy had forced Ana to withdraw from the training program and to drop out of college, which left her feeling worthless and anxious about her future. She stated that her biggest fear was "becoming a nobody—nowhere to go, no diploma, no desire to make anything out of myself." Her family's harsh judgment of her compounded her bad feelings and increased her sense of guilt and low self-worth.

Ana's living situation at her boyfriend's house drastically worsened her situation. Ana referred to Jimmy's family as a "mess" and confided in the MTB home visitors

about her fear that she would become "like them." Jimmy, who was in his twenties and had a long history of criminal activity, lived with his father, stepmother, and several siblings. At their house, Ana was exposed to substance abuse, criminality, and poor hygiene and nutrition. The home was noisy, chaotic, and poorly kept, and there was always a steady stream of teenagers entering and leaving the house. The home visitors became concerned about Ana's nutrition for a time when she revealed that Jimmy's siblings had been eating the food given to her by the Women, Infants, and Children (WIC) program and that she had been forced to keep it under lock and key. Fortunately, Ana's mother, who had been slowly warming to the idea of a grandson and was getting along better with Ana, had begun cooking meals for her daughter to ensure that she was eating well for herself and the baby.

After her son Louis's birth, Ana experienced an acute post-partum depressive episode. During this period she remained "frozen" much of the time, barely moving and hardly looking at the baby. Again she refused to take medication. The social worker began seeing Ana weekly, sometimes even twice a week, to address her critical state. Eventually the symptoms abated somewhat, but Ana's living situation at Jimmy's remained chaotic and disruptive, which hindered her recovery as well as Louis's development. In both households, Louis was consistently overstimulated. At Jimmy's house, Louis endured loud rap music, blaring televisions, and a stream of strangers running through the house. Ana's mother's house was a significant improvement—quiet, clean, orderly, with privacy for Ana and Louis—but Ana's relatives were loud and intrusive with him. Both families interacted with Louis primarily by taunting and teasing him.

Although Ana was open and receptive to the Minding the Baby intervention and had a

definite tender, loving side to her, the home visitors noted that she also could be

insensitive and aggressive in her interactions with Louis. These actions were both learned

behaviors from those around her and also a reflection of her own complicated history of

unresolved loss and trauma: At a young age, Ana had been removed from her home and

placed in kinship foster care due to her mother's drug abuse. Along with her two siblings

and several of her cousins, Ana had lived with her maternal grandmother for five years,

until her mother eventually stopped using drugs and regained custody of her children.

Then, when Ana was nine years old, her father was murdered. Ana felt that her mother

prevented her from mourning her father's death by "just forgetting him so quick. . . . She

didn't give time for anyone to heal but herself."

When Ana was 13, her mother married a man who tried to molest Ana. Ana told

her mother about the incident, but her mother remained together with her new husband,

which deeply hurt Ana. She said, "When I was 13 my mom rejected me completely. She

accepted a man in her life that hurt me, and she dealt with it, and she didn't care. And to

this day, she's still with him. And so I felt rejected, hurt, abused, everything." At that

time, Ana reacted to her mother's decision by moving in with various relatives in order to

avoid her stepfather. When she was 16, Ana began dating Jimmy, who was in his

twenties and already had an extensive criminal record.

Despite the formidable challenges presented by Ana's traumatic history and

present living situation, her life gradually began to improve during her second year in the

intervention. The home visitors refer to Ana as a "miracle case" because her post-partum

depression lifted and she was ultimately able to return to school and find a job. At least

part of Ana's success can be linked to the availability of her own mother, who provided Ana—and Louis—with structure and basic care. Although there were competitive feelings between Ana and her mother, and despite Ana's mother's aggressive handling of Louis, Louis benefited greatly from his maternal grandmother's care. The home visitors noted these effects in particular when Ana decided to stay at her mother's house for a period of several months with Louis, who was 13 months old at the time. Louis seemed to benefit enormously from the regular meals, cleanliness, privacy, and peace and quiet at his grandmother's house.

When Louis was 15 months old, he and his mother participated in the Strange Situation procedure. Louis was classified as secure in relation to attachment. Ana was flat and expressionless during the procedure, and more concerned about finishing in time to go out with her mother than about the task itself. She also appeared to react somewhat insensitively to Louis's crying. Nevertheless, Louis was considered capable of successfully communicating his needs to her.

Ana earned an overall RF score of 4 on the Pregnancy Interview; her individual passage RF scores range from 2 to 5. Many of her responses are thoughtful and open, and she speaks candidly of her complex concerns about becoming a mother as well as about her fears of breaking up with Jimmy. For example, when asked about difficult feelings she has experienced during the pregnancy, Ana says,

> I worry if I'm going to really make it. . . . Like if I'm really going to be able to take care of my baby by myself. . . . I don't know, like, it's a big question mark. And since we don't get along that good, and I know we're not going to last long, so then the other question is, how am I going to take care of him alone, and go to school, and work? And so, it's been a lot of worries.

In contrast, Ana shows few signs of being able to reflect on her baby or her relationship

with it. When asked about the baby, she responds, "Oh. . . . That." She has, however,

begun to establish a relationship, if rather rudimentary, with her baby *in utero*: She notes

that she talks to him "every morning" and has come up with an affectionate nickname for

him. Furthermore, she already feels attached to him and envisions herself becoming

distressed when, as he gets older, he begins "getting attached to somebody more than me

because I'm not there."

While there is little mentalization occurring with respect to the baby itself, Ana is

able to reflect upon her initial denial of the pregnancy and the subsequent shift in her

thinking. When asked about the first time she really believed that there was a baby

growing inside her, Ana responds,

> I didn't want to think about it. Like, I was in denial, till, like, around my fifth
> month, when I started showing. When I heard my baby's heartbeat for the first
> time, that's when I actually believed that, oh my God, I'm going to be a mother.
> Everything before that, it was like, you know, I'm not pregnant, I'm not pregnant,
> I'm not pregnant.

In this passage, Ana is able to reflect, although somewhat inexplicitly, on her own mental

states, demonstrating a growing awareness of both her own initial denial of the pregnancy

and the event that forced her to change her frame of mind and consciously accept the

pregnancy. Further, when asked how she felt at that moment of realization, Ana said, "It

was exciting. It was scary. I was scared, I was nervous," reflecting her acknowledgment,

though not quite explicit, of her ambivalent feelings about the pregnancy.

Ana's responses on the Parent Development Interview, conducted 15 months after

the Pregnancy Interview, earned her an overall RF score of 6, a two-point increase over

her RF score on the Pregnancy Interview. Her RF scores on the PDI range between 3 and

6. The effectiveness of MTB during the intervening months in enhancing RF is evident in

Ana's answers, many of which include examples of mentalization. The MTB team

focused in particular on encouraging Ana to give voice to her own feelings and to create a

narrative about her own traumatic background. In doing so, Ana slowly built up the

capacity to identify and reflect upon her internal states. The ability to then apply this

reflective capacity to thinking about her child took time to develop, and it proved difficult

at first for Ana to hold the baby's internal experience in mind without needing to distort

or misinterpret in order to manage her own fragile sense of self.

Gradually, as the therapeutic relationship with the home visitors intensified and

Ana became more comfortable thinking about her own internal states, she became better

able to observe and keep in mind her baby's mental states, as is evident from this passage

from the PDI:

> (Interviewer: When he is upset, what does he do?) Um, he usually cries on my
> shoulder. Or if he's *upset like a mad upset*, he . . . goes in the corner by himself,
> and he deals with it himself. Like, I see myself in him. He'll run to the corner, and
> he'll just sit there in his own time out. . . . Like, if he does something that really
> got him mad, he'll do that. If he *got upset by something that hurt his feelings*,
> he'll just cry.

In this passage, Ana is able to recognize subtle differences in Louis's behaviors and to

deduce his corresponding varying underlying emotions. Ana then goes on to describe her

attempts to comfort Louis in these moments, and the effects on her own mental state—

and, ultimately, her behavior—of her son's reactions to her attempts:

> I try to talk to him, but *he never wants to be talked to*. Like, he'll push me away
> and he'll tell me to go away and stuff. So it *kind of makes me feel like I can't do
> for him, like he doesn't want me to talk to him. So I just leave him alone.*

Again, these passages reveal Ana's growing awareness of her son's mental states, her

own mental states, and the interplay between them.

Ana is also unusually thoughtful about how her own experiences of being

parented impact her experience of parenting Louis:

> . . . . I don't want to do the same mistakes that my mom did, and I'm not just saying that. I really don't. Like, I watch myself in every aspect to see if I'm like her. . . . (Interviewer: You think about this a lot.) Yeah. All the time. Every time I do something with Louis I think about if it's affecting, or if it's like what my mom did to me. And that's why I say I would always let my kid say what they feel inside, because she hurt me with that too. Like, she never let me speak, and that's why I'm like the way I am today, you know?

Ana received an overall RF score of 6 on the Parent Development Interview, two points above her score on the Pregnancy Interview and one of the highest RF levels in the entire Minding the Baby study. Her PDI reveals a capacity to reflect on mental states in multiple domains and includes moments of complex and sophisticated RF.

Ana can be described as a mother who was able to successfully absorb and integrate much of the home visitors' teachings about reflective capacity into her daily life. Ana's substantial increase in RF level from beginning to end of the study—from rudimentary to almost marked mentalization (see chapter 5)—can be considered a consequence of various factors. Ana faced multiple challenges at the outset of the intervention: Her pregnancy was marred from the beginning by harsh criticism from her mother and other relatives that seriously damaged her self-esteem, and living with Jimmy's family made matters worse by adding to Ana's stress levels and jeopardizing her physical and emotional health. Despite these initial obstacles, Ana's mother provided Ana and Louis with support and structure at a crucial time, thereby counteracting much of the negative consequences of living with Jimmy and affording Ana quality time with Louis. Moreover, Ana's mother served as a fairly stable attachment figure for Louis.

In the early stages of the intervention, Ana's traumatic past prevented her from being a fully present and consistent caregiver, and negative emotions from childhood

were still very much alive for her. By the end of the intervention, Ana had begun to work through the trauma, thereby enabling her to perceive her child's mental states and behavior with less distortion. The home visitors had provided Ana with the secure base she needed to begin holding her baby in mind.

Case 2: Micaela

Micaela's initial RF level (4) remained unchanged over the course of the intervention, yet other measures indicate that the intervention was a success in many areas of her life. Thus Micaela is an example of a mother for whom the intervention had important positive effects, yet not in the expected ways.

When Micaela first joined the MTB intervention at age 16, her family was in an uproar over her pregnancy. They were shocked to discover that she was sexually active, and in particular with a man 12 years her senior. Micaela had been dating her boyfriend, Anthony, for several years when she became pregnant, but had kept the details of the relationship secret. When Micaela's mother found out about the pregnancy, she threatened to kick Micaela out of the house. Anthony's family was more accepting, but there was constant tension between the two families. Adding to the stress and drama, Children's Services was notified of the situation due to Micaela's status as a minor and the age difference between her and Anthony, though no legal action was ultimately taken.

Overall, during the two-year span of the MTB intervention, Micaela's life was fraught with chaos and disruption, especially around housing. Micaela moved six times over the course of the intervention, first from her mother's house to her own apartment with Anthony, then to an aunt's house when money became tight, then to her

grandmother's house, then back to her mother's, then back to her grandmother's, and finally to her own apartment again, just around the corner from her mother's. As a lower-middle-class family, Micaela's family stood out socioeconomically from Ana's and Lourdes's families, and indeed from the majority of the families in the MTB study. Both of Micaela's parents worked: Her mother owned a nail salon and her father ran a small store.

Despite their relative financial stability, however, Micaela's family members struggled with their own traumatic histories and life stressors. Micaela's mother, Francesca, had been a teen mother herself, abandoned at 17 by Micaela's father with two young children to raise on her own. Francesca also suffered from ongoing mental illness that had been present throughout Micaela's childhood and remained a major disruptive force for Micaela as well as the whole family. Francesca, who had been diagnosed with borderline personality disorder and a mood disorder, had a history of numerous suicide attempts and gestures; she even overdosed on pills and landed in the hospital during the course of the MTB intervention. Labile, dramatic, and unpredictable, Francesca inflicted continuous verbal and emotional—and occasionally physical—abuse on Micaela and her sisters. Micaela's relationship with her mother was extremely divisive, and Micaela struggled throughout her life to find ways to cope with her mother's behavior.

The home visitors described Micaela as one of the "angriest" mothers in the MTB study, with a very short temper. In addition, they described her as generally out of sync with her baby, Lila, during the initial phases of the intervention. In the Strange Situation, however, conducted when Lila was 19 months old, Lila was classified as securely attached. Thus despite the formidable challenges in Micaela's life, she was able to raise a

secure baby. The home visitors attribute these successes largely to the presence of a supportive extended family, all of whom seemed to truly love the baby. This served as a kind of protective factor for Lila, who grew up surrounded by attentive relatives. Micaela's maternal grandmother, for example, was a steady and consistent presence in the family; she babysat for Lila regularly while Micaela attended high school. In addition, unlike Ana, Micaela stayed with her baby's father, despite her family's disapproval of him. Although this may have increased tension between Micaela and her family, Anthony's presence was a stabilizing factor for Lila. Indeed, Anthony was quite taken by his baby, and he often held and rocked her.

Micaela's responses on the Pregnancy Interview, conducted when she was five months pregnant, and the Parent Development Interview, conducted when Lila was 13 months old, earned her an score of 4 on both interviews. This lack of change in overall RF level makes sense given Micaela's particular situation: The home visitors describe her as bright and mostly eager to participate in the intervention, but preoccupied with her stormy relationship with her own mother, and therefore not able to dedicate much thought or energy to thinking for her baby. In addition, the home visitors described Micaela as still very much a teenager; she was immature and could be rebellious and self-centered at times. She liked to party and resented Lila for limiting her social life.

Finally, Micaela missed many home visits and appointments and was often difficult to locate because she spent most of her time either at school or work. Despite having stable jobs themselves, Micaela's parents expected her to work many hours while also attending school and caring for her baby, and in fact were not particularly supportive about their daughter finishing high school. Over the course of the intervention, Micaela

dropped out of school, then returned several times, but ultimately did not graduate, despite much encouragement from the home visitors.

Micaela's individual RF scores on the PI ranged from 2 to 5, while her scores on the PDI range more widely, from 1 to 7. The fact that Micaela was able to produce an individual item response that earned a score of 7 on the PDI is important, as it suggests that while her overall RF level did not increase from pre- to post-intervention, her mentalizing capacities may have become more available to her as a result of the intervention. On the PI, many of Micaela's responses are fairly concrete; those that do refer to mental states typically do not elaborate on these mental states or explicitly link them to behavior or to other mental states. Throughout the interview, Micaela generally demonstrates much more reflective capacity when speaking about her relationship with her parents, and her relationship with Anthony, than when she discusses the baby. In fact, many of her responses are focused on her relationship with her parents and tend to avoid mentioning the child, mirroring Micaela's general preoccupation with her relationship with her own mother and consequent lack of psychic space for thinking about her baby. For example, when asked about some of the good feelings she has had since becoming pregnant, Micaela says,

> The cravings I've gotten, knowing that I was gonna have a girl. (Interviewer: What was so good about that, what were you excited about the girl part of it?) I don't know, 'cause I think she's gonna come out like me in some things and like [her father] in some things. I just don't want her to do what I'm doin' right now, like I don't want her to get pregnant at an early age. I wanna give her advice like, even like, my mother gave me advice but I wanna try to give her more. I wanna be there for her, not just tell her, get mad at her and don't talk to her. I don't wanna do that. I wanna be there more for her.

In this passage, which is rated a 3, Micaela starts out mentioning the child, but quickly shifts to thinking about her own parents' influence on her.

When asked about when she first believed there was a baby growing inside her, Micaela responds,

> When I turned five [months], when I first felt her move. 'Cause I never knew what it as like to feel something inside of you move. When she kicked me, that's when I, I was like, "Wow." (Interviewer: How did you feel when that happened?) I started crying, 'cause I was like, "Wow, I'm really pregnant," like and then when I started seeing my clothes didn't fit, and I was eating a lot, and then I had my depressing mood and my happy moods, that's when I really started noticing it.

In this response, which was scored as a 3, Micaela avoids explicit references to her own mental states and focuses instead on behavioral aspects. When queried specifically about how she *felt* at a particular moment, Micaela responds using direct discourse, a grammatical term referring to the subject's use of direct speech instead of telling the story in narrative form. Direct discourse was identified by Mary Main (1991, 1995) as a strategy commonly employed during affectively-charged interviews to defend against or distance oneself from uncomfortable feelings stirred up by the interview questions (see Appendix A, Section III). In this case, Ana uses direct discourse to distance herself from the emotion, and focuses on her physical behavior rather than her internal reactions, stating, "I started crying, 'cause I was like, 'Wow, I'm really pregnant.'" A more reflective version of this statement would be, "I started crying because I felt so awed and surprised. I couldn't believe I was really pregnant"; in the latter version there is an explicit link between a feeling and a behavior (she began to cry because she felt awed and surprised), and the direct discourse is replaced with a statement that fleshes out her emotional reaction to the moment instead of removing it from the narrative.

Still, Micaela does display some moments of reflective capacity on the PI when envisioning her child. Speaking of the newborn baby's first years of life, she says,

> They don't know nothing, that's when they really need you. . . . When they come out it's like a new world for them, it's like . . . if I were going to go move to another country, like China or something, I don't know, it's gonna be new for me. So when she comes out this is a new world for her, so I wanna be there for her. I wanna teach her things, you know.

In this passage Micaela starts out using the third person (e.g., using "they" and "you" to refer to babies and mothers), but she then switches to her own experience and provides a lovely example of imagining what life might be like for both herself and her newborn baby. Moments like these are glimmers of hope for Micaela and indicate that despite the chaos surrounding her, she has begun to absorb the home visitors' teachings and has the potential to improve her reflective capacities regarding the baby and her relationship to it.

Micaela's responses on the PDI, however, suggest that she has made limited progress in improving her overall reflective capacity in the year and a half since the Pregnancy Interview. Throughout the PDI, Micaela paints a largely idealized picture of Lila and disavows most of the negative emotions or experiences that the child might feel. When asked if she thinks Lila ever feels rejected, Micaela responds simply, "No." She gives the same response when asked whether she thinks Lila has experienced any setbacks in her life. Similarly, Micaela disavows or minimizes most of her own negative feelings, answering "No" when asked if she ever feels the need for someone to take care of her, if she ever feels guilty as a parent, and if she has ever felt as if she were "losing" Lila. Moreover, when asked for three words to describe her relationship with her own mother, Micaela greatly downplays the rancor and tumult between them, saying only, "Um, not too good. Not trustworthy. And a little bit unhappy." Asked to elaborate, she focuses on her mother's unavailability ("she's always busy") and her tendency to gossip but says nothing about Francesca's emotionally and verbally abusive behavior.

With pre- and post-intervention mean RF scores of 4, Micaela can be described as a mother who began the intervention with a rudimentary reflective capacity and did not make any gains in overall RF over the course of the intervention. The range of scores (from 1 to 7) on the PDI, however, suggests that Micaela's mentalizing capacity became more available to her over the course of the intervention, so that she was able to draw on it in some, though clearly not all, responses. This suggests that even in cases in which mothers' overall RF scores stayed the same or decreased over the course of the intervention, there was some change in a positive direction. This finding demonstrates the importance and utility of qualitative analysis: Careful examination of individual cases allows for identification of less overtly obvious patterns that might be overlooked using a strictly quantitative approach.

Micaela's story was notable for its dramatic beginning, particularly her mother's initial condemnation of the pregnancy and the looming specter of Children's Services. In addition, the disruptions caused by Micaela's frequent relocations, and the degree to which Micaela was preoccupied with her relationship—both past and present—with her mother, left little space for reflecting on her baby. Finally, Micaela posed a challenge for the home visitors because she was often out of the house and difficult to locate; as a result, her "dosage" of the home visit intervention was lower than Ana's. Fortunately, there were multiple factors that offset these challenges, including the presence of a caring extended family and the steady involvement of the baby's father, thereby facilitating Lila's development of a secure attachment style.

<u>Case 3: Lourdes</u>

In Lourdes's case, the positive change in RF from pre- to post-intervention, while measurable, may not be representative of the overall impact of the intervention. That is, Lourdes's RF increased by two points, like Ana's, but unlike Ana, Lourdes's case was not considered a "success" by the home visitors: Despite the home visitors' concerted efforts to encourage individuation, Lourdes remained inextricably mired in a dysfunctional family system, and her child was insecurely attached.

When she first joined Minding the Baby, 20-year-old Lourdes was living with her mother, four sisters, and her mother's longterm boyfriend. Like Ana, Lourdes had endured a series of traumatic losses in childhood. When she was nine years old, Lourdes's father committed suicide; shortly thereafter, Lourdes's mother decided to move the family from the Dominican Republic to the United States. Around that same time, Lourdes's maternal grandmother died, and her paternal aunt was murdered. Additionally, there was a significant history of mental illness in Lourdes's family: Her mother suffered from psychotic depression and was on psychiatric disability, and all eight of her mother's siblings had some sort of anxiety disorder. Lourdes reported experiencing significant anxiety during high school.

At age 18, two years before she became pregnant, Lourdes attempted suicide by overdosing on pills and was hospitalized for several weeks in a psychiatric inpatient unit. Upon her release, she attended an intensive outpatient program and then weekly outpatient psychotherapy for a year, but eventually quit because she felt that the sessions were no longer necessary. At the outset of the MTB intervention, Lourdes presented as anxious and apprehensive, with pressured speech that was difficult to interrupt. She

suffered from social phobia and agoraphobia, so that much of her time was spent indoors, in the company of her mother, who herself rarely left the house. Lourdes's role in her family was clear: She was her mother's caretaker, accompanying her to doctor's visits and tending to her medical needs.

At the beginning of the intervention, the MTB home visitors were concerned about Lourdes's mental health and suggested that she recommence weekly psychotherapy with an outside therapist, which she did. At the same time, the home visitors felt hopeful that Lourdes's experience taking care of others would serve her well in caring for her baby. Moreover, they felt optimistic because unlike many of the mothers, Lourdes was a self-described "homebody" and thus unlikely to get caught up with the dangers of life on the streets.

Lourdes's psychiatric symptoms worsened over the course of her pregnancy. She became increasingly anxious and also depressed, and developed irregular eating patterns. She was in denial of her pregnancy for the first month, and she harbored misconceptions about labor and delivery that made her very fearful. In addition, her relationship with the father of the baby, William, was quite troubled and added to her distress. Soon after revealing her pregnancy to him, Lourdes had become estranged from William; he had wanted her to have an abortion and she had refused. He then denied that the baby was his. Lourdes and William had almost no contact during the pregnancy and for several months after the birth; in fact, during much of the intervention Lourdes and William did not have each other's phone numbers.

Lourdes's psychiatric symptoms peaked during birth, when she experienced a psychotic break. She remained in the hospital for several days under psychiatric

observation and was prescribed psychotropic medication. Lourdes improved slowly in the ensuing months, but still faced many struggles. In response to Lourdes's fragile state, the clinical social worker began meeting with Lourdes every week instead of every other week, just as she had done with Ana. Lourdes reported that she found it very helpful to have someone to talk to. Overall, the home visitors found Lourdes challenging to work with because she agreed readily to their suggestions, eager to please them, but then failed to implement changes. As a result, the home visitors had to repeat their suggestions and revisit themes many times over.

In addition, Lourdes maintained rigid beliefs and expectations about child-rearing that were extremely difficult to challenge, despite extensive psychoeducation and support. Perhaps most challenging, Lourdes often minimized the extent of her distress, leaving the home visitors in the dark about important events. For example, the team did not know for many months that Lourdes's mother was being physically abused by her boyfriend, who was an alcoholic, and that Louis had been exposed to the violence. As another example, Lourdes did not reveal to the home visitors that she was taking her psychiatric medication sporadically, as she feared she would become addicted to it. Once she was given the facts about the medication—that it was not addictive and that it needed to be taken daily to be effective—Lourdes began taking her medication regularly, and her anxiety abated significantly.

During pregnancy, Lourdes had idealized her baby, Nico, and this made it all the more difficult for her to deal with the real baby and all of his needs. The home visitors noted that Lourdes was overprotective of Nico and would rarely allow him off her lap to play and explore, even when he was older. Nico spent most of his time indoors and was

discouraged from being autonomous, not only by Lourdes but by the whole family. Lourdes would slap Nico's hand and yell "Stop!" when he reached out to touch the many knick-knacks in the home. Lourdes was also self-conscious and embarrassed about showing love and nurturance, and rarely played with Nico or read to him, despite much encouragement from the home visitors.

In the Strange Situation, conducted when Nico was one year old, Nico was classified as having an insecure-preoccupied attachment status. He was described as "petulant" and rejected the toys given to him during both reunion episodes. Lourdes was noted to have very high expectations of Nico during the procedure, scolding him for being "too sentimental" when he cried during the separations.

A comparison of Lourdes's responses on the Pregnancy Interview, conducted when she was five months pregnant, and the Parent Development Interview, conducted when Nico was 13 months old, indicates a two-point improvement in her RF level, from 3 on the PI to 5 on the PDI. On the PI, Lourdes's individual RF scores range from 2 to 4, and her responses generally include references to mental states, but fail to elaborate on these mental states or to explicitly link mental states to behavior or to other mental states. In addition, Lourdes's responses on the PI are fairly concrete and focused on physical rather than emotional traits, and tend to minimize the affective impact of events. For example, when asked about emotional difficulties she has experienced during pregnancy, Lourdes says,

> I been depressed a lot since I got, I was depressed before but since I got pregnant it got worse and I have anxiety and nerves so I gotta take care of it, but I could control it and not think negative, not think about the baby father what he say, and going out that help me a lot, and hearing music, and I feel a little much better now. I can control it better than before. . . .

This response indicates that Lourdes is shying away from the painful aspects of her situation—for example, by saying "I have anxiety and nerves" instead of "I *feel* anxious and nervous"—and also that she is greatly underestimating the depths of her depression, which she believes she can "control" by simply by "not thinking negative."

When asked about the first moment she believed there was a baby inside her, Lourdes responds,

> When I saw the first ultrasound that they did to check how many weeks I was, because they thought it was 20, I asked him, "How could I be 20? You know I am not taking care of myself," so I felt like a little guilty thinking you know I was so far away and not taking care of myself, but when I went and they do the ultrasound they were like, "You're 14 weeks," I felt like not that much guilty and I see him and he was growing, so I was like, "Oh, I still have time to take care of myself and do it better and he's not that big." So since I found out he was still little I eat and take care of myself.

In this response Lourdes again minimizes the affective impact of the event—in this case of being confronted with incontrovertible evidence of her pregnancy—and also reveals the significant level of denial present during the first several months of her pregnancy. In addition, this passage includes several examples of direct discourse; indeed, Lourdes's PI—as well as her PDI—are full of direct discourse, reflecting her need to defend against the uncomfortable emotions stirred up by the interview.

On the PDI, conducted almost a year and a half later, when Nico was 13 months old, Lourdes's responses are noticeably different in terms of their complexity and their recognition of the interplay between mental states and behavior. When asked about a moment when she felt she did not "click" with her child, Lourdes says,

> Oh! He was running, jumping in the bed. . . . I was like, "Mommy's really tired, she wants to go to sleep, it's eleven o'clock at night and *I'm getting really mad right now*, it's time for you to settle down." He looked at me and he thought I was playing. . . . He thought it was a joke. . . . He put the face, like smiling face, like, "I know you laugh with that," and I pretended I didn't. (Interviewer: How do you

think he felt when you didn't click?) That something was wrong, because he kept looking at the floor, like, "I did that? *That's why mommy's mad*. . . . Well, I got two choices, like keep being bad or trying to calm her down." And he comes and starts throwing kisses and kissing me and *he knows that's my weak side*, and I start laughing when he starts throwing kisses because he looks funny. And *he knows with those faces I'll laugh*. And sometimes when I'm really mad I don't laugh. But there's another time when I'm really mad too but I just can't hold it. I just start laughing and he starts laughing and being bad again, like, "I did it, she laughed, and that's okay with her." And *then I get really mad*. (Interviewer: When you didn't click how did you feel?) Bad. . . . *I don't like to do that to him because he's a baby*. . . . *I don't like to hit him, he don't know,* and my mom didn't raise us like that. She actually hit us when we were like eight years old, you know what's wrong and what's right. And that's okay with me. But in the age he is now, he really don't know. *He will understand you right now, but tomorrow he will forget about it*. . . . So I just come and put him in time out. And *then I feel guilty because I scream or take things away from him, and the way he acts, and me screaming, I feel bad*.

This passage, which was rated a 6 for RF, contains multiple instances of reflective function, some of them fairly complex. Perhaps most striking is the transactional nature of the interaction envisioned between mother and child: First mother becomes mad because child won't settle down (C behavior leads to M mental state); then child infers that mother must be mad based on her behavior (M behavior leads to C mental state), so he behaves in a way that he knows will make her stop being mad (C mental state leads to C behavior, which then leads to M mental state); then mother starts laughing despite herself, which causes child to assume she is not mad and to start behaving badly again, which makes mother even more mad (M behavior leads to C mental state (implied), which then leads to C behavior and finally to M mental state). Finally, mother screams or takes things from child and feels guilty and "bad" as a result (M behavior leads to M mental state).

In addition, the mother is clearly trying to envision the child's mental states, though she describes many of them in direct discourse quotations rather than narrative,

which lowers the overall passage score by one point from 7 to 6. Also, the mother seems to be inferring mental states in the child that are not realistic (i.e., too sophisticated) for a 13-month-old child (e.g., a one-year-old "throwing kisses" because he knows that's her "weak side").

With a pre-intervention mean RF score of 3 and a post-intervention mean RF score of 5, Lourdes can be described as a mother whose capacity to think reflectively about herself, her child, and her relationship with him improved over the course of the MTB program. Given these gains in reflective capacity, then, how do we account for Nico's insecure attachment status? Lourdes's case is instructive as an example of a caregiver whose mentalizing capacities improved significantly over the course of the intervention, but who nevertheless was unable to translate this capacity into action in terms of her relationship with her child. That is, her mentalizing ability did not seem to inform her actual behaviors with her child in a consistent way, particularly around issues of autonomy and differentiation. It is likely that Lourdes's own underlying psychiatric disturbance—even with therapy and medication—coupled with the mental illness of her family members, largely accounts for her difficulties in acting as a sensitive, responsive caregiver.

Though generally loving and supportive, many of Lourdes's family members struggled with their own traumatic histories and mental illnesses. In particular, Lourdes's mother, who was phobic and depressed, discouraged the younger generations—including both Nico and Lourdes herself—from individuating. The home visitors described a pervasive attitude in the family that the world was a bleak place and that staying close to home was the only safe option. Lourdes's own fears of separation and individuation were

projected onto Nico, who was consequently kept confined to her lap or to a small play area; these fears made it extraordinarily difficult for Lourdes to consistently view Nico as a thinking, feeling being of his own and to understand his behaviors as attempts to communicate his needs.

Moreover, the discrepancy between Lourdes's promising gains in RF and her child's insecure attachment makes sense in light of the home visitors' observations about Lourdes's relationship with them. Lieberman et al. (1991), discussing the effects of their home visiting intervention with anxiously attached dyads, state that "maternal involvement in the therapeutic process appears as a key variable in fostering adaptive change" (p. 208). In Lourdes's case, although Lourdes and her family were generally welcoming, the home visitors had difficulty establishing a strong, genuine relationship with her. They noted that Lourdes presented with an "as-if" quality; she was always superficially amenable to the home visitors' suggestions, but then failed to implement changes week after week. It seemed that Lourdes was unable to fully trust the home visitors or to internalize her relationship with them—that is, to use them as a secure base. This was likely a consequence of both her underlying psychiatric difficulties and her family's deep-seated suspicion of the outside world.

CHAPTER 5

Discussion

The overall goal of the present study was to evaluate the impact of the Minding

the Baby intervention on maternal reflective functioning, as measured by mothers'

responses to clinical interviews administered before and after the intervention. The

guiding premise of the intervention was that helping mothers develop a reflective stance

would enable them to become more regulating, sensitive, and autonomy-promoting

caregivers and thus positively affect a range of developmental outcomes in their infants.

This study had three primary aims: The first was to refine and update Slade and

Patterson's (2005) manual for scoring RF on the Pregnancy Interview (Slade, Huganir,

Grunebaum, & Reeves, 1987). The second was to test the hypothesis that the Minding the

Baby intervention promotes change in maternal RF. The third was to use qualitative

methods—namely, interviews with the home visitors who worked with mothers in the

Minding the Baby study (see Appendix D for the list of questions posed to the home

visitors), as well as close readings of the pre- and post-birth maternal interviews—to

examine the complex process of change.

I. Measuring RF During Pregnancy: Establishing Reliability & Validity of a New

   Instrument

As described in chapter 3, in order to score data from the present study, Slade and

Patterson's manual (2005) for assessing reflective functioning on the Pregnancy

Interview was updated, expanded, and refined. This manual was based upon the scoring

system developed by Slade and her colleagues for use with the Parent Development

Interview (Slade, Bernbach, Grienenberger, Levy, & Locker, 2004), which, like the Pregnancy Interview, assesses parental representations of the child. The reliability of the Pregnancy Interview scoring system was established by having a trained RF coder re-score interviews from multiple pregnancy samples and achieve 100% inter-rater agreement with previous raters. As a result, there is now, for the first time, a relatively reliable instrument for assessing reflective functioning in pregnancy. Further studies using this scoring system can thus be conducted with reasonable certainty of the instrument's reliability.

In addition, the fact that the mothers' overall RF scores in the present study increased from pre- to post-intervention provides some construct validity for the instrument, although more validation studies are required. That is, it appears that the scoring system for RF on the Pregnancy Interview provides a reasonably valid assessment of reflective functioning during pregnancy. Another way to establish the validity of the instrument would be to examine whether mothers' RF scores co-vary with other related measures, such as the AMBIANCE scale, a measure of disruption in mother-infant interactions developed by Lyons–Ruth, Bronfman, & Atwood (1999). The expectation would be that RF scores would be inversely correlated with AMBIANCE scores—that is, the lower the RF score, the higher the number of disruptive behaviors displayed by the mother in her interaction with her infant. A pilot study is currently underway to explore this question, using a sub-sample from the larger Minding the Baby study; in this study, the relationship between mothers' RF scores in pregnancy—as measured by the scoring system developed for the present study—and their AMBIANCE scores will be examined. A further test of validity would involve the analysis of

correlations between maternal RF scores in pregnancy and the child's attachment classification; we would expect that children of mothers whose RF improved over the course of the intervention would be more often classified as securely attached than children whose mothers' RF levels did not improve.

II. Quantitative Analysis: Summary of Results & Broader Implications

Results from a paired samples t-test indicate that the mean overall RF score increased from Time 1 (pre-intervention) to Time 2 (post-intervention), as hypothesized, and that the difference between the pre- and post-intervention means is statistically significant. The effect size of this difference is in the large range. The mean overall RF score increased by .57 of a point on the RF scale, from 3.33 for the pre-intervention group to 3.90 for the post-intervention group. Further, the modal RF score increased by 1 point, from 3 at pre-intervention to 4 at post-intervention.

These findings suggest that the Minding the Baby intervention seems to improve maternal RF within the present sample of mothers. Given the extent of past and ongoing trauma and the prevalence of psychopathology in this sample (see chapter 2), these findings are especially notable. In particular, the shift toward an RF score of 5—which is considered "definite RF"—is of interest, as it may suggest that by the end of the intervention, these mothers, most of whom began with limited or "questionable" RF (RF level = 3), have acquired rudimentary mentalizing skills (RF = 4) and may be on their way to developing full mentalizing capacity (RF = 5 or greater). Of course, given the small sample size of the present study, much further research is needed to confirm this hypothesis. The importance of this shift is bolstered by the impressive finding that

the majority (66%) of the children in the MTB intervention sample were classified as securely attached (Slade et al., 2008). This implies that in the present study, the increase in the mothers' overall RF scores from 3 to 4 may be reflecting a clinically significant shift across the course of the intervention, one that has an impact on the parent-infant relationship.

A closer examination of the individual-item RF scores in Table 1 (p. 65) reveals several interesting additional findings in the present study. First, at both pre- and post-intervention, the range of individual-item RF scores is identical: The lowest score is 1, and the highest is 7. However, when means are calculated for the highest individual-item and lowest individual-item scores, we see that on average, over the course of the intervention, the high scores are getting higher and the low scores are getting lower. That is, the mean of the highest-scored individual items increased by .81 of a point, from 4.52 at pre-intervention to 5.33 at post-intervention, and the mean of the lowest-scored individual items decreased by .23 of a point, from 1.67 at pre-intervention to 1.38 at post-intervention. One interpretation of these findings is that over the course of the intervention, the mothers as a group became less cognitively and/or affectively rigid; as a result, during the interview process—and presumably in their daily lives—they were able to be more open to both highs and lows of experience, rather than defensively constricted.

Moreover, the fact that twice as many mothers scored a 1 on an individual item at post-intervention as at pre-intervention (n =16 at post-intervention, versus n = 8 at pre-intervention)—the lowest score in the entire sample—may suggest that at the end of the intervention, the mothers were able to become momentarily disorganized and to "fail" during the interview, even when their overall reflective capacity improved over

the course of the study. This again reflects a newfound flexibility of experience that likely would be adaptive in coping with the unrelenting, continual stressors of daily life in this population.

Minding the Baby: What Works?

Given the empirical evidence that Minding the Baby was effective in improving maternal RF in the present sample, and given the tremendous challenges of working with at-risk populations, an exploration of the reasons behind these initial RF outcomes may be valuable both for planning new interventions and for furthering our understanding of mentalization and its role in parent-infant relationships. In considering why and how MTB worked, there are a number of possibilities. The following discussion highlights some of the most likely features: MTB's unique emphasis on RF, its interdisciplinary nature, and its intensity.

Emphasis on Enhancing Reflective Functioning: Strategies & Techniques

The quantitative data from the present study represent preliminary evidence that a mentalization-based, intensive, interdisciplinary intervention enhances mentalization in a high-risk population of first-time mothers with extensive levels of trauma and disruption. This suggests that a specific emphasis on RF is important in developing treatment programs for such populations. In addition, it lends credence to the position that there is real value in focusing on RF when training clinicians to work with these kinds of families. As a whole, these findings underscore the utility of emphasizing RF specifically, which is a focus unique to Minding the Baby. Indeed, there are other early

childhood interventions, such as the Circle of Security project (Marvin, Cooper, Hoffman, & Powell, 2002; Cooper, Hoffman, Powell, & Marvin, 2005) and Daniel Schechter's video feedback project (Schechter et al., 2005; Schechter et al., 2006) that include the fostering of reflective function among the various goals of the intervention, but MTB is the only such home visiting intervention that is built around a central aim of helping parents develop a reflective stance.

Sadler, Slade, and Mayes (2006) describe four stages in the process of facilitating the development of the reflective stance: the development of a therapeutic relationship between the home visitors and the mother, the provision of concrete services, the development of the capacity to acknowledge and tolerate mental states, and finally, the move toward mentalization. Establishing a solid therapeutic alliance is the first step in this process; the mother must feel safe and contained with the home visitors, and assured of their consistency and availability, before she can begin to acknowledge, and then reflect upon, mental states. Especially important at every step, and particularly early on in the intervention, is the training of the home visitors, who learn about attachment and mentalization theory, how to recognize various levels and manifestations of RF, and how to "hear" the potential for reflection and help the mother reframe non-mentalizing situations (Slade et al., 2008).

Providing Concrete Services & Developing the Therapeutic Relationship

From the start of the MTB intervention, mothers are linked to a comprehensive web of care (Lieberman, 2003), an array of concrete services that address both their own and their infants' physical and emotional health. The impact of such concrete services is

twofold: First, most of these mothers are in dire need of basic medical and social services, but need help learning how to go about obtaining them. Second, and more profound, in having their concrete needs attended to, these mothers are experiencing "being known, accepted, and affirmed by the home visitors" (Sadler, Slade, & Mayes, 2006, p. 277)—that is, the home visitors are serving as a secure base for these mothers. As discussed in chapter 2, one key to success in relationship-based interventions is the creation of a secure base for the mother (Fraiberg, 1980; Lieberman, Silverman, & Pawl, 2000; Lieberman, 2003), another person who cares for and contains the mother without being judgmental or critical and who holds her chaotic, painful narrative in mind (Sadler, Slade, & Mayes, 2006). Ideally, this relationship then serves as a model for the kind of relationship the mother will have with her child.

As described by Sadler, Slade, and Mayes (2006), the MTB home visitors begin providing concrete services from the first day of the program. These often include tangible evidence of their support, such as videos, handouts, books, and toys, and even diapers and emergency food when necessary. Home visitors try to leave a reminder of themselves behind after each visit—a list of goals written together with the mother, a baby toy, a printed handout—as evidence that they have been there, and that they will return (Sadler, Slade, & Mayes, 2006). Home visitors also help mothers navigate the social service system, providing and assisting with paperwork, accompanying mothers to agency visits (and often waiting on line with them for hours), and making frequent phone calls. For example, in Ana's case, the social worker consistently encouraged Ana to return to high school and facilitated the process by accompanying her to the school on multiple occasions to register. These tasks are gradually turned over to the mothers,

imparting a sense of mastery that most of these women have never experienced (Sadler,

Slade, & Mayes, 2006).

The importance of providing concrete services, particularly at first, cannot be

overestimated. As Sadler, Slade, and Mayes (2006) point out,

> The link between concrete services and the development of mentalization may
> seem obscure but, like the establishment of a therapeutic relationship, the link is a
> crucial aspect of the mothers' slowly starting to identify themselves and the baby
> as having bodily and psychological needs that can be described and met. (p. 279)

Most of these women have had few moments of being understood and known by their

caregivers, and thus their experience of need usually takes the form of "diffuse

neediness" (Sadler, Slade, & Mayes, p. 279)—that is, a chronic general feeling of

neediness with little understanding of its origins or how to ameliorate it. By meeting the

mother's (and the baby's) basic needs, the MTB home visitors enable the mother to

slowly become aware of her specific needs—bodily, psychological, and relational—to

name them and experience them as real, and then to recognize that she can learn ways to

get these needs met. In terms of bodily needs, the home visitors help the mothers learn to

attend to their bodies, as well as their babies', in various ways, including helping mothers

with grocery lists and preparation of nutritious meals, teaching stress reduction through

yoga stretches and relaxation, and teaching baby massage to relax the infant.

The Capacity to Tolerate Mental States & the Emergence of Mentalization

The first two stages—developing the therapeutic relationship and providing

concrete services—are necessary prerequisites for the next two stages, developing the

capacity to acknowledge and tolerate mental states, and the emergence of mentalization.

As manifested in their RF scores on the Pregnancy Interview, most of the mothers in

MTB start the project with very limited mentalizing capacities. Often they lack words for basic emotional experiences, and they have little appreciation for the connection between thoughts, feelings, and behaviors. Thus one of the home visitors' main tasks throughout the course of the intervention is to constantly label feelings—both the mother's and the baby's. Along the same lines, as described in chapter 2, the home visitors frequently employ the strategy of "speaking for the baby" (see Carter, Osofsky, & Hann, 1991) and, equally important, speaking for the mother. Speaking for the mother allows the mothers to begin thinking about their inner experience and to begin to articulate their needs and concerns, often for the first time. Once these feelings are articulated, the home visitors can then go about helping the mother cope with them. This sequence is one of the major strategies used by the MTB team: begin by helping the mother identify a feeling, and then help her develop a way to regulate and contain this feeling (Sadler, Slade, & Mayes, 2006). In so doing, the home visitors are paving the way for the mother to begin to hold her baby in mind—to acknowledge the baby as a thinking, feeling being, and to tolerate and regulate his experience.

After the baby's birth, the home visitors employ a variety of techniques to enhance the mother's understanding of the baby as an intentional, feeling being. For example, the home visitors pay careful ongoing attention to the newborn's states of alertness, from sleeping to actively alert, and frequently point these out to the mother so that she learns to identify them. In addition, speaking for and imitating the baby serves as *in vivo*, direct teaching experiences that highlight the baby's needs, desires, and expectations; the mother also learns that these can be understood by being attuned and responsive to the baby's cues (Sadler, Slade, & Mayes, 2006). Another technique that home visitors frequently employ is

foreshadowing, or "beginning to think through and rehearse with the mother the next states in the child's and her own development" (Sadler, Slade, & Mayes, 2006, p. 281). These rehearsals can be thought of as mentalization exercises, prompting the mother to envision how she or her baby will feel in a given situation.

Once the mothers have begun to label, acknowledge, and tolerate thoughts and feelings, the emergence of mentalizing begins. As defined by Fonagy et al. (1998; see also above), there are three major components of a reflective stance: an awareness of the nature of mental states, the capacity to tease out mental states underlying behavior, and recognizing developmental aspects of mental states. It is these abilities that the home visitors seek to enhance. One principal strategy for doing so is engaging in dialogues with the mothers about how they and their children are feeling and why they might be feeling that way. The basic idea that the home visitors attempt to impart in these dialogues is that mental states make sense and can be understood. Examples from Sadler, Slade, and Mayes's 2006 article include, "Maybe he's feeling a little out of sorts today because he just had his shots" and "Maybe you're feeling a little overwhelmed at going back to school so soon after the baby's birth" (p. 282). In addition, the home visitors attempt to help mothers understand their child's behaviors in terms of mental states, moving away from a focus on behavior and toward an appreciation of the feelings underlying the behavior. For example, a child's clinginess when the mother drops him off at daycare can be understood as an expression of his *wish* to have his mother stay with him (Sadler, Slade, & Mayes, 2006).

Home visitors also play a crucial role in reframing situations where mothers seem to have misread their baby's mental state (referred to as "non-mentalizing interactions"),

which over time can lead to serious derailments in the relationship. This is especially important for mothers who tend to attribute malevolent or negative intentions to their babies. For example, some mothers think of their babies' crying during the night as a reflection of their wish to anger her, rather than an expression of their need for comfort. One possible intervention would be for the home visitor to speak for the baby (e.g., "You're lonely and scared and hungry, and you want Mommy to make you feel better") so that the mother can accurately perceive the baby's intention first, and then better understand how to comfort him.

Other Techniques: Videotape Review and Play

In addition to using language (e.g., wondering aloud about feelings, speaking for the baby, etc.), the home visitors employ other strategies to enhance and encourage reflection on internal experience. As mentioned previously, concrete reminders are one such technique. Another powerful method is the review of a previously videotaped face-to-face mother-infant interaction, filmed when the baby is 4 months old. The clinical social worker goes over the videotape together with the mother at various points during the intervention, providing opportunities for the mother to consider the baby's intentions at a distance from the actual event, away from the stress of the baby's demands as well as her own reactions—and in the context of a supportive relationship with the social worker. In addition, by viewing the tape at various points in time, the mother can begin to see and contemplate changes in her baby, and in her relationship with him, over time. For example, in Ana's case, her reactions to the video—which she first viewed when her child, Louis, was 14 months old—reveal a growing sensitivity to her child's cues. She is

able to comment, in retrospect, on her previous inability to understand Louis's communications: "I had no idea what he wanted. . . . I see now that his crying was to tell me he'd had enough."

Playing with the child provides another kind of opportunity to build reflective capacity. Many of the mothers in the MTB project, who themselves have rarely been given the chance to play and explore, start out having great difficulty playing with their babies and do not see the need for the infant to explore (Sadler, Slade, & Mayes, 2005). Lourdes, one of the mothers described in chapter 4, is an example of such a mother; she felt that her baby was safest on her lap, and discouraged his attempts at autonomous exploration. Most of the mothers in Minding the Baby need encouragement and guidance from the home visitors in learning to play, and in particular in learning to "follow the baby's lead" during play. By playing, both mother and child enter a state in which mental states can be played with in a non-threatening way, precisely because they are *not real*. Through playing, the mother enters into what Winnicott (1965, 1971) calls the "transitional space" between playing and reality (see Slade, 2005). In so doing, the mother learns to take on the child's inner experience, to envision mental states in him and to play with these. As discussed later in this chapter, this experience of being held in mind by the mother is critical for the child's development as well, laying the foundation for him to begin making sense of his own experience (Fonagy & Target, 1996; Fonagy et al., 2002; Slade, 2005).

Common Factors With Other Mentalization-Based Programs: MBT & SMART

Many of the strategies and techniques used in Minding the Baby are very similar

to those employed by two other mentalization-based treatments, Bateman and Fonagy's

Mentalization Based Treatment (2003; 2006) and Fearon, Target, Fonagy, and

colleagues' SMART intervention (Fearon, Target, Sargent, Williams, McGregor,

Bleiberg, & Fonagy, 2006). Although Minding the Baby grew out of a larger tradition of

mentalization-based treatment—that is, treatment that "entails specific attention to

mentalizing in the therapeutic process" (Allen & Fonagy, 2006, p. xix)—Minding the

Baby was developed prior to and without direct collaboration with the creators of either

MBT or SMART. Thus it is particularly interesting, and important, that the Minding the

Baby team arrived at many of the same principles, goals, and techniques as Bateman and

Fonagy and Fearon and colleagues. Given the empirically-demonstrated success of MBT

(see Bateman & Fonagy, 2008), and now the evidence from the present study of Minding

the Baby's success, an understanding of similarities between these programs sheds light

on *what works* in such treatments—that is, what central principles and strategies may be

key to a successful mentalization-based treatment.

The concept of mentalization-based treatment was first formally introduced in

2004 by Anthony Bateman and Peter Fonagy, who had found that in adult patients with

borderline personality disorder, the capacity to mentalize was severely compromised.

"Mentalization-based Treatment," or MBT, was developed and researched in response to

this finding, as a way to enhance mentalization in individuals with borderline personality

disorder. Bateman and Fonagy view borderline personality disorder from a "dynamic

developmental" standpoint (2007, p. 84), positing that it is rooted in a failure to develop

adequate mentalizing abilities during infancy and childhood—and more specifically, in a

failure to develop adequate mentalizing abilities *in an attachment context*. In a series of

papers published over the past decade, Fonagy and his colleagues have put forth a model of the development of mentalization, as well as a theory regarding the implications—clinical, biosocial, neuropsychological, and developmental—of the failure to develop the reflective capacity (see Fonagy et al. 1995; Fonagy et al., 2002; Fonagy et al., 2003).

According to this model, all humans are born with the capacity to mentalize, but certain experiences must occur in childhood, beginning in early infancy, to pave the way for the reflective function to develop. Gergely and Watson (1996) postulate that for very young infants, the caregiver's mirroring of the infant's affect is critically important because it enables the infant to begin organizing his self-experience. They further argue that the mother's affect-mirroring must meet two conditions: markedness and contingency. Contingency means that the mother's response matches the infant's internal experience. Markedness, as described by Bateman and Fonagy (2003), refers to "the caregiver's capacity to incorporate into her expression a clear indication that she is not expressing her own feelings, but that of the baby" (p. 193). Stated differently, the infant's internal state is reflected back to him as a "re-presentation." The infant begins to recognize and learn about mental states, both his own and others', by observing these re-presentations in the caregiver.

During childhood, the caregiver continues to play a crucial role in enabling the child's development of a reflective stance. As mentioned above, through imaginative play, the caregiver enters into the Winnicottian (1965, 1971) "transitional space" between playing and reality (see Slade, 2005). By doing so, the parent simultaneously enters the world of the child's imagination and also maintains a clear sense of reality. As Fonagy and his colleagues write, "the child's mental state must be represented sufficiently clearly

and accurately for the child to recognize it, yet sufficiently playfully for the child not to be overwhelmed by its realness" (Fonagy et al., 2002, p. 266). This process eventually enables the child to recognize the contents of his mind as *merely representations* of thoughts and feelings, as a subjective experience that is uniquely his own and thus different from what is in the minds of others (Fonagy & Target, 1996; Slade, 2005). Only then can the child begin to try to imagine what is in another's mind and to make sense of his own experience. This recalls Bion's (1962) concept of the containing mother, who takes in the infant's threatening mental states and offers them back to him in a metabolized form that is tolerable and safe.

Fonagy and colleagues (Fonagy, Gergely, Jurist, & Target, 2002; Fonagy, Target, Gergely, Allen, & Bateman, 2003) also present a model of the development of psychopathology as a result of repeated failures in affect-mirroring during infancy. In one scenario, if a caregiver consistently mirrors the child's emotions accurately but fails to "mark" them, the mirroring becomes too realistic. As a result, the child does not develop a sense that the emotion is his; without a marked re-presentation of his internal state, the child attributes the emotion to the caregiver rather than to himself. For example, Fonagy et al. (2003) posit that a parent who is overwhelmed by negative affect in her infant—as are many mothers at the start of Minding the Baby—may tend to mirror such affect in a realistic but unmarked manner, as the task of acknowledging and reframing the emotion is too distressing for her. In the absence of intervention, the parent's response, rather than aiding the infant in regulating his negative affect, will increase negative arousal and lead to a failure of containment of the infant's emotions (see Main & Hesse, 1990; Fonagy et al., 2003).

In a second scenario, some caregivers have difficulty mirroring their infant's emotions in a contingent manner, so that the infant's affective state is inaccurately re-presented to him. For example, a child whose mother continually misinterprets his cries for attention as attempts to "annoy" her, and thus reacts by ignoring his cries, may eventually mislabel his own emotional states. Both of these scenarios reinforce the importance of the home visitors' role in Minding the Baby; by holding the mother in mind, they diminish her tendency to become overwhelmed by the infant's negative affect, and by continually labeling feeling states and reframing non-mentalizing interactions, they enable the mother to accurately perceive, and thus better meet, the infant's needs.

Bateman & Fonagy: MBT for Borderline Personality Disorder

A full description of the MBT approach, which emerged directly from Bateman and Fonagy's understanding of the developmental origins of borderline personality disorder (BPD), is too broad to include here (see Bateman & Fonagy, 2006 for a comprehensive account). Generally speaking, MBT, like Minding the Baby, aims to make the patient's mind the focus of the treatment. Bateman and Fonagy believe that MBT is helpful for individuals with BPD because it has

> . . . the potential to recreate an interactional matrix of attachments in which mentalization develops and flourishes. *The therapist's mentalizing in a way that fosters the patient's mentalizing* is seen as a critical facet of the therapeutic relationship and the essence of the mechanism of change. (Bateman & Fonagy, 2006, p. 415, emphasis added.)

Fonagy and Bateman (2007) explain further that "the objective is for the patient to find out more about how he thinks and feels about himself and others [and] how that dictates his responses" (p. 93). Minding the Baby, of course, shares this aim, hoping to spark the

mother's curiosity and thoughtfulness regarding her own mental states as well as her child's, and how these mental states are linked with behavior. In MBT, moments in which therapist and patient have differing perspectives afford an opportunity for both parties to verbalize and explore the mental processes that led to each perspective and to consider the alternative viewpoints. Such moments model the idea of multiple alternative perspectives, which over time enables the patient to consider and experience an array of mental states rather than being "stuck" in one particular reality. The Minding the Baby home visitors engage in a very similar process all the time with mothers; in "speaking for the baby," for example, they offer an alternate perspective—the baby's—on a situation, facilitating the mother's ability to consider another point of view and to question her own.

Mentalizing Techniques in MBT

The techniques suggested by Bateman and Fonagy for facilitating mentalization in MBT share many common elements with the strategies employed by the home visitors in Minding the Baby. For example, in one MBT technique, the therapist offers the patient praise for moments of positive mentalizing and underscores the beneficial effects of such moments, with the aim of stimulating the patient's curiosity about mental states in himself and others. As described throughout this chapter, the home visitors in Minding the Baby are constantly encouraging reflective functioning and helping mothers understand the utility and positive impact of understanding mental states.

Another MBT technique, called clarification, refers to the process of tracing the patient's behaviors to related feelings by "rewinding" events in the patient's narrative and exploring his moment-by-moment experience leading to an action. The therapist remains

particularly alert to moments of failed mentalizing in the patient's story; when these become evident, the therapist questions them and seeks alternative ways of understanding the events. Minding the Baby offers an even more intensive version of this technique: Because the home visitors are present when mother and infant interact, they can offer *in vivo*, "live" discussion of events as they occur (though of course home visitors can, and do, review past events, with an aim similar to that of the MBT therapist of honing in on mental states). This recalls Fraiberg's (1975; 1980) rationale for having the baby present during therapy sessions, a practice that is now common in dyadic infant-parent psychotherapy: Fraiberg believed that in addition to facilitating information-gathering that would be impossible solely through parental report, the baby's presence in session allows for therapeutic intervention in the immediate moment, while affect is being experienced and can be addressed directly (Lieberman, Silverman, & Pawl, 1999).

A third MBT technique, called challenge or "stop and stand," has a similar goal of attending to events "in the moment"; in this technique, the therapist, in response to a failure in mentalization during the session, interrupts and insists that the patient address the rupture in order to revive his reflective capacity. Some labeling of emotional states by the MBT therapist is also part of this technique, allowing the therapist to explore the patient's manifest feeling as well as experiences that may result as a consequence of that feeling. As we know, affect labeling is an important component in Minding the Baby, too, as it gives the mothers a means of identifying, and then expressing, their inner experience.

In a recent update (2008), Bateman and Fonagy report on results of an eight-year follow-up study of patients treated for borderline personality disorder using MBT as part

of a randomized, controlled trial. Members of the MBT group, who had received 18 months of MBT followed by 18 months of maintenance mentalization-focused group therapy, were functioning better than the treatment-as-usual group in multiple domains, including lower rates of suicidality, fewer symptoms of BPD, less use of medication, fewer global functioning scores below 60, and improved vocational status. Given the similarities in approach and technique between Minding the Baby and MBT, these findings—and, in particular, the fact that the gains in the MBT group were maintained over time—bode well both in the short and long term for the mothers enrolled in Minding the Baby.

Other Mentalization-Based Treatments: SMART

SMART, or short-term mentalizing and relational therapy, is a relatively new approach to clinical work with children and adolescents and their families (Fearon et al., 2006). It represents an extension of the tenets of mentalization-based individual treatment to work with families. SMART is "based on the assumption that problems in family relationships derive at least in part from the family's difficulties with mentalizing" (p. 206). One key component of SMART is that the therapist, like the home visitors in Minding the Baby, strives to model and to encourage in family members the "curious stance" (p. 215), an expectation that one's thinking may be enlightened and changed by learning about other people's mental states.

Another goal of SMART is for the therapist to explain the ideas of mentalizing theory to the family members clearly and plainly, using important examples provided by them. A particular focus is the interplay between mentalizing, stress, and behavior, which

often get caught up in a vicious cycle within the family. The therapist also aims to demonstrate mentalization implicitly by showing an interest and curiosity about mental states, a respect and consideration for individuals' mental states, and excitement about discovering new mental state processes. In Minding the Baby, the home visitors typically do not explain or teach mentalizing theory explicitly to the mother; rather, they model the reflective stance, teaching it implicitly in an ongoing way. The home visitors share SMART's focus on identifying vicious cycles of non-mentalizing behaviors and then attempting to interrupt these processes through the enhancement of reflective functioning.

Intervening During Pregnancy

One aspect of Minding the Baby not shared by MBT or SMART is that it begins during pregnancy. This difference is important because, as a time of great change and upheaval, with reorganization occurring across many physical and psychological domains, pregnancy—and first pregnancy in particular—presents an opportunity for transformation, a "moment ripe for intervention and ripe for change" (Slade, 2002, p. 10). Thus the home visitors in MTB have the benefit of intervening at an opportune moment, when mothers-to-be are particularly open to transformation. Pregnancy is a period of great vulnerability, for sure, but it is also an ideal time to help mothers change negative patterns of behavior and thought (Olds, Sadler, & Kitzman, 2007).

What *Else* Works in Minding the Baby? Other Factors

Two features of the Minding the Baby program that distinguish it from MBT and SMART are its interdisciplinary focus and the intensity of the services it provides. In

terms of being interdisciplinary, Minding the Baby represents a true integration of services from an array of sources, including nursing, clinical and developmental psychology, and social work (Slade et al., 2005; Sadler, Slade, & Mayes, 2006). Sadler, Slade, and Mayes (2006) note that

> . . . none of the key elements of the MTB program are effective as a stand-alone approach; . . . however, when all the elements and strategies are implemented in an integral system of preventive care for young first-time families, we are learning that this program can be a very powerful experience in their lives. (p. 284)

The MTB intervention focuses on both the mind *and* the body; the home visitors, and particularly the nurse practitioner, pay close attention to the mother's physical needs throughout the program, ensuring that she is healthy and that her basic bodily needs are met. This then serves as the foundation that enables the mother to begin attending to her psychological needs (Slade et al., 2005).

In terms of intensity, Minding the Baby resembles nurse home visiting models much more than individual or family therapy models, which usually involve once- or perhaps twice-a-week outpatient sessions. As detailed earlier in this chapter, the Minding the Baby home visitors work with the mothers on many levels, helping them with tasks ranging from buying groceries, applying for benefits, and installing air filters to developing a labor plan and playing with their child. Home visitors also struggle with the challenges of working within the family system as well as all of the stressors attendant to poverty. Given the multiple levels of need in this population, a multi-pronged, flexible, intensive intervention is a necessity to effect long-term change.

"Less Is More" Versus "More Is Better": The Early Intervention Debate

There is an ongoing debate within the field of early intervention regarding the most effective and appropriate models of intervention, and specifically on whether short-term, focused, behavioral interventions ("less is more") hold more promise than long-term, comprehensive, intensive programs, such as Minding the Baby ("more is better"). In a series of meta-analyses of attachment-based interventions, Bakermans-Kranenburg, van IJzendoorn, and Juffer (2003) and van IJzendoorn, Juffer, and Duyvesteyn (1995) conclude that "less is more"—that is, that "interventions with a clear focus and a modest number of sessions are preferable" (Bakermans-Kranenberg et al., p. 212). Their meta-analyses suggest that the most effective interventions: 1) were short-term (16 sessions or fewer); 2) started later (after child age 6 months); and 3) focused specifically on parenting behaviors rather than on a broad range of measures.

In contrast, Egeland, Weinfeld, Bosquet, and Cheng (2000), after conducting their own review of 15 attachment-based interventions, reached the opposite conclusion, arguing that "more is better" (p. 79). Egeland and colleagues promote "lengthy, intensive, and carefully timed" (p. 70) interventions as the most effective, especially for high-risk populations, and specify that such interventions should: 1) start as early as possible (ideally during pregnancy); 2) provide the most comprehensive support; 3) last longer; and 4) have the most sessions.

In an effort to address these disparate conclusions, Berlin (2005) reviewed a subset of studies examined by Egeland et al. and Bakermans-Kranenberg et al. that she considered to have "the most rigorous findings" (p. 11). Based on the results of her review, Berlin concludes that

> . . . it is not an "either/or" proposition: given that the participants come to treatment with widely varying characteristics and needs, it is most likely that "less is more" *and* "more is better" because "less is more" for some, whereas "more is better" for others. (p. 20, emphasis in original)

In other words, the question of "What works for whom?"—initially posed by Strupp and Bergin (1969, 1972) in relation to matching different psychotherapeutic approaches to specific diagnoses or problems—also, not surprisingly, pertains to the field of early intervention regarding what kinds of services work best for which populations.

In terms of Minding the Baby, Slade, Sadler, and Mayes (2005) believe that for the population served by their intervention program, the complexity of the mothers' lives demands a "more is better" approach:

> We favor a more intensive approach, especially for mothers with a significant psychiatric and trauma history. . . . We suspect that it is these mothers who challenge and overwhelm the home visiting professionals working primarily within a single discipline or those attempting more structured behavioral interventions. The families' needs for integration and complex services are simply too great for singular or focused behavioral models. (p. 173)

In a discussion of strategies for designing effective interventions for at-risk children and their families, Borkowski, Smith, and Akai (2007) bolster Slade et al.'s position, stating that

> . . . although researchers have demonstrated that brief, targeted interventions are effective in specific instances, . . . complex problems often necessitate broad intervention programs with multiple, highly-focused components to address more than a single core issue or problem domain. (p. 232).

The findings of the present study further challenge the "less is more" approach for families dealing with multiple severe stressors. In particular, the case studies in chapter 4 highlight, for this population, the enormous complexity inherent in the process of change and the importance of providing a wide range of services to address the many needs— physical and emotional—of the mothers and their babies.

III. Qualitative Analysis: Causes & Implications of the Complexities of Change

Due to the severity of these women's situations—in terms of both the environmental stressors and the internal struggles they face—even the most intensive, multi-level intervention is bound to fall short in some domains. As described in chapter 4, despite the significant empirical findings in the present study that indicate an overall increase in RF, qualitative analysis of the data reveals that the process of change is more complicated and less straightforward than the quantitative analysis suggests. For example, in some cases, although overall RF did improve, other important outcome indicators (e.g., the child's attachment security) showed unexpected patterns. In other cases, while overall RF scores did not increase, individual passage scores did, indicating that some mothers made gains in certain areas but not in a global way. As part of the evaluation of Minding the Baby, it is important to consider possible factors that may have limited the effectiveness of the intervention.

Possible Limiting Factors

As detailed in chapter 2, mental illness afflicts a large proportion of the mothers participating in Minding the Baby: At the outset of the intervention, the incidence of psychopathology was above 50%. For some mothers, severe mental illness—both in the mothers themselves and also in their family members—played a significant role in limiting the effectiveness of the Minding the Baby intervention. For instance, the case study of Lourdes in chapter 4 describes how significant psychopathology, both in Lourdes and in her family, may have prevented her from translating her enhanced mentalization into more sensitive behaviors with her baby.

Another potential limiting factor of the MTB intervention is the decreased "dosage"

received by some of the mothers. Despite the home visitors' best efforts, some mothers,

such as Micaela in chapter 4, were all-but-impossible to locate at times, making

consistency of visits extremely difficult. In addition to resistance from the mothers and

other family members, challenges cited by home visitors in tracking down mothers

included the mothers' frequent changes in residences and telephone numbers as well as

their generally chaotic schedules. Moreover, entrenched family systems pose a substantial

challenge to efforts to change the mother's attitudes and behavior, especially if the

encouraged changes run counter to the family's beliefs. In Lourdes's case, for example,

her family's rigid beliefs about childrearing outweighed the home visitors' promotion of

autonomous exploration and play. The power of her family's beliefs was particularly

difficult to challenge because unlike Ana and Micaela, Lourdes lived with her extended

family after her baby's birth.

Slade, Sadler, and Mayes (2005) point to an additional challenge: mothers who

fall in the borderline range of intellectual functioning. In general, reflective functioning is

not believed to be linked to intelligence (Levy et al., 2006; Slade, Sadler, & Mayes,

2005). Yet the ability to hold an idea or mental state in mind, to play with it and reflect

on it, requires executive capacities that are part of higher cortical functioning (Slade,

Sadler, & Mayes, 2005). For mothers with borderline-level intellectual functioning,

holding onto an idea is a struggle in itself, making it exceedingly difficult to help these

mothers link mental states to other mental states or behaviors. Slade, Sadler, and Mayes

(2005) describe altering the goals and expectations of the MTB intervention for these

mothers, so that the principal aim becomes "simply to have them articulate an awareness

of a physical state, feeling, thought, or intention, and to maintain this awareness for longer periods of time" (p. 171). This process is helpful in enabling this sub-group of mothers to modulate and control their impulses, and thus to better care for their babies.

IV. <u>Limitations of the Present Study & Directions for Future Research</u>

Based on the results from the present study, it is not known whether the increase in overall maternal RF is indeed the result of the intervention, as hoped, or whether it is the result of other factors (or some combination of these). For example, the mothers' RF scores could have improved as a result of them simply getting older and more mature over time. Further research is needed to clarify this question. Another potential confound in the present study is that it utilized two different measures of reflective function: RF scores during pregnancy were based on the mothers' responses to the Pregnancy Interview, whereas RF scores at the end of the intervention were based on their responses to the Parent Development Interview. It is thus possible that these two measures of RF (pre- and post-intervention) were tapping into two different constructs. A post-hoc Pearson correlational analysis was conducted to assess the relationship between the pre- and post-intervention RF measures. The resulting correlation, $r = .33$ ($p < .15$), suggests that the two measures are *related*—which increases the likelihood that the measures are assessing the same construct—but does not necessarily indicate that the two measures are the same. The failure of this correlation to be statistically significant at the $p < .05$ level is largely a function of the small sample size, rather than the two measures not being meaningfully associated with each other. Again, further research using these two measures is required to assess their relationship and to investigate whether they indeed

tap into the same construct.

In addition, according to the statistical findings discussed in chapter 4, the mean change in RF level (.57 of a point) from pre- to post-intervention in this sample is statistically significant. Yet results from this study indicate that out of 21 mothers, 11 mothers' RF levels increased, but 10 mothers' RF levels either did not change (n = 7) or decreased by 1 point (n = 3). Thus in nearly half the sample, RF level did not actually increase. A natural question that arises is: What do the results mean from a clinical standpoint?

There are several ways to approach this question. Clearly, more research is needed in the area of reflective functioning, and maternal reflective functioning in particular, to more fully understand the implications of the findings of the present study. In assessing the meaning of the present study's results, it is important to keep in mind that given the unrelenting stressors present in the subjects' lives—and, on top of those, the additional stress of having a child—we would expect the mothers' reflective functioning, in the absence of intervention, to actually *decrease* over the course of the study rather than to stay the same. That is, the MTB intervention is fighting against the tide, so that cases where mothers' RF scores stayed the same should be regarded as possible indications of the effectiveness of the intervention, rather than examples of the intervention's "failure" to make a difference. In a similar vein, the fact that in the majority of cases in which RF scores improved, the increase in RF was small, should not be seen as an indication that the intervention was not effective. In fact, changing a person's level of RF is quite difficult; even a small increase may thus reflect a substantial shift in functioning.

One way to explore clinical significance would be to look beyond RF scores by examining how mothers and their infants in this sub-sample performed on other measures, such as the AMBIANCE scale, the Strange Situation, and measures of maternal psychopathology, to explore how these factors interact with RF. Indeed, as mentioned earlier in this chapter, a pilot study is presently underway, using a sub-sample from the larger Minding the Baby study, to assess the relationship between mothers' RF scores in pregnancy and their AMBIANCE scores. We would expect to see an inverse correlation between RF scores and AMBIANCE scores, so that mothers who have higher overall RF scores will have lower (i.e., less disrupted) AMBIANCE scores. In terms of the Strange Situation, we would expect that the children of mothers whose overall RF levels increased would be more likely to be classified as secure than the children of mothers whose RF levels did not increase. Finally, in terms of psychopathology, we would expect that mothers with higher levels of psychiatric symptoms would pose greater challenges to the intervention, and thus would show less improvement—as reflected either in maternal functioning, child functioning, or both—over the course of the intervention than mothers with fewer psychiatric symptoms. For example, Lourdes, who suffered from significant mental illness and became acutely psychotic at birth, showed improvement in her overall RF level from pre- to post-intervention, but her child was classified as insecure with respect to attachment.

Additionally, in assessing clinical significance, a particularly important measure to explore would be the nature of mothers' representations of their child and of themselves in relation to their child, both during pregnancy and after birth. In designing the Minding the Baby study, Slade and her colleagues (Sadler, Slade, & Mayes, 2006;

Slade et al., 2005), reasoned that by enhancing RF, they would be indirectly changing maternal representations and, in so doing, laying the groundwork for positive outcomes for both mother and child. Assessing the mothers' representations would allow for confirmation (or contradiction) of this assumption.

In addition, a longitudinal design would make it possible to study the long-term effects of the Minding the Baby intervention. For example, in assessing the long-term impact of The Nurse Family Partnership (NFP), Olds et al. utilize maternal variables such as time on welfare and incidence of child abuse and neglect, as well as rates of substance abuse, subsequent pregnancies, and arrests. Child variables include number of arrests, instances of running away, convictions/probation violations, sexual partners, and days of consuming alcohol (Olds et al., 2000; see chapter 2). An assessment of these or similar variables in the families who participate in Minding the Baby would be extremely useful in understanding and evaluating the developmental trajectory of the children as well as the long-term effects of the intervention on the mothers.

Perhaps the most important limitation of the present study was its lack of a control group. As a result, findings from this study should be considered preliminary and require further examination with the addition of a control group. Fortunately, the larger Minding the Baby study, which is ongoing and includes a control arm, provides a potential data set for such further exploration. In addition, the sample used in this present study was fairly small and was not very diverse in terms of demographic variables. Increasing the cohort size as well as the diversity of the sample (e.g., by implementing the intervention in other settings), and using different home visitor-clinicians, would add to the generalizability and reliability of the current findings.

V. <u>Conclusion</u>

In a 1998 article about prevention and intervention, Fonagy argues that the "enhancement of mentalizing should be at the core of prevention in early childhood" (p. 141). He further states that

> . . . the systematic facilitation of the development of the child's awareness of the mental states of those around them is an important target for preventive intervention in social and behavioral disorders in children. (p. 141)

Minding the Baby is thus in line with Fonagy's call for a new kind of intervention; by building maternal reflective capacity, it fosters the child's capacity for mentalization as well. Indeed, Minding the Baby is unique among relationship-based early interventions in its explicit, central focus on enhancing parental reflective function as a way to improve parent-child relationships and child outcome along many dimensions. This focus was inspired by Fonagy and his colleagues' work on the internal qualities that *allow* mothers to be sensitive—that is, the reflective capacity (Slade, 2002). Minding the Baby focuses on fostering reflective functioning because RF "provides the mechanism whereby *both* representations and behavior are changed" (Sadler, Slade, & Mayes, 2006, p. 275, emphasis added).

Over the past decade, studies have shown reflective functioning to be a complex construct, and one that is relevant and useful in understanding the parent-child relationship and the emotional development of the child. The present study adds to a growing body of literature demonstrating that RF is particularly important in high-risk populations, as it serves as a buffer and a protective factor against trauma and stress. This study is an early attempt to evaluate the effects of Minding the Baby on mothers' RF, and to begin to explore, quantitatively and qualitatively, the nuances and meaning of these

effects. In so doing, it provides preliminary answers while raising a host of new

questions, highlighting the challenges that lie ahead as well as the potential rewards in

continuing this journey.

<u>Addendum to Reflective Functioning Scoring Manual</u>
<u>(Fonagy, Steele, Steele, & Target, 1998)</u>

<u>For use with the Pregnancy Interview (Slade, Grunebaum,</u>
<u>Huganir, & Reeves, 1987; Slade, 2004)</u>

Arietta Slade
Michelle Patterson
Maia Miller

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Address for correspondence:
Arietta Slade, Ph.D.
The Psychological Center
The City College of New York
R 8/130
138th Street and Convent Avenue
New York, NY 10031

Email: asladephd@earthlink.net

Table of Contents

I. Introduction to this manual

An adult's capacity for reflective functioning (RF) was originally assessed on the basis of his or her responses to the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984); this is an instrument that assesses the quality of an adult's representation of her childhood attachment experiences. RF is a capacity that can be assessed in a variety of ways, however, including but not exclusive to the AAI. The goal of this addendum is to help raters become familiar with indices of reflective functioning in expectant mothers' representations of their *imagined* children, as assessed using the Pregnancy Interview (PI; Slade, Grunebaum, Huganir, & Reeves, 1987). The PI was developed to assess the quality of a mother's representation of her relationship with her unborn child. It is a semi-structured clinical interview that takes about an hour to administer and that probes a variety of aspects of the mother's view of her experience of pregnancy, and her expectations and fantasies regarding her future relationship with her child.

This manual is to be used *as an adjunct* to the Reflective Functioning Manual by Fonagy, Target, Steele, & Steele (1998), originally developed for the scoring of RF on the AAI. The present manual represents a *partial* adaptation of that manual that is aimed specifically at providing relevant examples of RF during pregnancy, and at describing the minor modifications that have been made in the Fonagy et al. system in order to allow for the accurate coding of PIs. It is crucial to note, however, that accurate coding will not be possible unless raters are first trained in the use of the Fonagy et al. manual[1]. The Fonagy et al. manual gives full descriptions of all relevant constructs and scoring concerns; this manual is only meant to supplement the original manual with respect to pregnancy. To reiterate, **it is critical that raters of the PI be well versed in Fonagy et al.'s original system before attempting to become reliable on the system described here.**

In the sections that follow, we aim to describe the particular issues regarding the scoring of reflective capacity as these are assessed through parental descriptions of an imagined relationship with the child. Such descriptions are inherently different from the ones parents give of their relationships with their own parents on the AAI, which typically refer to relationships that were formed many years hence, and to incidents and memories in the long ago past. By contrast, the PI asks parents to describe a relationship that has, as of yet, no basis in concrete reality (other than the reality of the fetus' activity level, and possibly its gender). The PI thus provides a view of the mother's expectations and feelings regarding a relationship that has yet to be formed. In addition to this imagined relationship, the PI also asks the mother to think about a variety of other ongoing relationships: her relationship to herself, as she imagines becoming a mother, her

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[1] Or, alternatively, the Addendum for Scoring Reflective Functioning on the PDI (Slade, Bernbach, Grienenberger, Levy, & Locker, 2004).

relationship to the father of the baby (and to her other children if this is not her first pregnancy), and her relationship to her own family of origin.

The methods for scoring narrative descriptions of ongoing relationships do not differ in any way from those described either in the Fonagy et al. manual or the Slade et al. addendum for PDI scoring. This manual addresses the particular issues involved in scoring mothers' descriptions of their hypothetical and imagined relationships with their unborn children because these raise particular problems in scoring. While we will also provide scoring criteria and examples of mothers' descriptions of other, actual relationships, we will focus primarily upon the complexities of scoring imagined relationships.

As a prelude to addressing questions of scoring, we will briefly review the particular challenges of this complex developmental phase. Pregnancy can be quite disruptive to a woman's equilibrium and psychic organization, as well as to that of the rest of her family (see Slade, Cohen, Sadler, & Miller, in press, for a review). Obviously, the circumstances under which a woman finds herself pregnant can vary greatly, as can the level and type of internal and external resources she has available to her in this time of enormous transition and change. Important variables include whether she planned the pregnancy, whether she is in a committed relationship, whether she has adequate familial, social and financial support to start a family, and whether she is developmentally or emotionally prepared to have a baby (Sadler et al., 2007). Furthermore, she may have miscarried in previous attempts to have a child, or have had medical complications during her present pregnancy. All of these and many more factors create the backdrop against which a woman begins to develop a relationship with her baby and a sense of herself as a mother (if this is not her first pregnancy, she likely already feels like a mother, but with a second, or other pregnancy, even this experience changes).

It should go without saying that pregnancy is an enormously complex time psychologically, during which the woman must manage the emotional contradictions that are inherent in impending parenthood (excitement, joy, dread, fear, and resentment being just a few), imagine and begin to work through the effects parenthood will invariably have upon all of the relationships in her life, and anticipate and begin to plan for the multiple realities that come with parenthood. Even more important, though, she must begin to imagine the child, and *in fantasy* grapple with the meeting of their two minds. She must begin to anticipate that the baby will have intentions and desires that are distinct from her own. The baby, once part of her, will be—at the start—completely dependent upon her. At the same time, he will be separate and inherently different from her. At the heart of parenthood, as is true of all attachment relationships, is the management of this dialectic.

Pregnancy involves grappling with the knowledge and reality that one is carrying another potential being within, a being that must be slowly invested with subjectivity. This developing relationship with the unborn child potentially changes a mother's relationship to her own unconscious; she exists in relation to something that is not non-

entity but not a person. In this transitional space, mothers-to-be must knit together a being, out of illusion, reverie, and fantasy.

When a woman desires to be pregnant, she usually views good things coming from those parts of her that she does not control and directly see. However, when a pregnancy is met with ambivalence or is not wanted, it is often very difficult for women to articulate their aspirations and engage in reverie about their child-to-be, let alone own their experience. Even women who have planned and are excited about their pregnancy often have many conflicting and extreme emotions related to motherhood. The greatest effects of these states is their power to intensify existing conflicts. At the intersection of colliding motives and conflicting desires and roles, it is hard to access genuine feelings. Each woman's conflict bears the stamp of her own individual psychology, an intricate blend of relationship dynamics and emotions, as well as a complicated overlay of social messages.

The Pregnancy Interview (which is usually administered during the third trimester of pregnancy) asks the expectant mother to reflect upon her experience in a variety of ways: upon her own emotional experience of pregnancy, the effect the pregnancy has had upon her relationship with the father of the baby and her family, her sense of self, and her imagined relationship with her unborn child. Reflecting upon these experiences implicitly requires that the mother be able to manage both *complexity* and *uncertainty* at a number of levels, both internally and externally.

Pregnancy is unique in that while a woman knows quite concretely that *everything* about her life is going to change, she can only *imagine* how. This is different, for example, from anticipating one's marriage; in most cultures, the woman *knows* enough about her spouse to be at least crudely accurate in her predictions of the future (although wish wills out in this situation as well, to be sure!) Pregnancy, by contrast, asks mothers to envision what are entirely unknowns *outside of her understanding of herself, her spouse, and her situation*; that is, to hold and contain hypothetical but not yet (fully) realized complexity.

As has been well documented by a number of researchers and clinicians (e.g., Cohen & Slade, 2000; Slade, Cohen, Sadler, & Miller, in press), women differ enormously in their capacity to manage the anxiety that naturally attends such complexity and uncertainty. For some women, fears about the future become overwhelming and override the pleasure of anticipating motherhood, and define the woman's expectations of reality. For others, fears are repressed and dissociated, resulting either in idealization or bland disengagement. A myriad of other permutations are, of course, possible, particularly when a woman's aggression is mobilized, as it so often can be in pregnancy. Optimally, however, the woman can maintain a positive set of expectations and fantasies; thus, she can *fantasize* about herself and her baby in a number of positive and pleasurable ways.

In thinking about the mental life of the pregnant woman, and in particular her mentalizing capacities, it is important to first consider the various states that typify

pregnancy. An important aspect of pregnancy involves the ability to engage in *reverie.* Reverie is a diverse experience that "takes the most mundane and yet most personal of shapes . . . [and is] the stuff of ordinary life—the day-to-day concerns that accrue in the process of being alive as a human being" (Ogden, 1997, p. 158). A reverie is also often *about* people; in that sense, a reverie is "simultaneously a personal/private event and an intersubjective one" (p. 158). Ogden emphasizes that within the psychoanalytic situation, reverie on the part of the analyst functions as a playspace in which he or she may come to understand the patient. We would argue that various forms of reverie likewise serve as a playspace or intermediate area (Winnicott, 1971) in which the pregnant woman begins to hold her *baby* and *herself as a mother* in mind. The woman in this state has little concern for *reality* as it pertains to the future, but is beginning to *play* with the idea of becoming a mother in a variety of ways. Crucially, such reveries are inherently *interpersonal.*

Obviously, not all reveries are pleasurable. This is certainly the case in pregnancy, when many forms of both pleasant and unpleasant reverie are normal and crucial aspects of preparing for parenthood. Like so many forms of play, reverie—in its various aspects—serves to regulate and manage anxiety; even more important, however, it marks the earliest stage in the development of *representations* of the child and of the self as mother. What we wish to emphasize here, however, is the particular importance and developmental significance of *pleasurable reverie* during pregnancy, that state in which the mother loses herself in the quiet but sometimes exquisite pleasures of anticipating her child in all his perfection, and of seeing herself as a beatific and loving mother (Frank, Tuber, Slade, & Garrod, 1994). We see this form of making room for the baby—which might be seen as a prelude to what Winnicott (1965) termed primary maternal preoccupation (see too Mayes, Swain, & Leckman, 2005)—as serving a range of protective functions, and as crucial to managing the anxiety and complexity that are part and parcel of this period. While in some sense a regression, as pretend play can be a regression during early childhood, it is a regression that is of crucial significance. Optimally, the representation of the baby is bathed in a positive light before it is born.

Concerns about the very real exigencies of parenthood provide a counterpoint for reverie. Part of preparing for parenthood is preparing for the realities of what having a child will bring: The woman must adjust many of her habits of daily living, eating, and caring for herself in ways that will nourish the growing fetus. Moreover, she must begin to make room for her baby in a number of literal and quite practical ways: The baby will need someone to care for him, clothes, a place to sleep, a car seat, etc. The list is endless. For women who are very young, or living in poverty, these practical concerns can be overwhelming and enormously concerning, and can completely override or dampen the capacity for reverie. To paraphrase Fonagy & Target (1996), psychic equivalence dominates, and anxiety about the exigencies of parenthood *defines* the pregnancy as well as reality, and dramatically colors the woman's representation of her child and of herself as a mother. Alternatively, fantasy and reverie may be overly positive and one-sided; for example, the unborn child may represent a magically repaired childhood or an enduring sense of specialness.

What does reflective functioning look like during this period? The core of reflectiveness is the capacity to perceive the difference between one's own mind and another's and ultimately to be able to think about, and respond to, one's own and others' needs and desires. We believe that it has a particular relation to *both* states of mind described above, namely pretense and concern for reality. As will be explicated below, a pregnant woman who is high in reflective functioning will be able to *reflect upon* or think about both of these states of mind; for instance, she is aware of the inherently self-serving or two-dimensional nature of her reveries, or of the normative and inherently disruptive nature of anxiety about change and uncertainty during pregnancy.

When mothers-to-be imagine their future relationship with the child, they are naturally likely to imagine it in a way that is self-serving (Peter Fonagy, personal communication, January, 2005). A two-dimensional fantasy baby does not in any way challenge a mother's thinking with thoughts of his/her own. Thus, she is free to cast herself as a good, competent mother who will be able to cope with her baby's distress and difference. In thinking about her unborn child the mother can imagine their relationship *in any way that she wishes*; she can imagine herself and the baby in a positive light, and the meeting of their minds as inherently smooth and conflict-free. However, unless that tendency is recognized by the expectant mother, a high RF score cannot be obtained. That is, she must realize that it is natural tendency, given that she is pregnant and facing the challenge of developing a new and entirely different sort of relationship, that part of her is going to *want* to imagine things positively.

Likewise, if she anticipates the worst possible outcomes, *but is able to see such fantasies as "merely representational"* (Fonagy & Target, 1996), she would receive relatively high RF scores. What is crucial is that the mother be able to *think about her thinking* (Fonagy et al., 2002); that is, reflect upon the quality and nature of her own fantasies in a way that indicates an appreciation of how her imaginings—*under this very specific set of circumstances*—would be shaped by her wishes and desires. For example, one mother was asked when she first believed that there was a baby growing inside of her. "Oh, it happened in stages. . . . Uhm. . . . Hearing the heartbeat was a big thing. Uhm, but I . . . maybe even bigger was feeling the movements—that's when you really have a sense of something being alive in there, when you don't have to go to the doctor's office and hook up to a machine to know that your baby's in there. . . . (And how did that affect you?) Well, it was very, it was fascinating to feel it, very reassuring, uh, 'cause I tend to be a bit of a worrier, you know, and it's just very reassuring to know that, you know, it's still alive and doing well in there. . . . Uhm, most of the time I feel that way— I feel very comforted by it, and just fascinated by it. Occasionally, the kicks will, if I'm feeling in one of my anxiety moods, the kicking will sort of aggravate that, it'll remind me, you know, of the anxieties I have." This mother is *thinking about her anxiety within the context of the kind of person she is, and as a variable and transitory state.*

In addition to evaluating the woman's capacity to reflect upon these various states, it is crucial to assess her capacity to address the meeting of minds that are part and parcel of impending parenthood. For one, she herself will have multiple emotions as the pregnancy proceeds, emotions that are often inherently contradictory and complex. For

instance, in response to a question about how she felt when she found out she was pregnant, one woman replied: "Elated. And also scared. (What do you mean by that?) I guess it suddenly, we had been trying for about five months, and it because almost like an end in itself, like just getting pregnant, and, uh, I guess because *I just wanted so much to get pregnant, I wasn't really thinking of the scary aspects of having a child, so those kind of hit me once the reality was there.* The responsibility that it would involve, and that sort of thing. (And what made you feel elated?) 'Cause it was something that I wanted and that I had tried for. *And I think it also, everybody that I know who's never been pregnant before has these secret fears that you won't be pregnant. And then you hear these statistics about one in every six couples is infertile, so it's also a very big relief to know that's not going to be you.*"

Likewise, her partner will have multiple and changing emotions over the course of the pregnancy, which will not always mesh with hers. 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. For instance, in response to a question about how her pregnancy had changed her relationship with her husband, one woman answered: "Uhm, I guess it's kind of, well it's probably pretty typical. When people change from being a boyfriend and a girlfriend to being a married couple with a lifetime commitment, I mean. Uh, our relationship is somewhat less spontaneous, somewhat less romantic. We have more expectations of each other and a feeling, feelings of well, this is your job, you're obligated to do this for me, and. . . . I guess we're, you know, instead of just giving these kinds of things freely to each other, we tend to be more *demanding* of them. You know, you're *supposed* to be more supportive (laughs). . . . I guess, maybe the pregnancy, because we're anticipating having a child and being a father and a mother and both having responsibilities for this child that's only made that tendency even more so, because I know that I'm thinking in terms of the future and I'm thinking of him not only as having, you know, certain obligations to me, as his wife, but also certain obligations to the baby. And I think he's thinking the same thing, too."

Similarly, the expectant mother must *anticipate the multiple ways in which she and her child's mind will both meet and not meet.* A more reflective mother will imagine this meeting of minds in a way that reflects real engagement and potential conflict, and not in a way that is canned or pseudo-mentalized (Peter Fonagy, personal communication, January, 2005). Thus, it is particularly important to evaluate whether an expectant mother can think in a fresh and "real" way about the imagined baby. For example, a mother who says, "I am frightened that I might not know what my baby wants" would receive a low score, reflecting the relative absence of mentalization (a 3 or 4), because there is no evidence of active reflection; her comments are canned. If she anticipates that "my baby will cry, and I won't know why, and then I will *panic because it is so hard to know what babies think and I might not be any good at it,*" she would receive an average score, because there is genuine anticipation of uncertainty. A mother who recognizes that her hypothetical reflections are vulnerable to being self-serving would score highest. Thus, for instance, were she to add that "*it is comforting at the*

moment to imagine that I know exactly what she thinks because of course one does want to know," she would receive a score in the "marked RF" range.

Another example is provided by a mother who reflects on her potentially mixed feelings as a parent in a particularly live, compelling, and humorous way. When asked how she was feeling about taking care of her baby once it is born, she replied: "Well, that seems like the difficult part to me. I mean I think on the one hand I, I can see feeling very protective and loving and nurturing. I think that this is a part of me that comes naturally. But then I think that there's also a part of me that's kinda selfish, and not always in the mood to do things and, you know, to have demands made on me. And when you have a baby there's no choice in the matter. Um, and so I worry to what extent will I resent the baby, you know, for those times that I'm not in the mood. You know, and other times, I think that well, maybe, I'll—I will just—maybe the feeling that mothers have if they just love their baby so much that it really hardly enters into it that much. . . . Sometimes I compare it to the feeling that I have about my cat (laugh) because I remember when I first contemplated getting a cat, and was worried about the responsibility and the times when I wouldn't be able to go away because there's no one to take care of the cat, you know, will it be too much of a hassle that I'll end up wanting to give it away or regret that I got it? And you know, I found that even though it is occasionally a hassle, I really love the cat so much that—that it's like—really doesn't enter into the equation. I never regretted getting the cat and so I kinda hope that will be similar with the baby." She speaks in a lively way about an active conflict and set of fears, resolving them in a way that feels very fresh and genuine.

II. Reflective functioning on the Pregnancy Interview

In the sections that follow, we will provide examples from PI transcripts of what Fonagy et al. (1998) refer to as indices of reflective functioning or mentalization. These two terms are used interchangeably. Fonagy et al.'s RF manual groups the various indicators of reflective functioning into four general "types" of mentalizing activity: a) an awareness of the nature of mental states, b) the explicit effort to tease out mental states underlying behavior, c) recognizing developmental aspects of mental states, and d) mental states in relation to the interviewer. As indicated below, there are numerous subtypes of each of these four general types. These types are not at all mutually exclusive; indeed, a single response will often fall into several subtypes. In the section that follows, these types and subtypes will be described as they are manifested in the PI.

The RF scale is organized along a continuum from low to high reflectiveness. The mid point on the scale (5) describes average or ordinary reflective capacities. Scale points below 5 indicate varying levels of the capacity to refer to mental states; however, it is the linking of mental states to behavior or mental states to mental states that qualifies a response as reflective (i.e., earns a score of 5 or above).

An individual must have the capacity to describe mental states in order to be considered reflective. Mental states are feelings, thoughts, beliefs, desires, intentions— namely all internal mental experience; thus, "I think," "I want," "I believe," "I know," "I

feel," etc. (It is important to note, in this context, that "I think" can also be a turn of phrase, and not actually indicate any actual thinking on the subject's part; in these instances, it would not be scoreable at all.) These are to be distinguished from physical states, such as "I'm tired," "I'm hungry," etc. While the description of mental states is essential to the designation of a response as reflective, mental state language alone does not qualify a response as reflective. As will be detailed below, there must be evidence of an awareness of the characteristics and nature of mental states, or an explicit link between mental states and behavior or mental states and other mental states for a response to earn a score of 5 or above. To reiterate, the description of mental states is necessary but not sufficient to qualify a response as indicative of reflective functioning.

A. Awareness of the nature of mental states.

On the PI, this general category assesses the expectant mother's awareness of the characteristics of mental states in self and others; this awareness is reflected in explicit reference to the distinctive characteristics of mental states, as listed below (see also Fonagy et al., 1998). Please note that this list is neither exhaustive, nor are these categories mutually exclusive.

1. The opaqueness of mental states. Mental states are, by definition, opaque; one cannot know with certainty what another person is thinking or feeling from simply observing facial expressions or behavior. Thus, one recognizes that one cannot be sure of another's mental state, but is prepared to guess. Within the context of pregnancy, a mother cannot know, but can only guess, what she will feel once the baby is born. Indications of opacity usually emerge through qualifiers such as "perhaps" or "might." On the PI, opacity is most typically evident when mothers are talking about the reactions of family members and the father of the baby to her pregnancy; however, it can also be seen in the mother's descriptions of her attempts to sort out her own feelings and reactions, and in descriptions of her future relationship with her child.

    Examples:
    With regard to partner's reaction to news of pregnancy: *He seems happier about the whole thing, but I can't really say what's going on in his mind because he doesn't really open up about it. Maybe he's not happy and just really scared. . . . I don't know.*

    With regard to examining one's own feelings: *Sometimes I wonder if maybe I rushed it a little bit. Perhaps I was in love with the idea of having a baby or maybe I needed a reason to escape from work. I'm just not sure . . . it's so many things.*

    With regard to the unborn child: *What will be most difficult? When the baby is crying uncontrollably and I can't figure out what's troubling her and don't know what to do. Is she hungry, tired, in need of affection?*

2. Mental states as susceptible to disguise. Mental states can be disguised when one wishes to keep one's internal experience private or unknown. The acknowledgement that internal states can be disguised may be implicitly or explicitly stated. It is common, for instance, for people to acknowledge that they feel one way, but display a different emotion.

    Examples:
    With regard to the father of the baby: *I think he had a lot of anxiety that he wasn't talking to me about because he didn't want me to see it.*

    With regard to one's own feelings: *I feel disappointed that [FOB] is not more interested in our baby, but I try not to show that. I know having a baby is a huge transition for both of us, but especially for [FOB]. Showing my disappointment won't make it easier for him.*

3. Recognition of the limitations on insight. There are always limits to an individual's capacity to know what is in one's own or another's mind. Thus, one's awareness of the nature of mental states is revealed in explicit qualifications of insight concerning oneself or others.

    Examples:
    With regard to one's own mother: *My mother seems mad a lot, but I'm not sure if my being pregnant so young is really the issue, and, if she is mad, why she's reacting that way. She can be hard for me to figure out sometimes.*

    With regard to the self: *There are times when I feel needy but it's hard to separate from the way I am normally, I mean, I don't know that it's because of the pregnancy.*

4. Mental states tied to expressions of appropriate normative judgments. The capacity to mentalize is revealed by awareness of an expectable psychological response. Thus, when the mother describes a common reaction to a specific situation, mentalization is likely present.

    Examples:
    With regard to other family members: *My parents were totally shocked and angry and hurt when they found out I was pregnant, but I'm only 18, so I completely understand why that was their first reaction. Now that they've had time to think about it, they're starting to be more supportive.*

    With regard to the self: *It's probably pretty typical to feel anxious when you change from being boyfriend and girlfriend to being a married couple making a lifetime commitment to a baby.*

5. Awareness of the defensive nature of certain mental states. This refers to an

individual's awareness that people may modify their mental states in order to reduce negative affect, that one affect can be used to defend against another. This will likely occur when the mother is describing her own mental state.

Examples:
With regard to the self: *When I'm really feeling scared or worried, I try to imagine the happy times that I'll have with the baby.*

With regard to the father of the baby: *When things build up, he gets quiet but I know he's repressing things so he doesn't feel overwhelmed.*

B. The explicit effort to tease out mental states underlying behavior.

Mothers high in reflective functioning will engage in the attempt to identify possible mental states that may account for their own and others' behavior, and do so in a fashion that leads to accurate or plausible conclusions concerning links between mental states and behaviors of the self and others.

1. Accurate attributions of mental states to others. This refers to the mother's offering a plausible causal account of her own or others' behavior in terms of mental states; that is, her own or another's behavior is understood as a function of his or her mental state.

   Examples:
   With regard to self: *When I missed my period, I was so excited and eager to be pregnant that I couldn't wait to take a pregnancy test. I went to the clinic the next day . . . I was just so eager, I just couldn't wait.*

   With regard to the father of the baby: *I think he was just really scared and upset to hear that I was pregnant, and that's why he just shut down and ignored me for a few days.*

2. Envisioning the possibility that feelings concerning a situation may be unrelated to observable aspects of it. This refers to a mother's explicit recognition that her own or another's affect is unrelated to the external, observable situation.

   Examples:
   With regard to the father of the baby: *He really wanted a baby, but recently he sometimes gets down on the whole idea. I realize that's because he's been having a hard time at work, and he's worried that he's going to lose his job and not be able to support us.*

   With regard to being pregnant: *I really wanted to have a baby, but I've been feeling so emotional since I've been pregnant. I feel like I want to cry and be hugged all the time. I think I must be scared deep down.*

3. Recognition of diverse perspectives. The mother explicitly recognizes that different people may perceive a given behavior or situation differently.

    Examples:
    With regard to other family members: *From my grandmother's point of view, it's great that I'm going to be a mom; she thinks it's time I took more responsibility, and besides, she wants to be a great-grandma. From my point of view, it's just totally messing up my plans for my life. She doesn't get that.*

    With regard to the unborn child: *The most difficult time will be when the baby isn't happy—when it has colic or is crying or is up in the night and wants my attention, and I'm not wanting to get up. I'll want to be there for the baby, but I'll also be wanting to sleep—I'm the type of person who really needs my sleep.*

    With regard to the father of the baby: *Not working at the moment is weighing me down a little. I want to be working, but he doesn't want me to be working because he says I need to rest for the baby. But for me, because of the type of person I am, I want to be working and contributing. I'm not the kind of person who sits around. I want to be at work.*

4. Taking into account one's own mental state when interpreting others' behavior. The mother recognizes that her interpretation of an event might be distorted by her own thoughts and feelings.

    Example:
    With regard to the self: *I've been so needy and scared about everything these days, I realize that I haven't even noticed how much my husband is trying to be there for me.*

5. Evaluating mental states from the point of view of their impact on one's own or another's behavior. This refers to a mother's recognition of the role her own mental states might have on others. It may be implied that the mental state had behavioral manifestations.

    Example:
    With regard to the self: *Sometimes I cry for no apparent reason or just feel really sad and emotional and get very argumentative with my husband. I was on an emotional roller coaster and I think that really scared him.*

6. Taking into account how others perceive one. This refers to a parent's awareness of how others' perception of them is related to their own or others' actions and reactions.

    Example:
    With regard to the self: *My husband's always telling me I'm so controlling, but really I am just so anxious. I know it really drives him crazy.*

7. <u>Freshness of recall and thinking about mental states.</u> This refers to the mother's capacity to think spontaneously and vividly about her own and others' thoughts and feelings. This is different from speaking in a clichéd way; there is something currently real to the subject that makes it feel alive to the rater. This may be marked by a change in the subject's perspective during the course of the interview.

Example:
With regard to the self: *Oh boy! That's a good question. Let's see—being like my mom. . . . I mean, I'm already like my mom in that I feel worried about everyone all the time and I feel, you know, like I have to take care of them. . . . Um, how would I be different? Oh, let's see . . . sometimes I get angry and lose my temper. My mother never seemed to get angry; she was always so calm.*

C. Recognizing developmental aspects of mental states.

Developmental aspects of mental states include: acknowledging the influence of one generation upon the next, showing an understanding of how mental states of others change, showing an appreciation of family dynamics, and distinguishing between the thinking of a young child and older person.

1. <u>Taking an intergenerational perspective; making links across generations.</u> This refers to the mother's awareness of the intergenerational exchange of ideas, feelings, and behavior; that is, the mother recognizes that her own thoughts and feelings are influenced by the way she was parented which, in turn, influences her current and future behavior and, thus, how her child will experience himself and others. This understanding must be explicit and specific, rather than implicit and general.

Example:
My mother was a natural, she was always very giving, that's the kind of person she is. I feel like I should be all-giving like her, but I'm not sure I want to be that way. I worry that maybe my daughter will grow up thinking she has to be self-sacrificing, and I don't want that.

2. <u>Taking a developmental perspective.</u> The mother demonstrates an awareness of developmental changes in mental states, that one's perspective on things changes with age. This type of RF may also appear when mothers are asked to imagine their relationship with their babies, as in the following example.

Examples:
I think I'm going to really like it when the baby needs me all the time, but when he gets more independent and doesn't want to cuddle as much, I think that will be hard for me, you know . . . to let him separate and realize that he doesn't need me as much.

With regard to the self: *I used to think I never wanted to have kids because I was too selfish to imagine taking care of anybody else, but now I can really see myself being a mom, taking care of a baby, and getting a lot of pleasure out of doing that.*

3. Revising thoughts and feelings about childhood in light of understanding gained since childhood. Views of the world and feelings and beliefs concerning it change radically between childhood and adulthood. Children's understanding of the social world is particularly limited. Some individuals show awareness of the implications of such changes for changes in their behavior or attitudes. These are considered reflective.

    Example:
    It's only now in adulthood that I realize she was ill. When I was a child I thought of her as either just not liking me much or as very withdrawn and shy. Now I can feel for her much more and she doesn't make me sad or angry anymore.

4. Envisioning changes of mental states between past and present, and present and future. A key aspect of reflective functioning is manifested when mothers consider changes in mental states over time. For instance, a mother may reflect on changes in her own feelings over the course of pregnancy or changes in others' mental states across time. This category is used to classify passages in which the mother notes changes in understanding or feelings from one time to another (as opposed to C2, which is used to describe changes that are understood in terms of age or shifts in developmental stage). Thus, when a mother notes that her own or another's feelings change from one day to the next, this subtype is scored. Likewise, this subtype is scored when the mother envisions changes in mental states in the future. Thus this aspect of RF occurs over a shorter period of time and is not dependent upon developmental changes as described above.

    Examples:
    With regard to the self: *When I first discovered I was pregnant, all I wanted to do was keep partying and hanging with my friends. But then, as I started to show and I could feel the heartbeat, I began to think about the baby and to feel more like a mom, and I just didn't want to do the things I used to do. I wanted to do good for my baby.*

    With regard to the father of the baby: *When I told my husband we were pregnant, he was really excited, but then he got nervous and scared. Having a baby is a major commitment and I think it really scared him, but he got used to the idea and now he's excited again.*

5. Envisioning transactional processes between parent and child. Mothers high in RF are able to recognize that their own mental state can affect another's mental state and vice versa; that is, there is an interaction between the two mental states.

Example:
My husband worries about how we are going to pay for this baby and sometimes I catch his anxiety and I start to feel like this baby may cause us more stress than joy. Sometimes it can be overwhelming to think about.

This transactional process can also occur within one's self, as in the following example: *I know the baby will cry and sometimes I will not know why. I know that I will then panic because it's so hard to know what a baby needs and I might not be good at it.*

6. Understanding factors that developmentally determine affect regulation. This is demonstrated when mothers recognize the importance of their capacity to regulate, or reduce, the infant's arousal; they recognize that the child's emotional state is dependent upon their capacity to serve this homeostatic function. In pregnancy, this understanding is hypothetical since the baby is not yet born.

   Example:
   With regard to the unborn child: *I don't really imagine my baby crying uncontrollably, but I know there will be times when he's inconsolable and I won't know what's wrong. I know it'll be hard for me, but I'll just have to be there and learn his signals and let him know that I'm there for him. It makes me anxious, though, to think that I won't be able to comfort him.*

7. Awareness of family dynamics. The mother shows an awareness of the interdependence of mental states within the family system. This kind of awareness is not often elicited by the PI, largely because the interview focuses upon the individual mother-child relationship, and not upon family dynamics; however, it can appear when mothers talk about the father of the baby and their own parents.

   Example:
   If we weren't living with my mother, I think things would be better. . . . In the beginning she was so worried about the pregnancy, so worried that she didn't want me to lift a finger and I didn't like, you know, all that suffocation. I felt like I was turning back into an adolescent living at home. There was a lot of conflict around my glucose test—my mother didn't want me to have the test, but I did, so that made me angry. And then my husband felt really torn; he's very sensitive to what goes on between my mother and me and he really wants us to get along. So all three of us were fighting and that was a terrible time.

D. Mental states in relation to the interviewer.

   These are fully described in Fonagy et al.'s (1998) Reflective Functioning manual, and will not be manifested differently during the administration of the PI.

III. General considerations in determining level of reflective functioning

When coding a PI there are several general guidelines to consider in determining whether a statement is truly reflective. Outlined below are considerations which are specific to coding the PI.

A. Only explicitly reflective statements qualify for high ratings.

A careful distinction should be made between explicitly reflective statements and statements which—while they may evocatively describe a child in rich detail, and while they may contain references to the child's mental state—do not meet criteria for reflective functioning. Often raters confuse a mother's elaborate description of her own preferences, characteristics, and behaviors for reflective function. For example, the following statement does not contain explicit reference to mental states: *My husband will be very involved. Personal relationships are very important to him; he has good friendships and he comes from a big family. He's also a very nurturing person and he's very good with kids. Since I'm the one leaving work, I will be the primary caregiver, but he'll help out a lot.*

B. Learned, rote, or clichéd statements do not qualify for high ratings.

Mothers may respond to questions in a manner that contains mental state language; however, this should not be considered reflective if the content of her statement is learned or clichéd. Common examples on the PI include clichéd statements about pregnancy or parenting (i.e., *"It's gonna be a lot of hard work but I want to be there for my baby. Babies need a lot of love."*)

The exception to this rule is found in those instances in which a commonly used expression is subsequently supported and elaborated by original understanding or personal experience. A useful distinction in this regard (Fulvia Ronchi, personal communication, March, 2005) is to consider whether a point of view is "borrowed" or "digested." One that is borrowed will inherently sound canned and unintegrated. One that has been truly digested, however, will impress the reader for its integration and clarity, and for the way in which the speaker herself seems to be owning the perspective. For example, if a mother were to say, "*He'll be very attached to me. Babies really need their mommies when they're just born,*" this would not be considered evidence of reflective functioning. However, if she were to say, "*I guess he'll really need me when he's first born. I don't think I really understood before how important I'll be for his development, but in the past few weeks I've been thinking a lot about what my role will be in helping him have his own personality,*" it would qualify as a reflective statement.

C. Reference to personality or a relationship, in the absence of specific reference to mental states, does not qualify for a high rating.

Narratives on the PI often involve explanations that utilize personality trait language or behavioral descriptions. This should not be considered reflective unless the

statements are explicitly linked to a context such as the parent-child relationship. An example of a non-reflective comment would be: "*I hope she'll have a very good disposition, calm, not very excitable...not cranky a lot.*" An example of a more reflective description includes how personality qualities play out in the relationship: "*I think my daughter will be a slow-to-react, thoughtful person—she'll take a long time to do everything, really take things in at her own pace, like her dad. I, on the other hand, go through life at high speed—I'm high energy, like to move fast. I don't know why, but I think she's going to be more like her dad than like me. So sometimes we might really annoy each other, just like my husband and I clash sometimes.*"

D. Diagnosis should not be accepted as shorthand for mental states.

The use of diagnostic terminology, or reference to mental illness, should be considered very carefully; on the whole, it should be rated low if it is the sole explanation for someone's behavior and the specific mental states of the persons affected are not specified. For example, if a mother were to say, "*You know if he's got ADHD like all the males in my husband's family, it's going to be very hard to get him to slow down and follow directions,*" this statement would not be considered reflective unless she also described how her own and others' perceptions and beliefs were influenced by the behavior associated with the psychiatric condition.

E. Lowering scores: General considerations

There are a number of reasons that a rater may consider dropping a rating a point. Usually raters try to rate passages at one of the odd scale points (i.e., Questionable or Low RF [3] or Ordinary RF [5]). These are thought of as the primary anchor points of the scale. At times, however, there may be something in the parent's speech that makes the rater feel that it doesn't quite meet the criteria for the anchor point. If, for instance, the response contains some indices of reflective awareness but is too vague or inexplicit to be judged reflective, a score of '4' would be assigned. That is, the even scale points are used to indicate that a parent does not fully meet criteria for a higher anchor scale point, or moves a little bit beyond an anchor scale point. There are specific instances in which scores should be lowered by one point, however; these are indicated below. Please note that if responses are truly spoiled or distorted, a score of '0' or '–1' should be considered.

F. Lowering scores in response to lapses into the second or third person, incoherence, or "direct discourse."

Scores are lowered by one scale point for any of the following:

Lapses into the second or third person.

In reflecting upon her child's emotions, a parent may sometimes fluctuate between using "s/he" as her subject to "you" or "they." This is one way to defend against or distance oneself from uncomfortable feelings that have been stirred up. For example: "I think they sense approval and disapproval and happiness and sadness, and they can't

put a name to it, but I think they definitely respond to those things, and when they see us happy, things are fine."

If a parent consistently lapses into the use of "you" or "they," as in the above example, she should be penalized at least one point for that response (see Coherence, below). However, if the lapse is fleeting and brief, the parent should not be penalized. An accurate assessment of these lapses in language can only be made through a close reading of the full interview.

Incoherence.

Coherence is a construct defined and developed by Mary Main. In her view, coherent discourse must meet each of Grice's maxims: relation, manner, quantity, and quality. The notion of coherence, which Main describes fully elsewhere (1991, 1995), provides a means to consider the fluency of narrative. Incoherent narratives are characterized by contradictions, inconsistencies, oscillations, lapses in reasoning, shifts in person, irrelevancies, and intrusions into or disruptions of the story. When a parent's response to a question is incoherent, or becomes incoherent in a way that "spoils" the response, the score should be lowered by one point, except in those instances where the result becomes so distorted that a score of "0" or "1" must be considered. Please note that an individual who is of at least average reflective capacity may well be slightly incoherent in first formulating or arriving at a response. However, this is usually quickly resolved, and the response will become coherent.

The use of direct discourse.

Direct discourse refers to a subject's using direct speech to describe feelings or interactions. As an example, here is a mother speaking about the first time she really believed she was pregnant: *When I turned five [months], when I first felt her move. 'Cause I never knew what it was like to feel something inside of you move. When she kicked me, that's when I, I was like, "Wow."* Interviewer: *How did you feel when that happened?* Mother: *I started crying, 'cause I was like, "Wow, I'm really pregnant," like and then I started saying, "My clothes don't fit and I'm eating a lot," that's when I really started noticing it.*

In this instance, the mother used direct speech as a substitute for telling the story in narrative form. In some cases, direct discourse is added as a way of illustrating a point, but does not replace or substitute for the more narrative accounting. These latter types of direct discourse should be carefully evaluated before lowering the score. Scores should be lowered if direct discourse substitutes for telling the story in a more contained and narrativized fashion.

Not answering the question.

A parent should be penalized for not responding to the question. "Not responding" means that they essentially change the subject and respond to something

unrelated to the question at hand. Many times parents will begin by answering the question and then shift to answering the question in a slightly different way. This should not be penalized. Thus, for instance, if a parent was asked about the child's feelings but ended up focusing on her own feelings, describing them in a reflective way, full credit should be given.

G. Use of affectively laden words should be assessed carefully.

Parents will sometimes use affectively laden words, such as "radiantly" happy. Such highly positive (or negative) attributions can often be misleading to coders who may sometimes equate intense affect with more complex understanding of mental states. It is important for the reader to assess whether these words suggest a higher order of reflectiveness, or are simply adjectives meant to convey intensity: "very happy," "really feels loved," etc. For instance, whereas "radiantly" would not necessarily enhance reflectiveness or add meaning to the response, "engrossed in each other" applies reflection upon mutuality and interaction, and would convey a higher level of reflectiveness.

IV. Negative or limited reflective functioning: General types

As noted elsewhere in this addendum, on the PI, mothers are asked to reflect on the developing relationship with their unborn child. Thus, the type of mentalization which is evoked on the PI may differ in a variety of ways from that seen on the PDI and the AAI. In the samples which were used to develop this addendum, we saw many instances of limited reflective functioning; however, they tended to exemplify only several of the nine subtypes described by Fonagy, et al. (1998) in the RF manual. More often, what is evident in the limited RF found on the PI is simply an absence of explicitly reflective responses as opposed to a hostile rejection of RF or a bizarre response. For example, mothers' representations of their relationships with their babies are often described in behavioral or physical terms. What follows are examples of the types of limited RF we have seen.

A. Rejection of RF

Some mothers may feel intruded upon or become defensive when asked to discuss their feelings about their unborn baby. Common types of reactions include:

1. Hostility towards the interviewer: Interviewer: "*What are some of the negative feelings you've had during your pregnancy?*" Mother: "*Well, there is not a hell of a lot you can do when you're carrying a bad seed.*"

2. Incongruent responses that lack credibility: Interviewer: "*What do you think will be the hardest times during the first six months of your baby's life?*" Mother: "*Oh, it's going to be wonderful. I am so ready to have a baby and want this baby so much. I'm going to love every minute of it.*"

3. Evasive responses that serve to avoid the subject matter of a given question: Interviewer: "*Have you had any negative feelings during your pregnancy?*" Mother: "*No. . . . Gee, the interview goes fast when you answer no.*"

B. Unintegrated, bizarre, or inappropriate RF

A category of low reflective functioning is seen in narratives which leave raters confused in their attempt to understand the attribution of mental states. This broad category can be broken down into two subtypes.

1. The mother fails to provide adequate elaboration as to the cause or effect of a given mental state. There is a lack of recognition that affective states are generally connected to beliefs.

2. Responses in which there is interference from inappropriate cognition or bizarre attributions. In these instances, it is not the mental state which is bizarre but the attribution given to the mental state.

C. Disavowal of RF

The responses that fall into this category are similar to those found in the rejection of RF. The difference lies in that with disavowal of RF there is an absence of mentalization but the response contains no overt hostility, which implies that they have not perceived the question as an attack. The mother's response will seem passive and evasive. For example: Interviewer: "*Do you ever feel anxious or worried about your baby?*" Mother: "*No, no.*"

D. Distorting or self-serving RF

As discussed in Fonagy et al.'s (1998) RF manual, it is common to find evidence of self-serving distortion in a given narrative. This can be understood to derive, in part, from a basic human tendency to strive towards cohesion and organization of self-representation. Although such distortions are certainly seen in the PI as well, there is one difference worth noting in the area of "highly egocentric recollections." Examples of this type include statements which place an overwhelmingly egocentric spin on the interpretation of mental states in a given situation. This can be seen in instances in which the mother overestimates her impact on the thoughts, behaviors, or feelings of others. An example would be a mother who states that her son will always sleep through the night because he will want to make his mother happy. At the same time, such examples are rare because of the huge role that parents do in fact play in the lives of their young children.

This category of low reflective functioning is significantly connected to the process of memory. This is because the distortions described on the AAI in the original RF manual are often examples for which the subject has gradually developed idiosyncratic and self-serving explanations for events gradually over time. There may be selective recall of self-enhancing memories while selectively forgetting other occurrences that provide counter-evidence for a rigidly held self-perception. As a result of the central

role of memory in this process, we have seen few examples of this type of narrative on the PI. This does not mean that this category is irrelevant for the PI, but simply that it may be less prevalent. Another issue may be the samples of PIs from which this addendum was derived. It is possible that distorting or self-serving RF is more prevalent with other populations.

E. Naive or simplistic RF

In this category, RF language may be present but it is one-dimensional and has been reduced to a social cliché. It will not reveal mixed emotions, or a complex understanding of mental states, nor will it take into consideration more than one perspective. There is no sense of freshness to the response, nor does it sound like the mother is engaged in a current, inquisitive struggle to understand the mental state of herself or others. In some instances there may be a connection drawn which indicates the impact that the mother will have upon her child, or vice versa, but there is a failure of elaboration and thus a lack of true reflectiveness.

> *Example:*
> *My baby's gonna love me and I'm gonna love it. I know there is gonna be a lot of love and something that loves me in return.*

F. Overly-analytical or hyperactive RF

Some interviews may appear initially to be highly reflective and complex, but in fact turn out to contain insights that are forced and lack real meaning. These mothers may be able to produce extensive elaboration on a given topic without evidencing any additional understanding. These interviews may contain frequent use of jargon that is presented as if it were original insight.

G. Excessive focus on personality and behavior

Some PI interviews receive repeatedly low scores for reflective function; these interviews are characterized by a dominance of personality trait language or behavioral description. These interviews may be characterized by an inability to imagine the affective experiences of others and the impact this affect has on one's own thoughts, feelings, and behaviors. Conversely, some mothers may be unable to acknowledge that their own thoughts and feelings impact the experience of others, insisting instead that their overt and obvious behavior is the only thing that others can sense. The most common examples of this type are seen in those cases where there is not necessarily a denial of another's inner life, but for whatever reason, the narrative never seems to go beyond descriptions of the relationship which are limited to behavioral or personality terminology.

V. Rating individual passages

A. Rules for identifying passages

In order to score the PI for RF, raters begin by reading the interview as a whole. Raters then *reread* the interview, and rate *all* passages for RF. This is distinct from previous approaches to coding RF on representational interviews such as the PDI or AAI, which have given special importance to the coding of "demand questions," namely those that explicitly pull for RF. These manuals make a distinction between demand and permit questions: demand questions are those that demand that the mother demonstrate her capacity for reflective functioning, while permit questions are those that permit the mother to demonstrate her reflective capacity, but do not explicitly ask her to use mental state language. There are a limited number of demand questions on the AAI; however, many of the questions on the PI could be considered demand questions, as the mother is asked to respond directly in terms of her mental state. Thus in coding the PI, we feel that restricting coders to demand questions would be inherently limiting, as many of the questions can elicit RF depending upon how they are asked and how they are interpreted by mothers. Consequently, on the PI we code *all* indices of RF, as well as all indices of negative or low RF. The latter are indicated by mothers' resistance or defensiveness in the face of questions that pull for RF. Once all appropriate passages have been rated and the interview has been reviewed a second time, the interview is assigned an overall RF score. We will describe the specific guidelines for coding individual passages and assigning overall scores in Section V.

In terms of scoring, the interview should first be read in its entirety. As an experienced coder, one can begin to think about codes on this first read-through. However, it is very important that scores not be assigned until the second read-through. At this point, the following passages should be *underlined and* scored: 1) those in which the subject is specifically asked to reflect, and 2) those in which the subject spontaneously responds in terms of mental states. In the latter instances, the response need not indicate mentalization per se; however, once the subject uses mental state language, the presence or absence of mentalization must be assessed. Finally, the entire interview should be reviewed.

Note: It is advisable that the rater underline the words or phrases that have been crucial to scoring within the passage itself, and note the *type of mentalization* or note their own reasoning on the scoring sheet (See Appendix A). These kinds of notes become crucial in making coding decisions and assigning overall scores.

Please note that some versions of the PI ask about body image issues; these do not need to be included in passage or overall scoring, as these were inserted for a specific research project and do not pertain to an assessment of parental reflective functioning. Please also note that there are two versions of the PI, each of which requires slight modifications to the coding sheet. These differences reflect adjustments that have been made as we have refined interview protocols and coding procedures.

B. Guidelines for rating identified passages.

In terms of scoring, the entire interview should first be read. Once a coder is familiar with the system, she or he can begin to think about codes on this first read-through. However, it is very important that scores not be assigned until the second read-through, when each question should be read and a score assigned to each passage. It is crucial that a justification for the score be indicated on the scoring sheet; when mentalization is present, each subtype should be listed, and the relevant passage noted. Finally, the entire interview should be reviewed. It is at this point that an overall score will be assigned (see below).

Sometimes a mother's response will be poorly elaborated because she has already answered the question in a previous response, and may in fact refer to the fact that she has already answered the question. Sometimes she will answer the question later in the interview. Mothers should not be penalized for not answering a question a second time, and the rater should either not rate the passage at all (assign a /), or rate it in a way that reflects the original answer. Likewise, if a mother elaborates an answer later in the course of an interview, the entire response, wherever it occurred, should be counted.

The eleven scale points, including the –1 rating, are defined below. Raters should assign individual scores for all questions by following the definitions and guidelines stated in previous sections of this manual. The quality of reflectiveness within a response may vary. A mother may become more reflective as the response develops. The rating of a given passage should be based on the most reflective statement contained within the passage. However, if the response becomes bizarre or the mother undoes the reflectiveness previously demonstrated, then the score must be lowered relative to this shift in quality. For example, a mother may state a certain feeling and then take it back or deny it.

A mother should not be penalized for providing a response that does not answer the question. For example, if a mother is asked about her partner's feelings and then responds by describing his or her own feelings in a reflective way, full credit should be given.

It is useful in scoring to think of the odd numbers as anchors on the scale; thus, the rater will begin by trying to assign an odd number score, and then adjust up or down depending upon elaboration or spoiling. While the even number scale points are named, these are genuinely "in between" points, and should be used as such.

It may be tempting to read into a given response and to give credit for or penalize for things that are not explicitly stated. For example, a mother may describe negative or disturbing feelings towards her baby in quite a reflective manner. This may elicit a negative response in the rater who may then be tempted to lower the score. Responses should, however, be rated purely for mental state language rather than the affective content. An exception to this rule is seen when the response seems false, not believable, or extremely defensive. In these instances, the score should be lowered. An average

rating on the PI is a 5. Therefore, a reasonably perceptive and sensitive parent will, for the most part, receive scores in the 6–8 range.

Note: For purposes of clarity, all scores in the manual that refer to individual passages will be in plain type whereas overall scores will be underlined.

–1   Negative RF

A response that receives a score of '–1' must have one of the following features:

1. It must be distinctively **anti-reflective** (i.e., hostile or actively evasive, usually because the question is perceived as an assault or attack).
2. It must be **bizarre** (impossible to understand without making the assumption of irrationality on the part of the subject).
3. It must be **inappropriate** in the context of the interview (i.e., complete non-sequiturs, over-familiarity, or gross assumptions about the interviewer).

Thus, the mother systematically resists taking a reflective stance, with hostile or utterly confusing responses to interviewer's queries. This type of response indicates a failure of defenses and regulation.

Examples:
I don't know that I can make any direct connection between my feelings during pregnancy and experience of being parented. I mean I can tell you what my experience was being parented and I've told you what my experience is of being pregnant, but I don't really see any connection. I guess that's your job, right?

0   Rating: Disorganized Disavowal

The following response would score a "0", indicating that disavowal is tenuous and fragile, leading to lapses in reasoning and defensive fluctuation:

In response to questions about negative feelings during pregnancy, the mother said: "*I feel angry . . . I get angry at my husband and his lack of attentiveness to me . . . but I don't feel angry toward the baby. I don't ever recall thinking like . . . I mean I've had moments when I just say, like, "Let's just get rid of this baby" but I don't mean it. But it works. . . . My style is, not that I should, but I say a lot of stuff and don't mean it. You know, like "Shut up, or I'm going to beat the shit out of you." But, you know, I will never lay my hands on my kid. . . .* (Well, in those moments when your baby's really fussy, do you think you'll feel angry?) *No. You know, it's like the act of saying, "Shut up or I'm going to kill you," it's like a steam release device for me, but I never worry, oh my God, I'm gonna lose control.* (What kind of effect do you think those feelings will have on the baby?) *I don't think it will make much difference at all. I get more verbally angry at myself. I'm supposed to realize this, you know, and have more patience.*"

1 Absent but not repudiated RF

A response that receives a score of '1' must have the following features:

1. It must be passively rather than actively evasive.
2. It must be accompanied by little or no hostility.
3. It must contain no evidence of an awareness of mental states; an explicit effort to tease out mental states underlying behavior; a recognition of the developmental aspects of mental states; or an awareness of the interviewer's mental states.
4. The interviewer must be no better off in terms of the knowledge of the mental state of the subject after having read the response, than he or she was before reading it.

A score of '1' may also include concrete explanations of behavior which serve to avoid references to mental states (i.e., explanations may be sociological, excessively general, or framed in terms of external, physical circumstances). Responses may contain self-serving distortions (recollections which are highly egocentric, self-aggrandizing, or extraordinarily arrogant claims to insight).

Examples:
(What will be the best times for you during the first 6 months?) *It will be nice being around him and watching him do things*. (behavioral description)

I never feel guilty. (successful disavowal)

I will be a great parent. I'll always know exactly what he's thinking. (exaggerated and self-serving)

2 Vague or Inexplicit References to Mental States

The following example is not considered "negative RF" since it does contain a vague reference to mental state, but these references are too limited and inexplicit to be considered "questionable or low RF." The reader can "fill in the blanks" to infer mental state, but mental state is not explicitly described. A score of '2' is therefore assigned.

(Do you ever worry about the baby?) *Oh yes, every day, making sure he's growing okay. Especially his size, that's my concern, that he's growing. And now I know that he's getting bigger, so I'm good with that.*

3 Questionable or low RF

For a response to receive a score a '3' it must:

1. Contain some suggestion of mentalizing efforts by the mother.

2. Be devoid of any element that makes reflective functioning explicit (e.g., it never reflects mixed emotions, conflict, or uncertainty about others' beliefs and feelings).

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.

Examples:

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.

My mom was really happy for me. She said, "I hope everything works out. That you don't end up breaking up." She even wanted to adopt the baby.

He'll go outside and slam the door behind him. I'll let him cool off, then he'll come back in the house and say he's sorry.

Being a mom makes me excited, it really does. Just knowing that this child is my own and we're all going to be there for him. Just seeing him grow . . . I'm really excited. To imagine his father and him interacting, that makes me very excited because I know [FOB] loves kids so much. He has so much to teach kids.

4 Rudimentary or Inexplicit Link Between Mental States and Behavior

In the following examples, the links between mental states or between mental states and behavior are rudimentary or inexplicit. Mental state language is used in a slightly more sophisticated manner than in a response that would be considered "questionable or low RF" but they are not elaborated or convincing enough to be "definite or ordinary RF." A score of '4' is therefore assigned.

Examples:
When I first found out I was pregnant, I was happy but then I was scared because I didn't know what I was going to do.

I can't think of anything I'm afraid of doing as a parent. I mean, if it was a girl, I could say that I would be more afraid of being overpowering, overprotective. But, I mean, I can say that about my son too. I will be overprotective, but hopefully not too much, you know.

5 Definite or ordinary RF

For a response to receive a score of '5,' it must give convincing evidence that the mother has a model of the mind of self and other. She shows the capacity to make sense of her experience in terms of thoughts and feelings and has a consistent model for this. The model is limited in that it does not permit the regulation of more complex experiences (i.e., conflict, ambivalence).

1. Contains some element that makes reflection explicit (e.g., explicit reference to the nature or properties of mental states—how mental states relate to behavior, or mental states in relation to the interviewer.)
2. Not cliché (this does not imply that the response need be sophisticated).

This score can also be used when the mother maintains a high level of understanding in some parts of the response, but cannot maintain this level for more problematic areas, such as conflict.

Examples:
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 [FOB] and I aren't married, that makes me feel afraid and overwhelmed sometimes.

(How has your relationship with [FOB] changed?) *A lot of the time I think we feel little pressures and we won't speak to each other or we'll bite off each other's heads about a situation. Things like that. I'm a little touchier than I used to be. Little ups and downs can overwhelm me sometimes, then I feel bad. It's a little rough sometimes, but overall things have been pretty good between us.*

6 Rating

The following responses contain reflective statements that are more explicit and elaborated than responses considered "definite or ordinary RF," but they do not meet criteria for "marked RF." A score of '6' is therefore assigned.

Examples:
Occasionally, when he kicks, if I'm in one of my anxious moods, the kicking will really aggravate my worries. It'll kind of remind me of the anxieties I have and they sometimes just spiral out of control.

Going back to school will be hard for me because . . . for me, applying myself is very, very hard. I don't know why it's so hard for me to apply myself to things that are so important. For some reason I can't. I don't know, somehow I feel like I failed or feel down and out about myself and can't just pick myself back up. So, I think it's going to be hard but my motivation is the baby. I hate to put so much on him, but at the same time that's my motivation. It makes me think, "Where do

you want to be? What do you want to be for your child?" It's going to be rough, though. It's not going to be easy.

7 Marked RF

In order to receive a score of '7' a response must contain some feature which makes reflection explicit (i.e., explicit reference to the nature or properties of mental states, how mental states relate to behavior, or mental states in relation to the interviewer.) In addition, a response must meet at least one of the following five criteria:

1. The passage is **sophisticated** (i.e., it must contain at least two indices of mentalization as listed in Section II).
2. It is unusual or surprising, casting an **original perspective** (which is nonetheless readily understandable).
3. It is **complex** or elaborate, described in unusual detail with indication that multiple mental states attributed to a person are considered in relation to one another.
4. The response places mental states within a **causal sequence**. The respondent considers how the mental states arose, how they influenced behavior, and what impact they have on subsequent perceptions, beliefs, and desires.
5. The response contains an **interactional perspective** on mental states. The respondent sees mental states as impacting on one another in a causal way. The respondent either explicitly states how the mental state of one person may impact on the mental state of another or considers interactions of mental states within a single mind. Less frequently subjects may consider the interactions of mental states within a single mind. Here the common examples involve conflicting perceptions or desires and mixed emotions and the subject conveys some reconciliation of these. If the process of integration is described with appropriate elaboration or illustration, the rater should consider awarding a higher rating to the passage ('9').
6. When the response contains an acknowledgment of a particularly painful situation, appropriate thoughts and feelings are described. The discussion of extremely painful situations, such as abuse, will warrant an even higher score, such as a '9.'

Examples:
I think about being a mother and I wonder, but it's hard for me to imagine what it's really going to be like with this baby because I've never had one before. You know, I know I will have strong feelings of loving and wanting this child but I just don't know what it's going to be like on a day-to-day basis, taking care of a baby. Especially if it's a baby that cries and screams a lot. I'd like to think that I'll be patient and calm, but I really don't know how I'll feel about it.

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 to 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.

Note: Often subjects will describe having different feelings, positive and/or negative; for instance, *"I was happy and scared at the same time"* (3). This would not be an indication of mixed feelings because these two feelings are not considered in relation to each other. Likewise, various forms of splitting should not be confused with conflict. If, however, the subject truly describes experiencing a conflict between two feelings, then a '7' (or higher) would be scored.

8 Rating

These responses meet all the criteria for "marked RF" and just one of the two criteria for "full or exceptional RF"; a score of '8' is therefore assigned.

I feel an enormous responsibility. It's overwhelming sometimes to think about how much responsibility I'll have and how dependent this baby will be on me. It's really scary sometimes and I wonder if I really will do it right, you know. To combat all these fears I think I end up reading a lot of books and going to prenatal classes so I really feel like I'm as prepared as possible. Knowing what to expect—to some extent—helps me feel more competent. Knowledge has always been a comfort to me; I've never been someone who feels comfortable with not knowing or being ignorant. But it still scares me sometimes, knowing that I can't really truly know what to expect.

9 Full or Exceptional RF

In order to be given a score a '9' a response must:

1. Show the above features of a '7' to an unusually high degree (this response would be in the top 10% or less) *or* the response must be given for a particularly charged and emotionally difficult subject in which maintaining even ordinary levels of reflective functioning could be considered exceptional.
2. Have a strikingly personal character, enabling the rater to feel confident that it is experienced as personally significant and meaningful. Responses that are given a '9' frequently demonstrate full awareness of important aspects of all protagonists within an interaction. The protagonists are placed in relation to one another in terms of their feelings and beliefs and these are sufficiently complex and elaborate to convince the rater of their accuracy. Passages are judged on the intricacy of the interaction between the mental states described and the completeness of the causal account.

Examples:
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, to make our time together really quality time. But I don't want to force her to do things or put too much pressure on the time we do have together, you know, to make her feel that she's getting sort of pushed. It's going to be hard for me, I know.

VI. Assigning overall scores

A. Rules for aggregating reflective-functioning ratings into a single score for each Pregnancy Interview.

The "global" or "overall" score should reflect an attempt to capture, through an assessment of the range of scores and their relation to each other, what is "typical" of the mother. Like the designation of a diagnostic classification or attachment category, the global score should be that which best fits the balance among a range of scores, as judged by the rater. It is impossible to design a mathematical formula for assessing typicality, because the presence of high or low scores must always be considered in context.

A number of questions are included in the overall RF scoring. While this number creates a fair amount of "noise," as even highly reflective individuals are not necessarily reflective all the time, it also casts a wide enough net to assess the regular, ongoing features of an individual's reflective capacities.

For instance, even highly reflective mothers may—particularly at the start or finish of an interview—give a few relatively unsophisticated or unreflective responses. Similarly, mothers who are average in their reflectiveness may have a highly elaborated reflective response in their protocol. The balance of these "deviations" or "exceptions" must be considered seriously in the assignment of a global score. For instance, if unreflective statements seem to indicate true failures of reflective awareness, they must be given weight in assessing typicality. Another example is provided by the mother who is able to adequately reflect upon her own mental states, but actively resists contemplating others' states of mind or any interactions between two minds. This indication of the mother's inability to put herself in the other's mind should be weighted negatively. By contrast, low RF responses that seem relatively inconsequential would be given little weight. Likewise, the valence of rich and reflective responses must be considered accordingly.

It cannot be overemphasized that this kind of coding is truly qualitative, in the sense that specific parameters for arriving at a global rating cannot be described. This requires careful reading of the whole transcript and careful consideration of a range of alternatives.

It is recommended that the rater be able to articulate the reasoning that is used to assign the global rating. This can be achieved through writing a brief report, roughly one or

two paragraphs, which delineates the underlying considerations leading to the final rating. The report should highlight central themes and may include excerpts from the interview as well as the particular rating rule being used.

B. Scale points for overall rating

Note: For purposes of clarity, all scores in the manual that refer to individual passages will be in plain type, while overall scores will be underlined. As in the ratings of individual passages, even numbered scores may be used when assigning an overall score to an interview.

–1 Negative RF

This overall rating should only be given to interviews, very rare in normal samples, where the mother systematically resists taking a reflective stance throughout the interview. The mother may be hostile to the notion of reflection, which would be expressed in derogation or dismissal of any attempts on the part of the interviewer to initiate such reflection. Alternately, the mother may be so confused in her attempts at reflection that the rater may be said to be almost "shocked" by her utterances.   In either case, for a rating below a 1 to be given, the rater should be certain that no individual passages have been rated '5' or above. In interviews where either a rejecting or a bizarre stance is observed alongside some ratable RF passages, ratings between 1 and 3 should be considered depending on the balance of items found.

Common types

–1(A) Rejection of RF

Interviews of this type rated –1 include hostile refusal to answer a number of demand RF questions. In addition, some general characteristics of the interview may include a lack of participation in the interview process, overt hostility to the interviewer, evasiveness, and marked incongruencies.

–1(B) Unintegrated, Bizarre, or Inappropriate

This is a rare category and a literally puzzling one for the rater. Its hallmark is that mental state attributions are hard to understand. To qualify for this category an interview must contain at least several examples, found anywhere in the interview, of statements where an inexplicable, bizarre, or inappropriate attribution was made by the mother. It is insufficient for the answer to be unusual or simply odd. The rater's reaction is likely to be one of shock that anybody could make such an attribution in such a context. As an extreme example, frankly paranoid or thought disordered responses create this kind of subjective reaction. In addition to these specifically shocking answers, these interviews will have general features which may include a lack of meaning, a lack of explanation, or a comprehensive avoidance. If several of the responses include bizarre explanations of behavior, either paranoid or thought disordered statements, or are highly incoherent and

therefore impossible to understand but not necessarily thought disordered, then the interview should be given a –1. If the interview is generally poorly integrated or somewhat bizarre in terms of mental state attributions but only a few of the passages are of this type and no passages are rated '5' or above, then the interview should be assigned a 0.

1 Lacking in RF

This rating should be given to interviews where the reflective-functioning is totally or almost totally absent. The mother may adopt a range of strategies to prevent the task of reflection. In these interviews there may be a number of instances of mental states being mentioned with regard to the self, the child, or another individual, but these never lead to a coherent picture of the mother's or the other's underlying beliefs and feelings. To the extent that mentalizing statements are present, these are simplistic and banal and cannot be differentiated from statements that another subject might make on the basis of completely different experiences. Alternatively, reflective statements are so clearly inaccurate and full of misunderstanding and contradiction that the rater can confidently conclude that the statement is not based on genuine reflection. In all cases, mentalization and awareness of the nature of mental states are absent in the narrative. If mentalization is present it is only discernable by inference.

Common types

1(A) Disavowal

At least half of the instances in the transcript are assertions of ignorance concerning mental states. Alternatively, there are comparable examples of evasion of questions, physicalistic, behavioral, or sociological accounts, and global and generalized statements concerning psychological states of the other or the self. In general terms, such accounts tend to be barren, lacking in mentalizing detail, and mentalizing phrases are restricted to those of a clichéd or canned nature. A certain concreteness tends to characterize such interviews. In order to assign this overall rating, there should be no instance of reflective function rated above '3'.

1(B) Distorting / self serving

These interviews do contain reflection but this is seen by the rater as flawed. Responses to demand questions may exaggerate the importance of the speaker, or they may be egocentric, overly favorable to the subject, or self-serving to the point where the accuracy of the representation of the other's mental state may seem inaccurate. A key bias in the depiction of mental states is social desirability, meaning that the mother wants to present herself in a favorable light. These distortions can lead to marked inconsistencies in the presentation of the mental worlds of both the self and the other. Subjectively, the rater may feel a strong sense of irritation with such interviews. To assign this category, a fair number of the responses to demand RF questions should

contain such purposeful distortions. Further, there should be no instance of reflective function rated above '3'.

3 Questionable or low RF

This rating is given to transcripts that contain some evidence of consideration of mental states throughout the interview, albeit at a fairly rudimentary level. For example, the mother may consider developmental or intergenerational elements that are not seen by the rater as banal (i.e., deserving a lower rating) but are nevertheless not specific enough to the individual's personal experience to merit a higher rating. An interview rated a <u>3</u> may contain more than one example of reflective-functioning at a level '5' or above. Further, a number of the responses must receive scores of '3'. Initially, the rater may intuitively wish to attribute a relatively good reflective capacity to the mother; however, upon closer reading there is not enough concrete evidence to warrant a rating higher than a <u>3</u>. For the most part, in a transcript rated a <u>3</u>, references to mental states and their impact on behavior are not made explicit. Also in a <u>3</u> transcript, a number of relatively reflective passages may be counterbalanced by negative ratings elsewhere, although not of sufficient frequency to warrant that rating.

<u>Common types</u>

3(A) Naive-simplistic

These transcripts show a partial appreciation of intentions of others. This understanding may be very superficial, or banal, with excessive use of clichés in referring to mental states. There may also be minimization of negative experiences. The mother's understanding is not grounded in personal experience, nor is it sensitive to the complexities of mental states, such as conflict or ambivalence. The interview is likely to contain many 'canned' statements and to have a shallow quality to it. To assign this category the rater is expected to have identified naive, simplistic passages as the majority of the low ratings and few, if any, of 'marked' RF.

3(B) Over-analytical or hyperactive RF

This is an important but somewhat difficult category. To the inexperienced rater such transcripts may seem quite reflective. In fact, one of the hallmarks of this category is that the interview appears to have greater depth than it actually does. The interview is diffuse and the insights offered are unintegrated and do not link in a compelling way to the mother's experience. The interview is given this rating if approximately half of the responses contain instances in which the speaker is overly-analytical. If one or more of these overly-analytical passages includes text that qualifies as bizarre reasoning or distorting/self-serving, the rater should consider whether the passage as a whole merits a <u>1</u> or <u>2</u> rating.

3(C) Miscellaneous low RF

These are transcripts, relatively few in number, where a 3 rating applies even though the transcript is neither particularly naive nor overly analytic. Most commonly the rating is arrived at as a compromise between a higher and a lower rating. For example, some transcripts show clear evidence of disavowal, yet contain definite or even marked evidence of reflective-functioning. These should be assigned to this category. Other transcripts which may receive this miscellaneous 3 rating may have numerous RF passages, but none of them goes beyond this questionable or low range. Still other miscellaneous 3 transcripts may meet the requirements for a higher category, but the rater feels unconvinced that, taken as a whole, the transcript is definitely reflective. In these transcripts the mother's model of mental states has to be partly inferred by the rater (e.g., emotional events may be outlined, but without the implications being spelled out, there is little awareness of a link between cognition and affect or of the impact of one relationship upon another).

5 Ordinary RF

This is the most common rating in a high functioning "normal" sample. Transcripts at this level should have a number of instances of reflective-functioning, even if all of these are prompted by the interviewer rather than emerging spontaneously from the interviewee. In contrast to interviews rated 0 through 4, interviews rated 5 give convincing indications to the rater that the mother has some kind of model of her own mind as well as the mind of the other. This model and expressed reflectiveness is relatively coherent even if it is simple. In order to bring an overall score of 4 up to a 5, the mother's model of the mind must be clear and well integrated.

There may be transcripts where the mother's mentalizing stance is attenuated by difficulties in expression. In these cases, the rater should exercise discretion and generosity in rating an interview a 5 if one or two clear instances of level '5' mentalizing are present. Overall ratings of 5 are commonly given to interviews which combine statements that are genuinely reflective ('7') with rudimentary or more superficial ones ('3'). An overall score of 5 may be given to interviews which contain only one type of RF. For example, the mother may demonstrate a consistent use of a developmental perspective without demonstrating other types of reflectiveness, such as awareness of the opacity of mental states, or specifically acknowledging the separateness of minds.

Common types:

5(A) Ordinary understanding

The mother shows a capacity to make sense of her experience in terms of thoughts and feelings, and has a consistent model for this which needs little or no inference from the rater. The model is limited, however, and would not provide a way to understand the more complex aspects of interpersonal relationships, such as conflict or ambivalence. Approximately half of the passages should warrant a '5' rating, with no breakthroughs of rejection or bizarre explanations or pervasive disavowal, etc.

5(B) Inconsistent level of understanding

The mother appears to be achieving a higher level of understanding in some parts of the interview, so that certain passages may achieve scores of '6' or '7.' However, the understanding cannot be maintained in relation to more problematic areas of the mother's interview, such as an area of true conflict regarding their changing relationship with the father of the baby. These parts of the interview would nevertheless not be expected to fall below a rating of '1' or '2'.

7 Marked RF

These interviews have numerous statements indicating full reflective function which evidence awareness of the nature of mental states and explicit attempts to tease out mental states underlying behavior. Normally, awareness of mental states is clear throughout the interview with frequent passages where the mother has arrived at an original integration of her own and others' states of mind. The rater may find these formulations surprising in the sense of not having thought of them him or herself. There is also much detail about the thoughts and feelings of the parent and others and the implications of these mental states are regularly spelled out. The mother is usually also able to maintain a developmental perspective. As a whole, the interview gives the rater the feeling that the speaker has a stable psychological model of the mind which is regularly and naturally applied to themselves and others, and which is also used to understand their own reactions to mental states.

Any single passage may illustrate only one of the features of full reflective functioning listed above on page 17, but the interview as a whole gives the impression of someone who is applying a reflective stance fairly consistently to their relationship with their child. In contrast to an overall rating of 5, an overall rating of 7 is given to interviews where a number of different types of RF are evidenced across the interview. However, some minor limitations remain in terms of the overall breadth and quality of reflectiveness. In order to assign an overall rating of 7, a number of the passages, found anywhere in the interview, should be rated a '7' or higher. In general, there should be no passages rated '1' or lower, and few of the responses to demand questions should receive ratings lower than '5'. However, on rare occasions, mothers showing marked RF may respond to one or two demand questions without reflection. In these instances the rater must determine that the low response does not truly compromise the overall reflectiveness of the interview.

9 Exceptional RF

These transcripts are rare. They show exceptional sophistication, are commonly surprising, are quite complex or elaborate, and consistently manifest reasoning in a causal way using mental states. A '9' rating for a single passage is given where several aspects of reflective function are integrated into a unified, fresh perspective. Where approximately a third or more of such passages are noted in any single interview, the rater should assign a 9 rating to the interview as a whole. Across the interview, many

aspects of full spontaneous reflective function would be shown in the mother's discussion of her imagined relationship with her child over time and in different contexts. It is unlikely that such an interview would have many passages rated '3' and most would be rated '5' or '7.' If the transcript does not meet the above criteria, yet the rater "feels" the transcript to be exceptional, a rating of 8 should be considered. If only a single '9' rating is present and/or there are more than a couple of examples of questionable RF, a rating of 8 is likely to be too high and a 7 should be considered.

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THE PREGNANCY INTERVIEW—FHCHC Version
Arietta Slade, Ph.D.

DO NOT DUPLICATE WITHOUT PERMISSION OF THE AUTHOR
asladephd@earthlink.net

1. This is your first pregnancy. How did you feel when you found out you were pregnant?

2. What was the FOB's reaction when you became pregnant? And how did you feel about his reaction?
   - What was your family's reaction? And how did you feel about their reaction?

3. What changes have you made in how active you are… for example in what you eat, and how much you exercise?
   - Have there been any changes in how you are sleeping?
   - How do you feel about doing these things differently?

4. Have you had any hard or difficult feelings during your pregnancy? (Probe for the following: Do they know how they're going to manage financially, where they'll live, how they would receive help? Are they planning for it? Have they even thought it through?)
   - Have there been times that you've felt scared or worried by your feelings during your pregnancy? Have you had any worries about the baby? Have you thought about what you will need to do to provide for the baby, for example, where you'll live, how you'll make ends meet financially, how you'd get help when the baby came home?

5. What do you do when you have these feelings?
   - Is there anyone you can talk to about the feelings that bother you during pregnancy?

6. What are some of the good feelings you've had?

7. When would you say you first really believed there was a baby growing inside of you?
   - How did this make you feel?

8. Would you say you had a relationship with the baby?
   - How would you describe it?
   - What kind of person do you imagine your baby's going to be? When you imagine him/her, what do you imagine? (Note: Do not specify age of child, just let the mother choose.)

9. Do you know the sex of the baby? Yes: How do you feel about it? No: Do you have a preference or feelings either way?

10. What do you think the baby needs from you now? Are there things the baby needs from you now? What do you try to give the baby?
    - How do you feel about taking care of those needs?

11. What will your baby need from you after it's born?
    - How will this make you feel? (Or more concretely: How will you feel to take care of these needs?)

12. What do you think will be the happiest times for you?

13. What do you think will be the hardest times for you?

14. Who's going to help you take care of the baby after it's born?
    - Do you plan to go back to work/school? (And how easy or hard would that be for you to do?) If you are, who will be caring for the baby?

15. Since you've been pregnant, what has your relationship with your mother been like?

16. In what ways do you imagine you will be like your mother as a parent?
    - In what ways do you imagine you'll be different?

17. Are there things that afraid you'll do as a parent? Like maybe things your parents did to you that you're afraid you'll do too?

18. How has your relationship with the FOB/husband been affected by the pregnancy?

19. How do expect him to be involved with the baby?

20. How do you think being a parent will change your life?
    - How do you feel about these changes? (What kinds of changes do you think you will have to make?)

21. OK, we're almost done. If you had to think of 5 years from now, your child is 5 years old, and you had to think of 3 wishes for your child, what would they be?

22. Is there anything else about your pregnancy or awaiting motherhood that we haven't talked about that you'd like to add?

THANK YOU VERY MUCH!

This version of the Pregnancy Interview is an adaptation of the Pregnancy Interview, Slade, Grunebaum, Huganir, & Reeves, 1987.

PDI-R2

**PARENT DEVELOPMENT INTERVIEW
REVISED**

**Arietta Slade
J. Lawrence Aber
Brenda Berger
Ivan Bresgi
Merryle Kaplan**

**Adapted with the help of:
Linda Mayes
Mary Target
Sidney Blatt**

October, 2003

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PARENT DEVELOPMENT INTERVIEW – REVISED

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Introduction to the PDI-R

This is a revised version of the Parent Development Interview (Aber, Slade, Berger, Bresgi, & Kaplan, 1985). There were two versions of the original interview, one for use with parents of infants, the other for use with parents of toddlers. The original interview versions, as well as this revision, are aimed at assessing parental representations of the child and of the parent-child relationship. They are not meant to be used to assess attachment classification of the adult or of the child. We have used this interview to code parental reflective function; it can also be used to assess the quality of parental representations along a range of relevant developmental/clinical dimensions.

This revised version has been developed for several reasons. First, the original version was tied specifically to the infant and toddler stages of development; the current interview is less age-specific, and can be used with parents whose children range in age from infancy through early adolescence. It is important to note that if parental responses to specific age-related developmental tasks are required, then questions relevant to these domains will have to be added by individual researchers. Second, we have found in our 15-year experience with this interview that some of the questions are less useful than others in pulling for a range of responses and descriptions. Some were poorly worded, some were redundant, some rarely pulled for more than surface descriptions, etc. Therefore, this new version incorporates our experience of coding more than 500 interviews, and represents a more streamlined focused assessment of the relevant dimensions of parental representations. Finally, this revision reflects the need within our research group to create an interview that allows for the assessment of reflective functioning across a range of domains: in relation to the child, one's own parents, and the self. Up until now, these dimensions were necessarily assessed using different interviews (the PDI, the Adult Attachment Interview, and the Object Relations Inventory, for instance), which – from a research standpoint – creates redundancy and an overabundance of data.

Thus, in order to redress these difficulties and to collect the data that we felt was critical to our research examination of reflective functioning, we have revised the interview in such a way that it allows us to assess not only parental representations of the child, but a parent's capacity to reflect upon aspects of his childhood experience and his

self development as well. To do this, we have adopted four of the questions from the Adult Attachment Interview (George, Kaplan, & Main, 1996); these questions are those designated by Fonagy, Target, Steele, and Steele (1998) as demand questions, and are directly tied to the assessment of reflective functioning. One question from the Working Model of the Child Interview is also included (Zeanah, Benoit, Barton, Regan, & Hirschberg, 1994), because it too pulls specifically for reflective functioning. Finally, elements of the Object Relations Inventory (Blatt, Levy & Auerbach, 1997) are incorporated as well.   This interview cannot be used to assess the quality of adult attachment representations. The classification of adult attachment requires administration and scoring of the complete AAI according to the well-established guidelines and principles developed by Mary Main, Erik Hesse, and Ruth Goldwyn.

Instructions to Interviewers

These instructions refer to the use of the PDI-R in a research setting. Obviously, if the interview is to be given in a clinical setting, the procedures will be modified somewhat, although the basic instructions should remain unchanged.

A. Before Parent Arrives:

It is very important that the parent knows that the interview will be conducted without the child present, so that other arrangements are made for the child. When the parent arrives, make sure all the materials are ready and that the equipment works (seems obvious, but it is surprising how often data are lost to equipment failures!).

B. Introducing the Interview

Begin by endeavoring to put the parent at ease; the tone, from the outset, should be friendly and relaxed. Describe the basic features of the interview: It is 11/2 - 2 hours in length, it has 40 questions, covering a number of themes: parent's view of child and of their relationship with child their view of themselves as parents, their view of the emotional upheavals and joys inherent in parenting, their notion of the ways they have changed as a parent over the course of their child's life. You should also let them know that you will be asking them about some of their own childhood experiences as well.

Describe the interview in a conversational tone. The aim here is to give them an idea of the kinds of questions they will be asked, doing so in a relaxed manner. Assure them there are no "right" or "wrong" answers — that you are interested in their thoughts and feelings about what parenting is like for them. Do not go overboard here. If they seem comfortable with the kind of introduction you are providing, do not feel you have to provide more information. Remind them they are free to refuse to answer any question (although we do not expect they will want to).

After you have introduced and described the interview, ask parents if they have any questions or concerns about the interview before you get started. Be sure to

encourage parents to ask any questions they wish then or during the interview if something should occur to them.

Truly pause and genuinely ask for and wait for questions from interviewee and listen for any concerns.

C. The Interview - General Comments

Begin by letting the parent know you will be asking a series of already prepared questions which have to be asked in a particular order. Let them know that you know that the nature of this format may mean that they get asked about something you will have already discussed, but that there are methodological reasons for following the same order with each parent, and you hope they will bear with any redundancies. By the same token, let them know the questions may sometimes seem irrelevant or foreign to them.

Let them know that because the interview is a long one, there may be times when you the interviewer will feel it necessary to speed them up. This kind of warning lets them know both that if you speed up it is not for lack of interest and lets them know in a subtle way that there are limits on how long their answers can be (i.e., not to go on and on for the first few questions when there will be 35 more).

Introduce new sections. When you tell the parent about the interview at the outset, you will be indicating that the interview has a number of sections. During the interview, introduce each section with comments like, "Now we're going to shift gears," or "Now we're going to turn to the next section." If you wish, you may describe in a word or two what the section is exploring, but it is probably best to stay with the general kinds of comments indicated above.

D. Administering the Interview

Ask questions exactly as they are written. Reliability (i.e., the comparability of interviews across interviewers) depends upon interviewers' adopting similar styles of interviewing, and to their adherence to the questions and probes as written. It is fine to contextualize, or to use preambles appropriate to the parent (i.e., "I know we talked about this before, but..."). These kinds of remarks help the parent get to the question while leaving the questions themselves standardized.

Standard probes must be asked. In other words, if it says "Probe if necessary" you need only probe if the question has not been answered, in which case you say something like, "Tell me more about it" or "How did your child feel", etc. The areas to be probed are indicated on the interview itself. Any probe instructions that are not followed by the proviso "if necessary" must be asked.

Obviously, learn the child's name right away. The interview should be conducted in a conversational tone; you should have the interview nearly memorized, so that you are

not glued to the materials and can maintain eye contact with the parent and insert comments, probes, etc., in an entirely natural manner. This is really important, because we are asking about difficult and complex issues and the parent should feel you are available and interested. This is essentially a semi-structured interview, and should be conducted in such a way as to make the parent maximally comfortable and responsive. These are difficult questions and touch upon powerful emotional issues; the more relaxed and unthreatened the parent feels, the more likely they are to be open and forthcoming.

It is very important to conduct the interview in such a way as not to interfere with the parent's particular style of responding. You need to let them know you hear them without saying too much or leading them on. For instance, some parents are very guarded and limited in their responses. It is critical not to push such individuals too much; this will make them angry and even less forthcoming. Also, if you try too hard to get them to open up, you are intervening in a way that will affect their natural patterns of responsiveness. Similarly, if a parent is vague and disorganized, it is very important to avoid the temptation to try to organize them. It is not your job to get them to make sense (which you won't be able to do anyway); it is your job to create a receptive atmosphere, so that they will communicate to you as fully as they are able. Just keep in mind that your job is to hear them <u>as they are</u>.

The most common interviewer errors are to probe too much, or too little, either of which can make coding very difficult. Probing too much can arise for a variety of reasons, but the two most common are 1) getting enmeshed with a parent and trying to sort out a chaotic story, and 2) conducting a "clinical" interview, probing for unconscious material and the like. The first problem, enmeshment, is relatively easy to recognize because the interview goes on too long, and the interviewer finds him or herself drowning in details and continually trying to get things straight. At this point, less probing is more. The tendency of clinicians to turn the PDI into a true clinical interview also leads to too much probing. In clinical interviewing, we are working with the individual to get them to articulate diffuse, complex, and sometimes hidden meanings. We are not after "meaning" in that sense, on the PDI. Do not supply words for them, do not say things like "What I think you really mean to say is…", do not summarize "when I think about all this together, I wonder whether…". Keep your clinical voice silent; this does not mean you shouldn't listen clinically, but it does mean you keep that line of thinking to yourself. You are really just trying to hear the story the way they tell it. Probes are meant to clarify the story, not reveal its other layers.

Probing too little usually occurs when a subject is herself defended and resistant in some way, and subtly puts the interviewer off. In these circumstances, the interviewer often feels like she is being intrusive, bothering the subject, and that the kindest thing she can do is finish the interview fast. You certainly don't want to bug the subject any more than you have to, but if you find yourself rushing and uncomfortable, try to slow down and stick to the interview. If it is really difficult, probe selectively. In these cases, it is better to probe generally ("can you tell me more?" than to probe feelings ("and how did that make you feel?"). Probing too little also occurs when the interviewer does not follow

up simple, unelaborated answers. For instance, if a mother gives a sparse answer (which often happens when subjects are not especially comfortable with language and verbal communication), you can feel very free to ask them to tell you more, to invite them to flesh out the story. One sentence answers are very difficult, if not impossible, to code. But some subjects really need permission and encouragement to express themselves in this context, in which case you want to do the things you do with any person who is hesitant – encourage them and convey your interest in questions and full non-verbal engagement. Do not hesitate, ever, to ask questions that answer questions you have about an actual life event; any unclarity you feel is going to be just as vexing to the person coding the interview.   Remember to always try to read your subject and adjust yourself to their comfort level, to the extent that you get scorable and developed answers. Remember too that most parents start off slow, and that your encouragement at a slow beginning will reinforce their warming up to the task.

D. Debriefing the Parent After the Interview

After the interview is completed, again inquire if the parent has any questions about the interview or any other concerns that may have arisen during the course of the interview. Be sure to encourage the parent to raise even the slightest concern, and give them a way to reach you if they have any questions or feelings that they would like to discuss with you in the weeks after their meeting with you. This rarely happens, but sometimes parents do have very strong feelings during the course of the interview, and they should be given a way to process these feelings with you if need be.

PARENT DEVELOPMENT INTERVIEW-REVISED

A. View of the Child.

Today we're going to be talking about you and your child. We'll begin by talking about your child and your relationship, and then a little about <u>your</u> own experience as a child. Let's just start off by your telling me a little bit about your family – who lives in your family? How many children do you have? What are their ages? (Here you want to know how many children, ages, including those living outside the home, parents, other adults living in home. If atypical rearing situation (foster care) history of foster placements, who have been primary caregivers, etc.; likewise, if there appears to be a history of divorce, or multiple moves, get some of the detail of that just to create a context for understanding the interview.)

1. I'd like to begin by getting a sense of the kind of person your child is… so, could you get us started by choosing 3 adjectives that describe your child. (Pause while they list adjectives.) Now let's go back over each adjective. Does an incident or memory come to mind with respect to _____? (Go through and get a specific memory for each adjective.)

2. OK, now let's return to your child…In an average week, what would you describe as his/her favorite things to do, his/her favorite times?

3. And the times or things he has most trouble with?

4. What do you like most about your child?

5. What do you like least about your child?

A. **View of the Relationship**

1. I'd like you to choose 3 adjectives that you feel reflect the relationship between you and (your child). (Pause while they list adjectives.) Now let's go back over each adjective. Does an incident or memory come to mind with respect to _____? (Go through and get a specific memory for each adjective.)

2. Describe a time in the last week when you and (your child) really "clicked". (Probe if necessary: Can you tell me more about the incident? How did you feel? How do you think (your child) felt?)

3. Now, describe a time in the last week when you and (your child) really weren't "clicking". (Probe if necessary: Can you tell me more about the incident? How did you feel? How do you think (your child) felt?)

4. How do you think your relationship with your child is affecting his/her development or personality?

C. Affective Experience of Parenting

1. Now, we're going to talk about your feelings about being a parent. Can you start out by choosing 3 adjectives that describe you as a parent. (Pause while they list adjectives.) Now let's go back over each adjective. Does an incident or memory come to mind with respect to _____? (Go through and get a specific memory for each adjective.)

2. What gives you the most joy in being a parent?

3. What gives you the most pain or difficulty in being a parent?

4. When you worry about (your child), what do you find yourself worrying most about?

5. How has having your child changed you?

6. Do you ever really feel you need somebody to take care of you? (Probe, if necessary: What kinds of situations make you feel this way? How do you handle your needy feelings?)

6a. What kind of effect do these feelings have on (your child?)

7. Do you ever feel really angry as a parent? (Probe, if necessary: What kinds of situations make you feel this way? How do you handle your angry feelings?)

7a. What kind of effect do these feelings have on your child?

8. Do you ever feel really guilty as a parent? (Probe, if necessary: What kinds of situations make you feel this way? How do you handle your guilty feelings?)

8a. What kind of effect do these feelings have on (your child)?

9. When your child is upset, what does he/she do? How does that make you feel? What do you do?

10. Does (your child) ever feel rejected?

11. Does your child ever moods and feelings that you don't understand?

D. Parent's Family History

Now I'd like to ask you a few questions about your own parents, and about how your childhood experiences might have affected your feelings about parenting….

1. I'd like you to choose 3 adjectives that describe your childhood relationship with your
   mother, from as early as you can remember. (Pause while they list adjectives.) Now let's go back over each adjective. Does an incident or memory come to mind with respect to ___?

2. Now can you choose 3 adjectives that describe your childhood relationship with your
   father? (Pause while they list adjectives.) Now let's go back over each adjective. Does an incident or memory come to mind with respect to _____?

3. Did you ever feel rejected or hurt (physically or emotionally) by your parents as a young child?

4. How do you think your experiences being parented affect your experience of being a parent now?

5. Why do you think your parents behaved as they did during your childhood?

6. How do you want to be like and unlike your mother as a parent?

7. How about your father?

8. How are you like and unlike your mother as a parent?

9. How about your father?

D. Dependence/Independence

1. When does your child need attention from you? (Probe, if not spontaneously volunteered: How do you feel when this happens?)

2. Why do you think those are the things he/she needs help with?

3. When does he feel comfortable doing things on his own?   (Probe if not spontaneously volunteered: How do you feel when this happens?)

4. What happens when he/she can't do things on his/her own? (Probe if not spontaneouslsy volunteered: How do you feel when this happens?)

E. Separation/Loss

1. Now, I'd like you to think of a time you and your child weren't together, when you were separated. Can you describe it to me? (Probe: What kind of effect did it have on the child? What kind of effect did it have on you?) Note: If the parent describes something other than a recent (i.e. within one year) separation, repeat the question asking for a more recent.

2. Has there ever been a time in your child's life when you felt as if you were losing him/her just a little bit? What did that feel like for you?

3. Is there anyone very important to you who (your child) doesn't know but who you wish he/she was close to?

4. Do you think there are experiences in your child's life that you feel have been a setback for him?

F. Looking Behind, Looking Ahead

1. Your child is _____ already, and you're an experienced parent (modify as appropriate). If you had the experience to do all over again, what would you change? What wouldn't you change?

2. How do you think about the relationship you and your child will have when your child is an adult?

3. Can you imagine yourself as a grandparent? What do you imagine? What would you hope for?

Maia Miller
July 2007

Interview Questions for MTB Home Visitors

1. Tell me this mom's story:
   a. Age
   b. Trauma history
   c. Life circumstances
   d. Circumstances under which she got pregnant

2. How did you feel your work with her went?
   a. Successful outcome?
   b. Evaluate how the treatment went, generally/globally

3. What changes in this mom stand out for you?

4. What "sticking points"—places of no progress or change—stand out for you?

5. Tell me about/Try to think of a pivotal moment with this mom—a moment when something changed, clicked, when you suddenly felt hopeful.
   a. What kinds of things really helped this mom? What do you think worked best with her?
   b. What worked least well? What really got you nowhere?

6. (Change over time)
   a. Give an example of what it was like to be with this mom in the beginning of the intervention; vs.
   b. Give an example of what it was like to be with her at the end of the intervention.

7. Do you remember how optimistic or pessimistic you felt about this mom (in terms of how she might respond to the intervention) when you first met her? Were you surprised at the outcome?

8. What was a typical "meeting" like with this mom?

9. Can you give me 3 adjectives to describe this mom's relationship with her child?

10. What was your relationship with this mom like?
    a. What was your relationship with the child like?

11. I think I already know the answer to this, but was there another strong attachment figure for the child (father, grandmother, aunt, etc.)?

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