

## Parental reflective functioning: An introduction

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### Abstract

Reflective functioning refers to the essential human capacity to understand behavior in light of underlying mental states and intentions. The construct, introduced by Fonagy, Steele, Steele, Moran, and Higgitt in 1991, and elaborated by Fonagy and his colleagues over the course of the next decade, has had an enormous impact on developmental theory and clinical practice. This paper introduces the construct of parental reflective functioning, which refers to the parent's capacity to hold the child's mental states in mind, and begins with a review of Fonagy and his colleagues' essential ideas regarding the reflective function. Next, the applicability of this construct to parental representations of the child and the parent–child relationship is considered. A system for coding parental reflective functioning, which will serve as the organizing framework for this special issue, is described. Finally, the three papers that make up this special section are introduced.

**Keywords:** *Reflective functioning, attachment, parent-child relations*

### Introduction

This special section in *Attachment & Human Development* is devoted to explicating and expanding our understanding of parental reflective functioning, namely the parent's capacity to reflect upon her own and her child's internal mental experience. Reflective functioning (RF) is an overt manifestation, in narrative, of an individual's mentalizing capacity. The construct of mentalization, introduced over 10 years ago by a team of psychoanalytically oriented attachment researchers, Peter Fonagy, Miriam Steele, Howard Steele, and Mary Target (Fonagy, Steele, Moran, Steele, & Higgitt, 1991; Fonagy et al., 1995) can be understood narrowly as the capacity to understand one's own and others' behavior in terms of underlying mental states and intentions, and more broadly as a crucial human capacity that is intrinsic to affect regulation and productive social relationships.

Richly located at the intersection of attachment and psychoanalytic theories, as well as current thinking in cognitive neuroscience, this theory represents a significant advance in understanding the development of basic capacities for self-regulation and relatedness in early childhood. It has been essential to reframing the way dynamically oriented clinicians think about the development and interpersonal function of various severe psychopathologies, most notably the borderline syndromes. Finally, the general theory has led to the development of instruments to measure reflective functioning in attachment, developmental, and clinical research.

This paper begins with a brief review of Fonagy and his colleagues' work describing the emergence and function of mentalization within a range of theoretical and developmental contexts. The second section of this paper will concern the question of methodology, and the measurement of the variable Fonagy and his colleagues have described as crucial to a range of attachment and other social developmental outcomes, namely the reflective function, that is, the parent's capacity to reflect upon and hold the inner life of her child. Fonagy and his colleagues (Fonagy, Target, Steele, & Steele, 1998) originally measured the reflective function in adults using a scale that was developed for use with the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984) thus adult reflective functioning was assessed on the basis of an adult's capacity to reflect upon memorialized childhood relationships with their parents. As Fonagy and his colleagues have so richly described, however, it is the parent's capacity to reflect upon the child's internal experience that is so crucial to the development of a secure attachment and to a range of other developmental outcomes. The work described below was initiated in order to directly measure reflective processes within the context of the parent–child relationship as they are manifest in parental descriptions of the ongoing, current, and evolving relationship to the child. The Parent Development Interview (PDI; Aber, Slade, Berger, Bresgi, & Kaplan, 1985; PDI-R; Slade, Aber, Bresgi, Berger, & Kaplan, 2004) was used to examine a parent's capacity to specifically reflect upon her child's emotional experience or upon her own experience as a parent,<sup>1</sup> using an adaptation (Slade, Bernbach, Grienenberger, Levy, & Locker, 2004) of the reflective function scale (Fonagy et al., 1998) to score RF. This adaptation is described in the second section of this paper. In the final and third section, three papers in this special issue will be introduced, all of which are based upon the assessment of RF using the PDI or similar instruments, and evaluate the relationship between parental RF and a range of attachment, social, and developmental outcomes in both parents and children.

## **Mentalization and reflective functioning: An overview**

### *Inter and intrapersonal functions*

As described in a myriad of ways by Fonagy and his colleagues (Fonagy, Gergely, Jurist, & Target, 2002), our efforts to try to understand both ourselves and one another are among the most natural and crucial aspects of human functioning. Whether in times of love or hate, peace or war, or simply in times of everyday living, human beings try to understand their own and others' minds. They use an understanding of mental states—intentions, feelings, thoughts, desires, and beliefs—to make sense of and, even more importantly, to anticipate each other's actions (Fonagy & Target, 1998). It is the reflexive use of such understanding to make sense of emotional processes that Fonagy and his colleagues refer to as mentalization. The process of making meaning of internal states serves crucial intrapersonal functions; it provides the means to discover and give voice to vital aspects of subjective experience, and allows for deep and broad self-knowledge. This process, whereby internal experience, feelings, and intentions are mentalized, leads to the development of structures crucial to self and affect regulation.

Internal states are given meaning and organization not just to enhance self-understanding and regulation, but so they “can be communicated to others and interpreted in others to guide collaboration in work, love, and play” (Fonagy et al., 2002, p. 6). It is in this sense that reflective capacities underlie the development of social relationships and others that are key to our survival. Were humans not able to see beyond behavior to underlying mental experience,

they would be limited, as are all other animal species, to responding to others' behavior rather than to their minds. Indeed, by providing a "representational system" that allows for the interpretation of interpersonal actions, "evolution has placed particular value" on the development of social relationships (Fonagy et al., 2002, p. 5). Thanks to this "uniquely human capacity to process interpersonal experience and make sense of each other", one is able to understand that our own or another's behaviors are linked in meaningful, predictable ways to underlying, likely unobservable, changing and dynamic feelings and intentions. The more that human beings are able to envision mental states in the self or other (and thus what is internal to the self and particular to the other) the more likely they are to engage in productive, intimate, and sustaining relationships, to feel connected to others at a subjective level, but also to feel autonomous and of separate minds (Fonagy et al., 2002).

Mentalization integrates ways of knowing that are at once cognitive and affective; it is, in effect, the capacity to think about feeling and to feel about thinking (M. Target, personal communication, December 11, 2003). Thus it refers, in part, to a cognitive process, namely an individual's understanding. In this sense, it is a metacognitive process akin to perspective-taking, and "metacognitive monitoring" (Main, 1991). In the language of psychoanalysis, it is somewhat like insight. At the same time, it refers to an emotional process, namely the capacity to hold, regulate, and fully experience emotion, in this sense akin to, but not the same as, empathy (which does not imply regulation). It refers to non-defensive willingness to engage emotionally, to make meaning of feelings and internal experiences without becoming overwhelmed or shutting down. The complex processing and integrating that is inherent in high reflective functioning bespeaks emotional richness and depth, and a capacity to appreciate and experience the dynamics of an internal and interpersonal emotional life.

### **The development of the mentalizing capacity**

While all human beings are born with the ability to develop the capacity to mentalize, early relationships create the opportunity for the child to learn about mental states, and determine the depth to which the social environment can ultimately be processed (Fonagy et al., 2002). A mother's capacity to hold in her own mind a representation of her child as having feelings, desires, and intentions allows the child to discover his own internal experience via his mother's representation of it; this re-presentation takes place in different ways at different stages of the child's development and of the mother-child interaction. It is the mother's observations of the moment to moment changes in the child's mental state, and her representation of these first in gesture and action, and later in words and play, that is at the heart of sensitive caregiving, and is crucial to the child's ultimately developing mentalizing capacities of his own.

The child is not born with the capacity to recognize primary, constitutionally generated, affect states as meaningful self-states. Rather, sensitization to and eventual understanding of self-states is first brought about by parental affect mirroring (Gergely & Watson, 1996). It is through what Gergely defines as mothers' "marking" of their very young infants' affect displays, producing an exaggerated version of realistic emotion expressions, in which the infant's state is reflected back to them as a "re-presentation" or proto-symbol, that the child first begins to organize his self experience. The 3-month-old first learns about mental states and about the mental world as he observes them in his caregiver, as representations of his self-state; only then can he begin to recognize them in himself.

The development of the capacity to group and represent primary affect states, and to experience the links between affect, behavior, the body, and self-experience during the first year of life is at the core of the developments crucial to the ultimate emergence of

mentalizing capacities. However, before a child is able to take a truly intentional or mentalizing stance, yet another crucial development must take place: He must come to understand that what is in his mind are merely representations of thoughts and feelings, and that reality, his own and others, can be interpreted in a myriad of ways (Fonagy & Target, 1996). In order to enter into another's experience, or make sense of his own, he must recognize that his ideas and feelings do not define those of another, that what is subjectively real for him is not necessarily subjectively real for another. He must also be able to imagine what is in another's mind, to (in essence) pretend to enter into their experience.

The development of a reflective stance in childhood depends, once again, upon the caregiver's capacity to both enter into the world of his imagination, and maintain reality distinctions at the same time. This takes place via the realms of both playing and talking, namely the parent's capacity to enter what Winnicott (1965, 1971) refers to as the "transitional playspace" between playing and reality, and to continuously bridge these two worlds using language and the broader world of symbols. Just as the sensitive parent entered into the child's experience by "marking" or symbolizing his self-state, so does the parent of an older child adopt an "as if" attitude toward the child's intentional state via play, and playfulness. "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. In this way he can ultimately use the parent's representation of his internal reality as the seed for his own symbolic thought, his representation of his own representation" (Fonagy et al., 2002, pp. 266–267). Winnicott makes a similar point: "The True Self does not become a *living reality* except as a result of the mother's repeated success in meeting the infant's spontaneous gesture . . . It is the infant's gesture . . . that is made real, and the capacity of the infant to use a *symbol* that is the result" (italics added; 1965, p. 145). Early symbols are created in action between mother and child, and the child begins to form a representation of the self as a function of his mother's capacity to make the breadth and depth of his experience real and meaningful (Slade, 2000).

### Psychopathology

The caregiver's capacity to hold and contain the child's experience is not only seen as crucial to maintaining and facilitating a range of developmental processes, in addition its absence is seen as underlying the development of various forms of psychopathology. Derailments in normal developmental processes are at the heart of many pathological adaptations, from disrupted attachment in infancy and childhood, to a range of personality and borderline disorders in adulthood (Fonagy et al., 2002). Indeed, one way to understand what psychoanalysts refer to as preoedipal pathology, and attachment theorists refer to as insecurity or disorganization, is to consider them as manifestations of the failure to develop a rudimentary capacity to enter fully into one's own or another's subjective experience without reliance upon primitive defenses and distortions. In Winnicott's terms (1965), entering into another's subjective experience would refer to the infant's coming to contain his "ruthlessness" in order to protect his primary relationships, or in Kleinian terms, the achievement of the "depressive position" (Klein, 1932).

The roots of an inability to enter into another's subjective experience can be traced to earliest infancy, when vulnerabilities in self-development begin to occur. Fonagy et al. (2002) describe various failures in affect mirroring that may occur during the infancy period. In some cases, mirroring may be too accurate, or too real: for instance, the mother who responds to her infant's fear with fear of her own, rather than a re-presentation of the baby's fear. A re-presentation is what helps him define and manage it, but actual representations

are in essence not symbolic, and thus increase rather than contain arousal, and disrupt the boundaries between self and other experience. Thus, for instance, a mother might herself respond with fear to her child's fear, rather than acknowledge and frame his own experience without taking it on herself. In a second type of disrupted affect mirroring, the parents may mark the infant's affect, but in a way that is noncontingent, thus misrepresenting the infant's emotion. For instance, a mother responds to her baby's cries to be picked up as manipulations, and decides to respond by ignoring them. In such instances, "the secondary representation created will be distorted... and the infant will mislabel the primary, constitutional emotional state... The self will feel empty because... secondary representations of affect lack the corresponding connections within the constitutional self" (Fonagy et al., 2002). This is what Winnicott meant by the false self: an adaptation to the affects and minds of the other that leaves the self feeling empty and unreal, and the internalized other alien and disconnected from true self experience.

Such non-reflective and dysregulated caregiving disrupts self development in the child in profound ways: "In the case of chronically insensitive or misattuned caregiving, a fault is created in the construction of the self, whereby the infant is forced to internalize the representation of the object's state of mind as a core part of himself" (Fonagy et al., 2002). Disturbed and abusive parents obliterate their children's experience with their own rage, hatred, fear, and malevolence. The child (and his mental states) is not seen for who he is, but in light of the parents' projections and distortions. The infant then takes on the parent's hatred and aggression, a primitive form of identification with the aggressor (Fraiberg, 1981). These adaptations, pathological as they may be, are required in order for the infant to survive emotionally; these are the adaptations that keep the relationship he so desperately needs going (Slade, 2000).

In instances of severe abuse or traumatization, taking on the parent's mind may be too terrifying, and potentially annihilating. Sharing his mind with the caregiver becomes dangerous, rather than a rich opportunity for self-knowledge and emotional containment. When mirroring is altogether absent, for reasons having to do with severe parental psychopathology or other extreme circumstances, the child experiences his inner life as barren and unknowable. Whatever the source, such feelings of alienation and isolation become fundamental to a fragmented and empty sense of self, and to the failure to develop sustaining and nurturing relationships with others.

While the above examples describe deviations in parental responses to infants, the same dynamics can occur at later stages, when parental talk, play, and playfulness are crucial to establishing and elaborating the child's experience of his inner life. Mothers can invade play in ways that disrupt pretense and imagination, or can misread play in a way that disrupts reverie and is experienced as annihilation of intentionality. The capacity to reflect evolves from the parent's capacity to hold the child in mind, and the child's experience of the parent's mind as knowable and safe, wherein contemplation of the other's mind is key to intimacy and connection rather than dread. Affects that are not held in mind by the mother, or more significantly are misrepresented or distorted, remain diffuse, terrifying, and unrepresentable, leading to a range of borderline phenomena and pathology of the self in later years.

As should be evident from this brief review of the work of Fonagy and his colleagues, (which both echoes and operationalizes the central premises of a range of contemporary more relationally oriented psychoanalytic theories) the centrality of the parent as mediator, reflector, interpreter, and moderator of the child's mind cannot be overemphasized. It is for this reason that (as will be described in the section below) it is proposed that parental reflective capacities are studied directly, as they emerge specifically within the parent-child relationship.

### **Research on the reflective function**

Fonagy, Steele, Moran, Steele, and Higgitt (1991) first developed the notion of reflective functioning while collecting and analysing data collected as part of the London Parent–Child Study. This project began in the mid 1980s and involved a collection of 200 mother and father prenatal Adult Attachment Interviews (George et al., 1984, 1988, 1996) which were then studied in relation to a number of child outcome measures, among them child attachment (Fonagy, Steele, & Steele, 1991). It was while analysing these AAI data, and thinking about the processes underlying the intergenerational transmission of attachment, and particularly Main's (1991, 2000) notions of metacognitive monitoring and coherence, that Fonagy and his colleagues began to develop their ideas about mentalization and its manifestation in speech, the reflective function. This process led to the development of a scale to measure RF on the AAI, specifically adults' capacities to reflect upon the mental states and intentions of their own parents in attachment relevant situations (Fonagy et al., 1998). The scale is used to assess responses to questions on the AAI that demand reflection or consideration of complex unobservable mental states, such as "Why do you think your parents behaved the way they did?" and to "What kind of effect did your childhood experiences have upon your development and personality?". The answers to these questions allow for the assessment of an individual's capacity to think about his parents' internal affective experience and describe its impact upon the development of their own self-experience. The 11-point scale describes a range from bizarre (– 1) to high (+ 9) RF, and was applied directly to AAIs. Reflective functioning is determined on the basis of an adult's (1) awareness of the nature of mental states, (2) explicit effort to tease out mental states underlying behavior, (3) the recognition of the developmental aspects of mental states, and (4) the recognition of mental states in relation to the interviewer (see Fonagy et al., 1998, for a full description of this scale).

As described by this scale, there are many aspects of mature reflective functioning, all of which refer to a complex understanding of how the mind and, particularly mental states, work (Fonagy, et al., 1995). For instance, high RF refers to the knowledge that affects can vary in intensity, and that such intensities can build or diminish over time. Similarly, high RF implies an understanding that feelings can be disguised and unobservable, or that one set of feelings can trigger another related set of feelings, in oneself or in another. Affects are recognized as having dynamic, transactional properties that can be shared, obliterated, denied, or distorted, or that can conflict with other mental states. Most important, mental states are the key to understanding behavior, in oneself or another. A reflective individual has, in effect, an internal working model of emotion and intentions.

In their initial research, Fonagy and his colleagues (Fonagy et al., 1991) found great variation in individual reflective capacities. Some parents could in fact reflect upon the relations between their parents' mental state and their behavior, and could distinguish parental mental states from their own. Parents high in reflectiveness had the capacity to see their parents' experience as separate and distinct from their own. Others, by contrast, instead of struggling to understand their parents in light of internal states, resorted to descriptions of behavior and personality to make sense of their parents. These individuals manifest little understanding of the feelings or internal states underlying their parents' behavior, and exemplify a shallow and unintegrated sense of how emotions are indeed dynamic aspects of experience and of relationships.

The results of the original studies from the London Parent–Child Project sample (see Fonagy, Steele, & Steele, 1991; Fonagy et al., 1995, for a full description), linked RF to

attachment processes in a number of compelling ways. Parents whose AAIs were rated as high in reflective functioning were themselves highly likely both to be classified as secure/autonomous on the AAI, and to have children who were themselves securely attached at 1 year of age. RF ratings were also highly correlated with coherence ratings on the AAI. Similarly, parents who were low in RF were likely to be insecure in relation to attachment and their children were highly likely to be insecure.

Fonagy's research using clinical samples further corroborated his view of the impact of limited or distorted RF upon the development of psychopathology. In research with an inpatient population, Fonagy and his colleagues were able to document that RF mediated the relation between early trauma and later psychopathology. Adults who experienced early deprivation and trauma but were nevertheless able to process such interpersonal experiences in a reflective way were far less likely to develop borderline personality disorder than were traumatized adults with low reflective functioning (Fonagy et al., 1995). In other work, Fonagy has linked the development of borderline phenomena to impairments in the reflective function (Fonagy, 2000). Thus, RF appears to serve both protective and mediating functions in the development of psychopathology.

### **Parental reflective functioning**

As described above, Fonagy, Steele, Steele, and Target originally evaluated adult reflective capacities using the AAI. RF in this context refers to an individual's capacity to evaluate mental states in her own parents, but not specifically her capacity to keep her child in mind, although this capacity is certainly inferred from reflective processes as assessed on the AAI. The work described below, and that is described in this special issue, was initiated in an attempt to apply the construct of reflective functioning to parental narratives about their relationship with their children. It is believed that a direct assessment of the parent's capacity to reflect upon her child's experience and upon her own experience as a parent would provide a more direct look at the phenomena proposed to underlie the intergenerational transmission of attachment than inferring this from adults' descriptions of their relationship with their own parents. Presumably it is the parent's internal working model of her child and his mental experience that will help her to mentalize and thus regulate her child's internal world. It is important at this juncture to mention the work of Meins and her colleagues (Meins & Fernyhough, 1999; Meins, Fernyhough, Russell, & Clark-Carter, 1998), whose research has consistently documented a link between mothers' recognition of their children's mental experience and a range of developmental outcomes. While an important first step in describing the importance of mothers' "mind-mindedness", Meins' work does not address the capacity to describe the dynamic relation between mental states and behavior and between mental states and mental states. Reflective functioning refers to the capacity not only to recognize mental states, but to link mental states to behavior in meaningful and accurate ways.

All of the papers in this special issue are based upon the assessment of parental reflective functioning, that is, a parent's capacity to represent and understand the breadth of her child's internal experience. This is accomplished, for the most part, using the Parent Development Interview (Aber et al., 1985; Slade et al., 2004), which allows for the direct study of parental representations of the developing relationship with the child. Daniel Schechter's papers report findings using the Working Model of the Child Interview (Benoit, Parker, & Zeanah, 1997; Zeanah, Benoit, Hirshberg, Barton, & Regan, 1994) to assess reflective functioning.

### **The Parent Development Interview**

The PDI (Aber et al., 1985) is a 45 item semi-structured clinical interview intended to examine parents' representations of their children, themselves as parents, and their relationships with their children.<sup>2</sup> Because it is, like the AAI, intended to assess internal working models of relationships, several of the questions are analogous to those on the AAI; for instance, parents are asked to choose three adjectives to describe their relationship with the child. The interview strives in a number of ways to tap into parents' understanding of their child's behavior, thoughts, and feelings, and asks the parents to provide real life examples of charged interpersonal moments: "Describe a time in the last week when you and your child really clicked", and then "a time when you and your child really didn't click". Such questions provide a direct means to evaluate the parent's understanding of her own and her child's internal experience at times of heightened affective arousal (see Slade et al., this volume for a fuller description of the PDI.)

### **Initial research on the PDI and related measures**

The first study to use the PDI was reported by Slade, Belsky, Aber, & Phelps (1999). One hundred and fifty PDIs were collected in a middle and working class rural sample. PDIs were coded using a scale that evaluated parental representations along three general dimensions: parental representations of their own affective experience, parental representation of their child's affective experience, and state of mind codes (Slade, Aber, Fiorello, Cohen, De Sear, Meyer, & Wallon, 1994). Codes for parental representation of affective experience included: (a) degree, acknowledgement, and modulation of anger; (b) neediness; (c) degree, acknowledgement, and modulation of separation distress; (d) degree and acknowledgement of guilt; (e) the experience of joy and pleasure; and (f) sense of competency and efficacy. Codes for child affective experience included: (a) representation of child anger, (b) child separation distress, (c) child dependence-independence. State of mind codes included: (a) coherence, (b) richness of perception (adapted from Zeanah et al., 1995).

These 16 PDI variables were factor analysed using a principal components analysis; this analysis yielded three clear factors: (a) Joy-Pleasure/Coherence, (b) Anger, and (c) Guilt-Separation Distress. These factors were analysed in relation to maternal attachment classifications, and mothering measures. Mothers who were secure/autonomous on the AAI scored higher on the Joy-Pleasure/Coherence dimension than either the dismissing or autonomous mothers, dismissing mothers scored higher than the other two groups on the Anger factor. No significant differences were discerned in the Guilt-Separation Distress factor. In a separate analysis, mothers who scored higher on the Joy-Pleasure/Coherence factor were more positive and less negative in their mothering behaviors than were mothers who scored lower on this PDI factor. In addition, mothers who expressed more direct anger, and were thus less modulated on the PDI, engaged in less positive mothering. Finally, a mediation analysis suggested that Joy-Pleasure/Coherence mediated the link between maternal autonomy on the AAI and negative mothering. These results, linking parental representations of the child to adult attachment and mothering variables, provided initial construct and predictive validity for the PDI, and suggested that parental representations of the child are related in important ways to parental representations of attachment, and to parenting behavior. These results further suggest that parental representations of the child may mediate attachment-behavior links.

A second study using this same sample (Aber, Belsky, Slade, & Crnic, 1999) documented stability in parents' representations of the Joy/Pleasure-Coherence, and Guilt/Separation



Distress over the course of the toddler period; Anger, however, increased from 15–28 months, as would be predicted by the advent of the “terrible twos”. In addition, a dynamic relationship between levels of pleasure and anger was suggested by the data, such that mothers whose joy increased over the course of the toddler period were likely to be less angry with their toddlers, and vice versa. In addition, changes in mothers’ affective experience of parenting were predicted by positive mothering (which led to increased pleasure) and by parenting daily hassles (which led to more anger).

Analysis of PDIs collected in an urban middle class sample provided another source of construct and predictive validity. Hermelin-Kuttner (1998) found that mothers’ ego flexibility during pregnancy predicted to low levels of anger and high levels of separation distress on the PDI when infants were 10 months old, suggesting that for mothers of children who are just beginning to separate physically, less anger and more separation anxiety are adaptive, and promote healthy dyadic functioning. Hartmann (1998) reported that mothers’ representations of the child at 28 months were linked in complex ways with child free play, specifically that maternal separation distress correlated with more contingent play. The results of these two studies suggest complex relationships between maternal capacities, child capacities, and maternal representations of the child.

The PDI has also been adapted for use in other settings. Miriam Steele and her colleagues have modified the PDI for use with adoptive parents (Steele, 2003). Their data reveal that the parents of late placed adopted children experience higher levels of anger and hostility toward their children, experience a greater need for support, and report higher levels of child aggression, child rejection, child controllingness, and overfriendliness. The general experience of the child as difficult is in sharp contrast to children placed in infancy, whose adoptive mothers report higher levels of joy, competence, confidence, warmth, child happiness, child affection, and are generally coherent in their descriptions of the child. Similar differences in parental representations of the child were found in mothers whose children had multiple placements prior to adoption. Finally, as was the case in our original study (Slade et al., 1999), adoptive parents who were themselves insecure or unresolved in relation to attachment were more likely to represent their children and the relationship in negative ways.

In related work, George and Solomon adapted the PDI for use with the parents of school-aged children (1996). However, rather than code the data along a number of continuous dimensions, as had been the case in our own and other research, these researchers instead opted for a categorical approach, and classified caregivers’ representations of themselves as caregivers, in particular their capacity to provide a secure base for the child. Mothers who represented themselves as “secure” caregivers were more likely to have secure children, whereas those who represented themselves as rejecting, helpless, or disorganized in relation to caring for the child were more likely to have avoidant, resistant, or disorganized children, respectively. Zeanah and his colleagues developed an interview that is in many ways a conceptual cousin to the PDI, known as the Working Model of the Child Interview (Benoit et al., 1997; Zeanah & Benoit, 1995; Zeanah et al., 1994). Like the PDI, this interview attempts to describe the parent’s internal working model of the child; mothers are classified as balanced, detached, or entangled in their working models of the child. Zeanah and his colleagues have reported strong correlations between these categories and adult and child attachment (Benoit et al., 1997; Zeanah et al., 1994).

### **Measuring RF using the Parent Development Interview**

During the period that these various research groups had provided initial validation for the PDI, Fonagy and his colleagues at the London Parent–Child Project were developing

methods to score reflective functioning. In view of the fact that our original coding system had been quite complex and somewhat cumbersome, and that RF seemed to address a core capacity that lay beneath both the individual variables and factor scores outlined above, it was decided to adapt the manual developed by Fonagy et al. (1998) to code RF on the AAI for use with the PDI (Slade et al., 2004).<sup>3</sup> To this end, every item of the AAI/RF manual was revised so that it could be used to code PDIs (See Slade et al., this volume, for a fuller description). AAI narratives refer to relationships that were formed many years hence, and to incidents and memories in the long ago past. By contrast, the PDI asks parents to describe their current relationship with the child, by providing examples from ongoing everyday life. In that sense, the PDI, particularly when used with the parents of infants or toddlers, provides a view of a relationship that is currently being formed, and that is still evolving. In addition, it is a relationship that evokes strong feelings and reactions in the present. This in contrast to the AAI, which evokes prior and relatively solidified representations that are stored in memory, the PDI is presumed to tap into experiences that are live and immediate, and into representations that are still being constructed.

In addition, it is important to note that reflective functioning in parents is necessarily assessed using development as a backdrop. It is much easier to figure out what a 2- or 3-year-old is thinking and feeling than it is to figure out what a 6- or 12-month-old is thinking or feeling. Indeed, the latter is, under many circumstances, quite difficult, if not impossible. Of course, deducing the mental state of another is always complex; when coding the PDI, however, such complexity must be assessed within the context of development.

Low maternal RF takes many forms. Some parents seem to have little notion of their baby's internal experience. These parents may simply seem oblivious to the fact that their child has feelings or thoughts that are particular and personal to him. When asked, for instance, about their child's reaction to separation they reply "Nothing" or "Fine". Others focus instead on personality and behavior: "He's cute", "He's pig-headed", "She's pushes me around". Other parents may describe but not reflect their child's distress or anxiety: "She clings to me, but she's fine", "She wakes up in the night screaming, screaming, but nothing really bothers her". Parents may also deny their own internal experience in relation to parenting. For instance, responding "No" to questions about the most common feelings of parenting, namely guilt, anger, and joy. Of course there are the more malevolent reflections, referred to on this scale as bizarre or negative RF: "He's a devil, just like his father, and I have to keep a close watch on him", "She's just bad, bad, bad, and there's nothing can be done about it". The range of responses briefly described above are characteristic of mothers who simply will not or cannot enter their child's experience as a means of understanding them, and who do not use their own internal experience as a guide to sensitive responsiveness. In clinical terms, they are highly defended, and resort to primitive means of blocking out or distorting their child's internal life.

At the next level of the scale are crucial building blocks of RF, namely the mother's capacity to recognize that the child has mental states, that he has feelings, thoughts, and intentions of his own: "He's *sad*", "She's *angry*", "He *likes* bananas", "She *knows* I'm gonna' feed her", "He *wants* to go outside". This capacity to describe the child as having a mental life has been described by Meins and her colleagues as "mindmindedness" (Meins et al., 1998; Meins & Fernyhough, 1999). However, it is her capacity to link this awareness of her child's or her own internal state to behavior or to other internal states that is the hallmark of true reflective functioning, and that brings the score into the moderate to high range: "He threw a tantrum in the store (behavior) *because* he was *tired*

and *hungry* (physical state), and I'd been dragging him around all day and he was *sick of it* (mental state)", "I was just so *sad* and *frightened* (mental state) by the fight I had with my husband. I wasn't *myself* at all (behavior) and this was *so disorienting to my baby* (implies effect upon baby's mental state)".

Here is an example of a highly reflective mother actively grappling with the intersection of her own and her child's mind. "Sometimes she gets *frustrated and angry* (child mental state) in ways that *I'm not sure I understand* (opacity of child's mental state). She points to one thing and I hand it to her, but it turns out *that's not really what she wanted* (opacity). It *feels very confusing to me* (mother's mental state) when *I'm not sure how she's feeling* (opacity of child's mental state) especially when she's upset. Sometimes *she'll want to do something* and I won't let her because it's dangerous, and *so she'll get angry* (mother recognizes diversity of mother and child mental states). I may try to pick her up and she obviously didn't want to be picked up because *she's in the middle of being angry* (mother recognizes dynamic nature of child's affect) and I interrupted her. In those moments it's *me who has the need to pick her up and make her feel better, so I'll put her back down* (mother recognizes that her need is triggering a behavior that is not in line with the child's needs, and changes her behavior accordingly).

These examples of high RF vividly convey how a reflective parent grasps the complex interplay between her own mental state and that of her child, between her internal experience and her behavior, and between her child's internal experience and behavior (Slade, 2002). A reflective parent uses such understanding to guide her behavior; thus, RF is in a very real sense central to her capacity to respond sensitively (see Grienberger, Kelly, & Slade, this volume). Highly reflective parents rarely deny their own internal experience in relation to parenting, and can readily acknowledge the most common feelings of parenting, namely guilt, anger, and joy. Further, they understand that mental states can be ambiguous, that they change and de-intensify over time, and that they can be hidden or disguised. These are parents with a keen sense of how emotions work, what makes them and their child "tick".

### **Special section: An introduction**

The research presented in this special section grew out of the assumption that a mother's capacity to make sense of her child's mental states, as well as of her own, is intrinsic to sensitive parenting. These central hypotheses are tested and elaborated in a variety of ways in the six papers presented in this issue. In the first paper, Slade and her colleagues examine the role played by parental reflective functioning in the intergenerational transmission of attachment. In another paper from this same dataset, Grienberger and his colleagues examine the relations between atypical maternal behaviors, attachment, and parental reflective functioning. Schechter uses the Working Model of the Child Interview to study the relations between the quality of maternal representations, parental reflective functioning, violence-related posttraumatic psychopathology. A commentary by Mary Target and Peter Fonagy closes the section.

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## Notes

- 1 This is not to say that there does not continue to be a place for the assessment of RF using the AAI. The evaluation of RF on the PDI offers what can be presumed to be an inherently complementary assessment of reflective functioning in a different relational context. A crucial empirical question is, of course, whether and how these two dimensions of RF are related.
- 2 On the basis of our experience using the PDI in various research settings, the interview has been adapted for use with specific populations and, in the case of the PDI-R, to enhance its suitability for coding reflective functioning. There is an infancy version, a toddler version, a revised version, and a brief version.
- 3 While various interviews have been developed over the past 10 or more years to assess parental representations of the child, not all can be easily scored for reflective functioning. For RF to be reliably scored, the interview must in some way or other demand reflection. The questions that are central to the PDI inherently do. Mothers are asked repeatedly about emotions, about their triggers, and about their understanding of her own and her child's thoughts, feelings, and behaviors. This makes the coding of RF relatively easy, because the interview naturally produces the kinds of questions that can be coded using this scale. Interviews in which questions are somewhat more open-ended (i.e. Zeanah et al., 1994, Working Model of the Child Interview), as well as those which ask more closed, yes or no questions, are difficult to score for RF, and must be adapted to probe for RF (see Schechter et al., this volume).

## References

- Aber, J. L., Belsky, J., Slade, A., & Crnic, K. (1999). Stability and change in maternal representations of their relationship with their toddlers. *Developmental Psychology*, *35*, 1038–1048.
- Aber, J. L., Slade, A., Berger, B., Bresgi, I., & Kaplan, M. (1985). *The Parent Development Interview*. Unpublished manuscript.
- Benoit, D., Parker, K., & Zeanah, C. H. (1997). Mothers representations of their infants assessed prenatally: Stability and association with their infants' attachment classifications. *Journal of Child Psychology and Psychiatry*, *38*, 307–313.
- Fonagy, P., Gergely, G., Jurist, E., & Target, M. (2002). *Affect regulation, mentalization, and the development of the self*. New York: Other Press.
- Fonagy, P., Steele, M., Moran, G., Steele, H., & Higgitt, A. (1991). The capacity for understanding mental states: The reflective self in parent and child and its significance for security of attachment. *Infant Mental Health Journal*, *13*, 200–216.
- Fonagy, P., Steele, M., & Steele, H. (1991). Maternal representations of attachment during pregnancy predict the organization of infant–mother attachment at one year of age. *Child Development*, *62*, 891–905.
- Fonagy, P., Steele, M., Steele, H., Leigh, T., Kennedy, R., Mattoon, G., et al. (1995). Attachment, the reflective self, and borderline states: The predictive specificity of the Adult Attachment Interview and pathological emotional development. In S. Goldberg, R. Muir, & J. Kerr (Eds.), *Attachment theory: Social, developmental and clinical perspectives*. (pp. 223–279). Hillsdale, NJ: Analytic Press.
- Fonagy, P., & Target, M. (1996). Playing with reality: I. Theory of mind and the normal development of psychic reality. *International Journal of Psychoanalysis*, *77*, 217–223.
- Fonagy, P., & Target, M. (1998). Mentalization and the changing aims of child psychoanalysis. *Psychoanalytic Dialogues*, *8*, 87–114.
- Fonagy, P., Target, M., Steele, H., & Steele, M. (1998). *Reflective Functioning Manual, Version 5.0, for Application to Adult Attachment Interviews*. London: University College London.
- Gergely, G., & Watson, J. (1996). The social biofeedback model of parental affect-mirroring. *International Journal of Psychoanalysis*, *77*, 1181–1212.
- George, C., Kaplan, N., & Main, M. (1984, 1988, 1996). *The Adult Attachment Interview*. Unpublished protocol (3<sup>rd</sup> edition). Department of Psychology, University of California at Berkeley.
- George, C., & Solomon, J. (1996). Representational models of relationships: Links between caregiving and attachment. *Infant Mental Health Journal*, *17*, 198–216.
- Hartmann, A. (1998). *Links between maternal representations of the child, observed maternal behaviors, and the quality of dyadic engagement in play at 28 months*. Unpublished doctoral dissertation. The City University of New York.
- Hermelin-Kuttner, H. (1998). *Maternal ego flexibility and the process of adaptation to motherhood: Conscious and unconscious aspects*. Unpublished doctoral dissertation. The City University of New York.
- Klein, M. (1932). *The psychoanalysis of children*. London: Hogarth Press.

- Main, M. (1991). Metacognitive knowledge, metacognitive monitoring, and singular (coherent) vs. multiple (incoherent) models of attachment: Findings and directions for future research. In C. M. Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), *Attachment across the life cycle*. (pp. 127–159). London: Tavistock-Routledge.
- Main, M. (2000). The organized categories of infant, child, and adult attachment: Flexible vs. inflexible attention under attachment-related stress. *Journal of the American Psychoanalytic Association*, 48, 1055–1096.
- Meins, E., & Fernyhough, C. (1999). Linguistic acquisitional style and mentalizing development: The role of maternal mind-mindedness. *Cognitive Development*, 14, 363–380.
- Meins, E., Fernyhough, C., Russell, J., & Clark-Carter, D. (1998). Security of attachment as a predictor of symbolic and mentalizing abilities: A longitudinal study. *Social Development*, 7, 1–24.
- Slade, A. (2000). The development and organization of attachment: Implications for psychoanalysis. *Journal of the American Psychoanalytic Association*, 48, 1147–1174.
- Slade, A. (2002). Keeping the baby in mind: A critical factor in perinatal mental health. *Zero to Three*, June/July, 2002.
- Slade, A., Aber, J. L., Bresgi, I., Berger, B., & Kaplan (2004). *The Parent Development Interview—Revised*. Unpublished protocol. The City University of New York.
- Slade, A., Aber, J. L., Fiorello, J., DeSear, P., Meyer, J., Cohen, L. J., et al. (1994). *Parent Development Interview Coding System*. New York: City University of New York.
- Slade, A., Belsky, J., Aber, J. L., & Phelps, J. (1999). Maternal Representations of their relationship with their toddlers: Links to adult attachment and observed mothering. *Developmental Psychology*, 35, 611–619.
- Slade, A., Bernbach, E., Grienberger, J., Levy, D., & Locker, A. (2004). *Addendum to Fonagy, Target, Steele, & Steele reflective functioning scoring manual for use with the Parent Development Interview*. Unpublished Manuscript. New York, NY: The City College and Graduate Center of the City University of New York.
- Slade, A., Grienberger, J., Bernbach, E., Levy, D., & Locker, A. (this volume). *Maternal reflective functioning, attachment, and the transmission gap: A preliminary study*.
- Steele, M. (December, 2003). *A longitudinal study of previously maltreated children: Attachment representations and adoption*. Paper presented at the conference Developmental Science and Psychoanalysis: Integration and Innovation, Yale Child Study Center, New Haven, CT.
- Winnicott, D. W. (1965). *Maturation processes and the facilitating environment*. New York: International Universities Press.
- Winnicott, D. W. (1971). *Playing and reality*. London: Tavistock.
- Zeanah, C. H., & Benoit, D. (1995). Clinical applications of a parent perception interview in infant mental health. *Child and Adolescent Clinics of North America*, 4, 539–554.
- Zeanah, C. H., Benoit, D., Hirshberg, L., Barton, M., & Regan, C. (1994). Mothers' representations of their infants are concordant with infant attachment classifications. *Developmental Issues in Psychiatry and Psychology*, 1, 1–14.

