A R T I C L E

TRAUMATIC STRESS AND QUALITY OF ATTACHMENT: REALITY AND INTERNALIZATION IN DISORDERS OF INFANT MENTAL HEALTH

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ABSTRACT: This article describes the interface between the fields of attachment and child trauma, their respective contributions to an understanding of infant mental health disturbances, and the clinical applications of an integration between attachment theory and trauma-informed treatment and research. The organizing theme is that a dual attachment and trauma lens must be used in the assessment and treatment of infants and toddlers with mental health and relationship problems. The quality of attachment is an important factor in children's capacity to process and resolve traumatic experiences. At the same time, traumatic events often have a damaging effect on the quality of existing attachments by introducing unmanageable stress in the infant–parent relationship. It is argued that trauma in the first years of life needs to be assessed and treated in the context of the child's primary attachments. Reciprocally, the etiology of attachment disturbances should include an assessment of possible exposure to trauma in the child and in the parents. Current conceptualizations of attachment and trauma are reviewed from this perspective, and a clinical illustration is presented to highlight how a traumatic stressor can trigger behaviors reminiscent of disorganized attachment.

RESUMEN: Este artículo describe la relación antre los campos de la afectividad y el trauma infantil, sus respectivas contribuciones a la comprensión de los trastornos de salud mental infantil, y las aplicaciones clínicas de una integración entre la teoría de la afectividad y el tratamiento de información del trauma, y la investigación. El tema central es que un lente doble de afectividad y trauma debe usarse en la evaluación y tratamiento de infantes y bebés que presentan problemas en cuanto a su salud mental y sus relaciones afectivas. La calidad de la afectividad es un factor importante en la capacidad de los niños para procesar y resolver experiencias traumáticas. Al mismo tiempo, los hechos traumáticos a menudo le causan daño a la calidad de las existentes relaciones afectivas, ya que introducen tensiones difíciles de sobrellevar en la relación entre el infante y su madre o padre. Se sostiene que el trauma en los primeros años de vida necesita ser evaluado y tratado dentro del contexto de las relaciones afectivas primarias del niño. Recíprocamente, la etiología de los trastornos de la afectividad debe incluir una evaluación del haber estado posiblemente expuesto al trauma, tanto en el caso del niño como de sus padres. Las conceptualizaciones actuales de la afectividad y el trauma se revisan desde esta perspectiva, y se presenta una ilustración clínica para subrayar cómo una situación traumática de estrés puede dar origen a conductas que son reminiscentes de relaciones afectivas desorganizadas.

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RÉSUMÉ: Cet article décrit l'interface entre les domaines de l'attachement et le trauma infantile, leurs contributions respectives à la compréhension des troubles de la santé mentale de la petite enfance, et les applications cliniques d'une intégration entre la théorie de l'attachement, le traitement et les recherches informés par le trauma. Le fil conducteur de cette étude est que l'on doit s'attacher à utiliser à la fois l'attachement et le trauma dans l'évaluation et le traitement des nourrissons et des petits enfants ayant des problèmes en matière de santé mentale et de relation. La qualité de l'attachement est un facteur important dans la capacité des enfants à traiter et à résoudre les expériences traumatiques. En même temps, les événements traumatiques ont souvent un effet préjudiciable sur la qualité des attachements existants en introduisant un stress incontrollable dans la relation bébé-parent. Nous argumentons que le trauma dans les premières années de la vie doit être évalué et traité dans le contexte des attachements primaires de l'enfant. Réciproquement, l'étiologie des troubles de l'attachement devraient inclure une évaluation de l'exposition possible à un trauma chez l'enfant et chez les parents. Les conceptualisations actuelles de l'attachement et du trauma sont passées en revues à partir de cette perspective et une illustration clinique est présentée pour souligner la manière dont le stresseur traumatique peut déclencher des comportements qui rappellent l'attachement désorganisé.

ZUSAMMENFASSUNG: Dieser Artikel beschreibt die Schnittstelle zwischen der Bindung und des kindlichen Traumas, ihre Beiträge zum Verständnis der Störungen der seelischen Gesundheit des Kleinkinds. Für die klinische Anwendung wird eine Integration der Bindungstheorie und der Aufdeckung des Traumas in Behandlung und Forschung angedacht. Die gleichzeitige Beachtung von Bindung und Trauma in Untersuchung und Behandlung von Kleinkindern mit Problemen der seelischen Gesundheit und Beziehungsproblemen ist unerlässlich. Die Qualität der Bindung ist ein wichtiger Faktor der kindlichen Kapazität ein traumatische Erlebnisse zu verarbeiten. Zugleich haben traumatische Ereignisse oft eine zerstörerischen Effekt auf die Qualität der bestehenden Bindung, indem sie unverarbeitbaren Stress auf die Kind-Eltern Beziehung ausüben. Es wird behauptet, dass ein Trauma im ersten Lebensjahr im Kontext der ersten Bindungen des Kindes untersucht und behandelt werden muss. Hingegen sollte bei der Untersuchung der Ätiologie von Bindungsstörungen an die Exposition gegenüber möglichen Traumen bei Kindern und Eltern gedacht werden. Derzeitige Konzeptualisierungen von Bindung und Trauma werden aus dieser Perspektive überprüft und eine klinische Falldarstellung wird präsentiert, um zu zeigen, wie ein traumatischer Stressor desorganisierte Bindung auf der Verhaltensebene wiedererwecken kann.

抄録：この論文は、愛着の分野と子どもの心的外傷の分野の接点、それぞれが乳幼児精神保健の障害理解にもたらした貢献、そして臨床的応用である愛着理論と心的外傷の情報に基づく治療と研究とのあいだの統合について記述する。構成するテーマとなるのは愛着と心的外傷という二つのレンズが精神保健と関係性の問題をもつ乳幼児の評価と治療に使われるべきだ、ということである。愛着の質は、外傷的な体験を処理し解決する子どもの能力にとって、重要な要素である。同時に、外傷的な出来事は、乳幼児と親の関係性に扱うことのできないストレスを持ち込むことによって、しばしばそのとき存在している愛着の質に有害な影響を与える。１歳までの外傷は、子どもの主要な愛着 primary attachments の文脈で評価され治療される必要があると、議論される。逆に、愛着障害の病因には子どもと親が外傷に曝された可能性の評価が含まれるべきである。愛着と心的外傷の最新の概念化がこの観点から総説され、どのように外傷性のストレッサーが無秩序な愛着を暗示する行動の引き金になり得るかを強調するために、臨床例が提示される。

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The disorganizing impact of trauma on early personality development is gaining increased recognition through the contributions of clinicians and researchers working with infants exposed to a variety of traumatic stresses, ranging from accidents and intrusive medical procedures (e.g., Gaensbauer, 1995) to maltreatment (e.g., Cicchetti, 1989), interpersonal and community violence (e.g., Osofsky, 1995), and violent parental death (e.g., Eth & Pynoos, 1994; Gaensbauer, 1995; Osofsky, Cohen, & Drell, 1995; Pruett, 1979). While clinical and research knowledge on how traumatic events affect young children continue to grow, attachment theorists and researchers have been exploring the parallel question of how the parents' unresolved traumatic experiences are transmitted to the child through intersubjective and behavioral channels, becoming an antecedent of infants' disorganized attachment and an early marker for disturbances in infant functioning (Lyons-Ruth & Block, 1996; Lyons-Ruth, Bronfman, & Atwood, 1999; Main & Hesse, 1990; Main, 1995). These two bodies of thinking—one informed by direct child exposure to trauma and the other by the intergenerational transmission of representational models of attachment that carry the imprint of the parent's unresolved childhood traumatic experiences—have developed along largely independent lines, without systematic articulation of how they might contribute to each other. This article describes the contributions of each of these two disciplines to conceptualizing disturbances of infant mental health and proposes an integration of attachment- and trauma-informed theory and research.

The central organizing theme involves the importance of using both a trauma lens and an attachment lens in the assessment and treatment of infants and toddlers with mental health disturbances and problems of attachment. Young children's ability to recover from the damaging impact of traumatic events is deeply influenced by the quality of the child's attachments and by the parents' ability to respond sensitively to the infant's traumatic responses. However, parents may become traumatized by the same events that traumatize their children, whether because of the objective features of the event (e.g., car accident, house fire, natural disaster, terrorist attack) or because child injury or threat to the child's life represents a traumatic event in itself (e.g., an accident or near drowning). These real-life events can derail a previously secure attachment by inducing in the parent emotionally alienating responses such as guilt, fear, anger, overprotectiveness, and affective dysregulation, and by damaging the child's trust in the parent as a reliable protector. For these reasons, it is advisable to conduct an assessment of child exposure to traumatic events both in attachment research and in clinical practice. Such an assessment can provide information about real-life events that will serve as a counterbalance to the trend toward considering attachment patterns exclusively as internalized features of the child–parent relationship.

Similarly, current approaches to the assessment and treatment of child traumatic responses do not systematically incorporate an assessment of the child's relationship to the attachment figures. It is important to expand research and clinical approaches to child trauma to incorporate a relationship focus because the attitudes and responses of the caregiving adults can moderate or exacerbate the child's traumatic response and aid or hinder the child's recovery from trauma. Simultaneous attention to real-life traumatic stressors and to the internal experience of these stressors is needed to build a bridge between external and subjective realities, in line with Bowlby's (1969/1980, 1973, 1982) revolutionary insights on the role of primary emotional relationships as mediators and moderators of the impact of adversity on personality formation. This article will address first the child's responses to traumatic stressors and then discuss how these responses may help to interpret some manifestations of disorganized attachment in infancy, concluding with a clinical vignette that illustrates the usefulness of a simultaneous focus on trauma and attachment issues in the assessment and treatment of early mental health problems.

WHAT IS TRAUMA?

There is considerable debate in the literature on what constitutes a traumatic event. For the purposes of this article, the discussion of child trauma will be guided by the Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood (DC: 0–3; Zero to Three, 1994), which defines a traumatic stressor as the young child's "direct experience, witnessing, or confrontation with an event or events that involve actual or threatened death or serious injury to the child or others, or a threat to the psychological or physical integrity of the child or others" (p. 19). Adult trauma will be conceptualized using the definition provided by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, 1994), which describes traumatic stressors as events "involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person, or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate" (p. 424).

The DC:0–3 and DSM-IV definitions differ in a crucial way. Whereas DC:0–3 includes threat to the *psychological* integrity of the child or another person as a traumatic stressor, DSM-IV restricts its definition to the physical integrity of the self or other. These differences reflect the unsolved dilemma of how to incorporate developmental variation in the experience of an event as traumatic. For example, a 12-month-old may respond to a week-long separation from the mother as an existential threat whereas a 4-year-old, who has the cognitive skills to anticipate her return, may experience such a separation as stressful, but not traumatic. A discussion of these and other theoretical problems is beyond the scope of this article, but it is important to note that as currently used, the concept of trauma has a well-defined conceptual core, but unclear definitional boundaries.

THE TRAUMA LENS: DIRECT CHILD EXPOSURE TO TRAUMATIC STRESSORS

The symptoms of traumatic stress in childhood can be understood from the perspective of developmental psychopathology as distortions and obstructions in the unfolding of stage-specific developmental processes (Marans & Adelman, 1995; Pynoos, Steinberg, & Piacentini, 1999). The interplay between constitutional and ecological protective and risk factors, normal and pathological developmental processes, and adaptive and maladaptive outcomes are basic features of this theoretical perspective (Cicchetti & Cohen, 1995). When the child does not have an opportunity to process, give meaning, and learn to cope with the sequelae of the traumatic experience with a trusted adult, the trauma can have a devastating impact not only on the child's mastery of stage-specific developmental tasks at the time of the trauma but also on the course of subsequent development (Gaensbauer & Siegel, 1995; Pynoos, 1990). For these reasons, traumatic exposure in childhood is considered a pivotal causal factor in the ontogenesis of psychopathology, and the quality of relationships with parents and other caregivers has a central role in the traumatized child's prognosis.

Infants and toddlers are vulnerable to traumatic events. Infants as young as 3 months of age have been observed showing traumatic stress responses following direct exposure to trauma (Gaensbauer, 1982; Scheeringa & Gaensbauer, 2000; Scheeringa, Zeanah, Drell, & Larrieu, 1995). Parents and clinicians have been slow to accept these findings due to persistent misconceptions about young children's capacity to remember and process events that happen to them. To highlight the potential impact of trauma on early emotional development, DC:0–3

(Zero to Three, 1994) established that the first step in the diagnostic assessment of young children should be to determine whether the symptomatic child was exposed to a traumatic event. If such exposure is documented and if the child's symptoms started after the trauma, Traumatic Stress Disorder becomes the preferred diagnosis.

The quality of the infant's primary attachments is an important factor in the capacity to resolve the traumatic experience because forming an attachment with the parent is a key developmental task of infancy (for comprehensive reviews of the literature on this topic, see Cassidy & Shaver, 1999). Traumatized children who are securely attached may engage in more satisfying interpersonal relationships and achieve more positive overall adaptation because they can maintain open and secure representational models of attachment. Conversely, traumatized children with insecure representational models may be more likely to experience traumatic stress reactions, at least partly because of difficulty engaging in emotionally supportive interpersonal relationships that can buffer the impact of the trauma (Lynch & Cicchetti, 1998).

While quality of attachment can serve as a protective or risk factor in the child's ability to cope with the trauma, a traumatic event often has a damaging effect on the quality of existing attachments because it introduces unmanageable stress in the infant–parent relationship (Gaensbauer & Siegel, 1995; Pynoos, 1990). The child's exposure to trauma can provoke grief, guilt, anger, anxiety, and blame in the parents, profoundly affecting the fabric of family relationships (Figley, 1989; Terr, 1989). As the parents struggle with their own inner turmoil and the deterioration of family relationships, they might become less emotionally available and sensitively responsive to the child. A traumatized infant or toddler, in turn, can present a challenge even to an emotionally attuned parent because of the frequency, intensity, and unpredictability of traumatic responses. The parents may be unable to reconcile the inconsolable, avoidant, or demanding behaviors triggered by the trauma with their memories of the responsive and affectionate baby prior to the traumatic event, and they may fear that the child has been irretrievably damaged by the experience. Parent and infant can then become alienated from each other. In light of the inextricable connection between the traumatized infant's prognosis and the quality of the infant–parent relationship, trauma in the first years of life needs to be assessed and treated in the context of the child's primary relationships. Reciprocally, the etiology of disorders of attachment needs to include the identification of possible exposure to trauma in the child and in the parents.

CLINICAL MANIFESTATIONS OF TRAUMATIC STRESS IN INFANCY

The clinical manifestations of traumatic stress in infancy are best understood in the context of what constitutes mental health in the first 3 years of life. The definition developed by the Infant Mental Health Task Force of Zero to Three: National Center for Infants, Toddlers and Families (Zero to Three, 2001, p. 1) is:

> Infant mental health is the developing capacity of the child from birth to three to: experience, regulate, and express emotions; form close interpersonal relationships; and explore the environment and learn—all in the context of family, community and mental health expectations for young children. Infant mental health is synonymous with healthy social and emotional development.

Trauma exposure has a damaging effect on every one of these dimensions of infant mental health. The maturing mechanisms of emotional regulation can be damaged by the experience

of multiple and intense negative emotions, resulting in incessant crying, inability to be soothed, problems in eating, sleeping, and elimination, hyperarousal, and intense distress during transitions. In addition, toddlers may show intractable tantrums, lowered resilience to frustration, and somatic complaints. Problems of human relatedness, including the ability to establish and maintain a sense of security and reciprocal pleasure with the attachment figure and other caregivers, may be manifested in heightened separation anxiety, stranger anxiety, avoidance, social withdrawal, and constriction of affect. Toddlers' disturbances in this dimension also may include aggression, noncompliance, controlling behavior, and negativism. The ability to explore the environment and learn can be negatively affected by new fears, constricted and repetitive play, hypervigilance, reckless and accident-prone behavior, fear of body damage, separation anxiety, and loss of developmental milestones (Cicchetti, 1989; Osofsky, 1995; Pynoos, 1990; Scheeringa & Gaensbauer, 2000). In summary, the infant and toddler exposed to traumatic events are vulnerable to serious developmental setbacks in every facet of their psychological health.

A diagnosis of Traumatic Stress Disorder may be warranted when the behaviors problems following traumatic exposure become sufficiently intense and pervasive to interfere with the child's developmental progress (Zero to Three, 1994). The main diagnostic criteria for Traumatic Stress Disorder are outlined below.

1. *Reexperiencing the traumatic event,* as evidenced by at least one of the following symptoms: posttraumatic play, recurrent recollections of the event outside of play, repeated nightmares, distress at exposure to reminders of the trauma, or episodes with objective features of a flashback or dissociation, such as unintentional reenactment of the event.
2. *Numbing of responsiveness or interference with developmental momentum,* manifested by at least one of the following symptoms: increased social withdrawal, restricted range of affect, temporary loss of previously acquired developmental skills, and decrease or constriction of play.
3. *Increased arousal,* such as night terrors, difficulty going to sleep, repeated night wakings, attentional difficulties and decreased concentration, hypervigilance, and exaggerated startle response.
4. *New symptoms,* including at least one of the following: aggression, separation anxiety, fear of toileting alone, fear of the dark or other new fears, pessimism, self-defeating, manipulative or provocative behavior, age-inappropriate sexual behavior, somatic symptoms, motor reenactments, skin problems, pain, or posturing.

The nature of the child's symptoms must be understood in the context of the specific characteristics of the trauma, the child's developmental stage and constitutional make-up, the parent's ability to help the child cope with the experience, and the social and cultural context in which the trauma took place. Memories of the event may change as the child's verbal skills and ability to make sense of the event mature. For this reason, variations in the child's recounting of the trauma need not imply that the child's fantasies are altering the factual recollection of what happened. On the other hand, it is possible that fears or wishes may alter the child's recollection of the event.

Traumatic Reminders as Triggers to Traumatic Stress Responses

The child exposed to a traumatic event is bombarded by multiple stimuli that can overwhelm the different sensory modalities with frightening visual scenes, loud noises, strange smells,

sudden body movements, and physical pain. In addition, the traumatic event may cause secondary adversities such as changes in family composition and caregiving routines. Environmental stimuli can serve as traumatic reminders that trigger a reexperience of the trauma, leading to additional stress (Pynoos et al., 1999).

Infants and toddlers, who are not capable of introspection and who are limited in their ability to articulate their subjective experiences verbally, may have strong responses to traumatic reminders that are difficult to identify by their parents, caregivers, or treatment providers. For example, a 9-month-old baby started crying frantically when an assessor approached her the week after she was removed from her mother's care and placed with a foster family. The child could not be consoled for about 40 min and vomited from the intensity of the crying. She eventually fell into a long and deep sleep, although the episode occurred 3 hr before nap time. The child's reaction was interpreted at the time as a developmentally expectable stranger-anxiety response that had been exacerbated to clinical levels by the recent separation from her mother and her subsequent placement with an unfamiliar family. It was not until the following week that the assessor's red hair was properly identified as a traumatic reminder, when the assessor met the equally red-haired Child Protective Services worker who had physically removed the infant from her protesting mother's arms and drove her, screaming in distress, to be placed with the foster family. This example illustrates the role of traumatic reminders in triggering intense, but often inexplicable, distress in the young child.

Unidentified traumatic reminders undermine the child's feelings of security because they occur unpredictably and trigger a reexperience of the trauma. The caregiving adults, failing to understand the meaning of the traumatic reminder, may respond counterproductively by scolding or punishing the child and aggravating the traumatic response. Once a traumatic reminder is identified, there is a variety of ways of alleviating their impact. The simplest palliative measure is to remove the stimulus from the child's environment. When this is not feasible, adults can use gradual desensitization by exposing the child to the traumatic reminder in a modulated way while engaging in protective and soothing behavior such as holding, rocking, and singing. Once the child has acquired some language, the caregiver can help to anticipate when the traumatic reminder will occur and practice ways of coping with the negative emotions that will ensue. Semistructured, guided play with a caring adult enables the child to reenact the traumatic event and to experiment with ways of coping with it, including the expression of themes of anger, punishment, and revenge as well as themes of rescue and reconciliation (Gaensbauer & Siegel, 1995; Lieberman, Compton, Van Horn, & Ghosh Ippen, 2003).

When the infant and the parent were both exposed to the trauma, the child's recovery may be complicated by the parent's own traumatization. The parents may respond to either the same or different traumatic reminders, creating barriers to their ability to identify and respond protectively to the child's distress. When the same traumatic reminder triggers intense emotions in both the parent and the child, the parents may respond with avoidance, numbness, or hyperarousal that interfere with their ability to notice or respond to the child's distress. When the parents respond to different triggers, they may have difficulty believing that the child is susceptible to idiosyncratic reminders of the trauma. This denial of the child's experience is facilitated by the generalization of fearful cues that occur as early as the second year of life, so that an observer may not notice the similarity between the traumatic reminder and the relevant features of the traumatic event. For example, Gaensbauer and Siegel (1995) described a 9-month-old girl who was involved in a serious car accident while riding in a car seat, and who began refusing to sit on her high chair at mealtimes because she seemed to make an association between sitting in the high chair and being confined in her car seat during the accident. In such a situation, effective intervention is possible only when the parents are able to understand the child's refusal of the high chair as a self-protective attempt designed to fend

off a repetition of the fear and emotional disorganization triggered by the accident rather than as an effort at manipulation or control unrelated to the trauma.

Can Parents Become Traumatic Reminders?

When the parent is the agent of the trauma, the infant is confronted with a particularly intractable emotional dilemma. In cases of physical or sexual abuse, the parent becomes simultaneously the perpetrator of terror and pain as well as the person whom the child seeks for protection (Main, 1995; Main & Hesse, 1990). In situations of marital violence, the child watches in fear as the parents enact the roles of victim and aggressor, unable to rely on either of them when most in need of their protection (Lieberman & Van Horn, 1998). In both cases, the normative tendency of young children to seek protective contact with the parent is at odds with the reality of the parent as the source of danger. This untenable position engenders contradictory self-protective efforts to fight off or establish distance from the traumatizing parent while seeking proximity and contact. The child is caught between approach and avoidance, between seeking comfort and fighting off danger while being flooded by the painful sensory stimulation inflicted by the attacking parent.

Given this scenario, it is likely that specific aspects of the parent's behavior such as tone of voice, body movements, and facial expressions may become traumatic reminders for the child. Intense negative affect can become a traumatic reminder in itself, whether the affect is felt by the child or whether the child witnesses it in the parent (Pynoos et al., 1999). Given that the traumatic event, in the forms of, for example, abuse, marital violence, or both, can happen again at any time, these traumatic reminders also can serve as realistic danger signals that another attack is imminent. In this sense, hypervigilance can have an adaptive function by alerting the child to take self-protective action while having the maladaptive effect of constricting the child's freedom to explore and learn from the environment.

This view of the role of the infant–parent relationship in trauma is largely compatible with the attachment paradigm. Disorganized patterns of attachment are more prevalent among infants who were maltreated or raised in families with serious risk factors such as domestic violence, maternal mental illness, and higher levels of alcohol intake (for a review of the literature on the correlates and antecedents of attachment disorganization, see Lyons-Ruth & Jacobvitz, 1999). Attachment disorganization has been linked to the dilemma of "fear without solution" confronting infants whose mothers engage in frightening/frightened behavior, prompting the child to engage in contradictory, incompatible behaviors that reflect the infant's simultaneous fear of the mother and impetus to seek protection from her (Main & Hesse, 1990, p. 163). As discussed in the following section, the behavioral indices of attachment disorganization may signal that the parent has become a traumatic reminder for the child because of terrifying experiences of direct trauma, such as violence or maltreatment, or because the parent is associated with failure to protect the child from other traumatic events and their sequelae, including the relatively frequent childhood traumas involving dog bites, car accidents, or near drownings. If this were the case, disorganized attachment could indicate direct trauma to the child—a finding that would add a factual reality dimension to the intersubjective processes postulated in current attachment theory and research.

THE ATTACHMENT LENS: INTERSUBJECTIVE TRANSMISSION OF REPRESENTATIONAL MODELS

The main premises of attachment theory address the centrality of a primary mother figure in normal early development, the systematic links between patterns of caregiving and quality of

attachment, and the consequences of disruptions in the attachment relationship for the infant's emotional health (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969/1980). Predictions informed by these premises have been confirmed and replicated in dozens of studies over the past three decades (see reviews by Kobak, 1999; Marvin & Britner, 1999; Weinfield, Sroufe, Egeland, & Carlson, 1999). This research-oriented theoretical paradigm derives much of its heuristic power from its original grounding in clinical phenomena and the subsequent confirmation of its hypotheses with normative and high-risk samples. The unifying theme over the span of Bowlby's (e.g., 1944, 1951, 1960, 1969/1980, 1973, 1982) work was the effort to provide a cogent theoretical explanation for the recurrent findings of severe developmental deviations and emotional problems in children deprived of maternal care. In this context, the recent surge of interest in the application of attachment theory to clinical issues can be interpreted as a return to early origins, enriched by the body of clinically informed attachment research accumulated in the intervening years (e.g., Egeland & Erickson, 1993; Fonagy, 2001; Lieberman, Weston, & Pawl, 1991; Lyons-Ruth & Block, 1996; Lyons-Ruth et al., 1999; Main & Hesse, 1990, 1992; van den Boom, 1995; Zeanah, Mammen, & Lieberman, 1993). Attachment theory represents a unique example of interdisciplinary cross-pollination, leading from clinical findings to research and back to clinical applications.

Attachment theory stressed the importance of careful observation of infant behavior in a variety of ecologically valid settings (Bowlby, 1969/1980), a practice that was borrowed from ethology and continues to yield invaluable insights into the infant's experience. However, the relevance of attachment theory to clinical issues was substantially enhanced by the move from behavioral observation to the level of representation pioneered by Mary Main (Main, 1991; Main & Hesse, 1990, 1992; Main, Kaplan, & Cassidy, 1985), who spearheaded the conceptualization of states of mind related to attachment in children and adults, and created operational constructs and assessment instruments that bridge the traditional divide between research methods and clinical interviews. As Fonagy (2001) noted, the application of rigorous methodology to subjective and interpersonal processes has given attachment theory "a home on both sides of the fault line" dividing psychoanalysis and clinical theories from experimental psychology (p. 5). This "dual home" has important implications for the relevance of attachment research to clinical conceptualizations.

An attachment-based understanding of infant symptoms is based on the premise that frightening or frightened parental behavior is the mechanism at work in the transmission from parent to child of incoherent and contradictory states of mind regarding attachment, which are manifested in the infant through disorganized attachment (Main & Hesse, 1990). In this model, the parent's frightened/frightening behavior originates in unresolved childhood traumatic experiences, and faces the infant with the paradox of fearing the person from whom protection is sought. As stated earlier, in these conditions, the attachment figure "is at once the source of and the solution to its alarm" (Main & Hesse, 1990, p. 163). The infant's disorganized efforts to resolve this paradox are seen as a mirror of the parent's multiple and incoherent states of mind in relation to attachment.

The elaboration of these ideas by Lyons-Ruth et al. (1999) is particularly relevant to infant direct traumatic exposure because the model they propose, the relationship diathesis model, focuses on the modulation of fear and places it in a relational context. They described vulnerability to stress-related dysfunction as a function of at least three factors: the characteristics of the stressor, the genetic vulnerability to stress, and the capacity of the attachment system to modulate high levels of arousal. The authors linked the relationship diathesis model to the influential "ghosts in the nursery" model of infant mental health problems (Fraiberg, Adelson, & Shapiro, 1975), which pioneered the conceptualization of intergenerational mechanisms for the transmission of traumatic responses. They proposed that parents with unresolved fear dating

back to childhood traumatic experiences have difficulty helping their infant to modulate fear because they curtail their conscious deployment of attention to the infant's fear signals to avoid re-evoking their own early traumatic responses. This curtailment of flexible attention to the infant's fear states results in unbalanced relational processes, where the needs of one partner can be met only at the expense of the other partner's needs (e.g., in controlling–controlled patterns of exchange).

This account of the intergenerational transmission of unresolved traumatic responses, buttressed by empirical evidence, contributes an important intersubjective element to our understanding of the infant's ability to resolve exposure to trauma. According to the relational diathesis model, a child exposed to a traumatic event can be expected to achieve resolution and resume developmental momentum under two conditions: (a) The intensity of the trauma, with its accompanying horror, is not inordinate, and (b) the attachment figures provide adequate, ongoing comfort, communication, and protection regarding fear-evoking experiences. Conversely, if the traumatic experience is overwhelming or if the parent is unable to provide appropriate soothing and protection, the child can be expected to show mental and behavioral lapses associated with attachment disorganization and dysregulation of fear (Lyons-Ruth et al., 1999). The integration of reality considerations (i.e., the objective characteristics of the trauma) and intersubjective factors (i.e., quality of attachment and caregiver's capacity to provide comfort and assuage fear) makes this model a valuable contribution to clinical assessment, building bridges with findings from trauma research (Pynoos et al., 1999) and with an ecological/transactional model of development (Cicchetti & Lynch, 1983).

To fully realize its potential as an aid to clinical practice, research on the intergenerational transmission of disorganized states of mind in relation to attachment needs to expand its current circumscribed focus on the links between past parental trauma and present infant behavior. Findings reported to date do not include systematic documentation of the current life experiences of the infant and the parent, including the incidence of traumatic events experienced or witnessed by one or both of them. This omission leaves unexplored a crucial potential contributing factor to the behavioral and representational processes observed—namely, current direct traumatic exposure in the infant, in the parent, or both.

Documenting the incidence of direct exposure to trauma in attachment studies is likely to enhance current understanding of the mechanisms at work in the intergenerational transmission of mental health and relationship problems. It is well established that the frequency of disorganized infant attachment is elevated in high-risk populations, where young children are more likely to be exposed to community violence, family violence, and maltreatment, and where parents also are more likely to experience these traumatic stressors (Carlson, Cicchetti, Barnett, & Braunwald, 1989; Lyons-Ruth & Block, 1996). The mental and behavioral lapses demonstrated by children with disorganized attachment are consistent with the symptoms of traumatic stress shown by infants and toddlers who were directly exposed to traumatic maltreatment. Similarly, the frightening/frightened, hostile, and helpless behaviors and states of mind described in the mothers are consistent with traumatic responses to current life events, such as the posttraumatic symptoms of reexperiencing, hyperarousal, avoidance, and numbness. These parallels can be studied in greater depth in future research by introducing a systematic assessment of the incidence of traumatic events directly affecting the infant as well as traumatic events in the parent's recent experience.

Several issues need systematic attention to gain a more complete understanding of the similarities between disorganized attachment states of mind and traumatic stress responses. For example, is it possible that at least some of the infants with disorganized attachment status are showing traumatic stress responses? If so, what is the relationship between disorganized attachment and direct traumatization? Other questions involve the parents' current life events,

and the relationship between past and present traumatic experiences. Could at least some of the mothers be showing symptoms of posttraumatic stress disorder related to recent trauma? Could others be manifesting chronic lifetime posttraumatic stress symptoms related to the cumulative effect of separate traumatic events starting in childhood and continuing into the present?

Investigating possible answers to these questions can help to elucidate the complexity of maternal and infant behaviors that are part of the spectrum of disorganized attachment. Infants are classified as disorganized/disoriented when they display behaviors that fit into one or more of seven thematic headings, ranging from the sequential display of contradictory behavior patterns to direct expressions of apprehension toward the parent and direct indices of disorganization and disorientation, including confused or dazed facial expressions, or repeated and quick changes in affect (Main & Solomon, 1990). Specific information about the infants' real-life experiences might help to determine, for example, whether there are internal consistencies within this spectrum that are associated with specific antecedents in the child's experience. It is possible to hypothesize, for example, that direct indices of fear toward the parent might be more prevalent in maltreated infants, but not in infants whose mothers do not display frightening behavior.

These possibilities indicate that current life experiences for parent and child need to be carefully elucidated to determine the relative contributions of exposure to trauma and of intersubjective transmission in infant maladaptive functioning. For example, it is possible that parents who show frightening behavior in a controlled laboratory environment may actually engage in abusive or at least harshly punitive behavior in the privacy of their home, either towards the infant or towards other family members in the presence of the infant. If this were the case, the infant's disorganized reunion behavior in the laboratory might signal the parent's role as a traumatic reminder of abusive or other frightening situations. Observing the infant's behavior in a variety of settings and with persons other than the parent can greatly enhance the clinical application of these findings.

TRAUMATIC EVENTS AND ATTACHMENT PROCESSES: INTEGRATION IN CLINICAL PRACTICE

Looking at infant behavior through the simultaneous lenses of trauma and attachment can help to elucidate the separate contributions of current life circumstances from the enduring effects of the parental past on the infant–parent relationship. While infants and toddlers are dependent on the parent, they also are vulnerable to life events that can occur out of the parent's control and that may simultaneously affect parent and child (Cicchetti & Lynch, 1983). The quality of attachment is open to ongoing influences that increase or restrict emotional communication and affect the child's confidence in the availability and responsiveness of the attachment figure (Bowlby, 1973). Real-life events play a central role in affecting the building blocks of quality of attachment, particularly when those events, such as trauma, have a powerful emotional impact on the parent, the child, or both.

The intricate interconnections between attachment and trauma in affecting infant functioning are illustrated in the case of Gregory, age 22 months, who was referred for treatment 1 month after watching his mother being attacked on the street by a stranger who pushed her down on the sidewalk, kicked her, and punched her face several times while struggling to steal her purse. Gregory was sitting in his stroller at the time and was not hurt, but he developed nightmares, separation anxiety, avoidance of the mother, prolonged tantrums, and aggressive behavior after this incident. While the assault was taking place, there was a great deal of additional commotion when bystanders began to intervene and the attacker fought them off

before running away. Gregory's mother was not seriously injured, but she suffered a superficial facial cut with some bleeding, facial and hand abrasions, and bruises on her face and body. She refused to be separated from Gregory when the police arrived and took her to the hospital, where she provided a police report while in the waiting room and then received first aid in Gregory's presence. When Gregory's father arrived at the hospital, there was a tearful reunion during which the mother recounted the attack and the father had difficulty containing expressions of anger and threats toward the unknown attacker. It is noteworthy that nobody seemed to recall how Gregory responded to these events. This is a typical occurrence because adults are absorbed in their own traumatic process and unable to monitor the responses of others.

Gregory's behavior towards his mother changed markedly after this incident. Normally an easygoing and affectionate toddler who welcomed physical contact and affection, he now avoided looking at his mother's face, cried when she picked him up, and could not be consoled by her when distressed. He also cried whenever she was out of sight, calling out "Mamma! Mamma!" in a frightened voice. He fought going to bed and woke up screaming at night. These night wakings were the only times that he allowed his mother to hold him and cuddle him in the dark, and the mother confessed that she looked forward to these episodes because of the pleasure of feeling needed and being in close physical contact with her child. She also reported that although she understood Gregory's refusal to look at her because her face was cut and bruised, she felt hurt and at times resentful that his feelings for her could change so quickly. Once she found herself yelling at him: "OK then, take care of yourself!" when he pushed her away while averting his face and closing his eyes after approaching her in distress. Gregory's mother attributed her reaction, which worried her and prompted her to seek treatment for her child and herself, to her own increased irritability following the attack. She reported that she relived scenes of the attack several times during the day, imagining ways that she could have behaved differently to prevent it or minimize its consequences. She was easily frightened, had difficulty staying home alone, and had exaggerated startle responses when someone in the street seemed to approach her abruptly. However, she did not want individual treatment because she believed that these responses were temporary and would eventually subside.

The treatment, which lasted 3 months, consisted of infant–parent psychotherapy where Gregory and his mother were seen together in an office playroom, with the father joining in approximately once a month depending on his work schedule. The intervention began with three assessment sessions: the first two with Gregory's mother and father, and the third session with Gregory and his mother. These assessment sessions focused on eliciting details of the attack, a clinical evaluation of the parents, and Gregory's developmental history, current functioning, and relationship with his parents. During these initial sessions, the therapist also provided emotional support, normalized the parents' and Gregory's responses, discussed relaxation techniques that the mother could use to cope with her own traumatic responses, and offered suggestions for strengthening the father's effectiveness as a support for mother and child at this time of strain between them. The infant–parent psychotherapy sessions that followed focused on translating for the mother Gregory's responses to traumatic reminders, interventions to desensitize Gregory to these reminders, and guided play where Gregory was enabled to express anger, fear, disorganization, and repair using toy animals, dolls, and wooden blocks. A particularly helpful strategy was to use red crayon to simulate blood in a doll's face, and then to ceremoniously remove the paint from the doll's face, saying "all better now." Gregory seemed mesmerized by this sequence, which was first enacted by the therapist and then repeated by the mother. In a session that proved to be a turning point in the treatment, he started the session by going straight to the doll and the crayon and bringing them to his mother, saying, "Do, Do." He watched silently as his mother went through the sequence of painting and cleaning the doll's face. He then took over, silently repeating the mother's motions, and asking for

her help to erase the last bit of crayon. The therapist then pointed to the mother's face, and said: "No more blood. Mommy all better now." Gregory seemed visibly relieved. He began to accept his mother's affection and to look at her outside the sessions. He soon began to show spontaneous affection for her once again. Once Gregory felt reassured that his mother was safe and available again, he resumed his developmental progress. After 3 months of treatment, Gregory's symptoms were substantially reduced. Increased sensitivity to being hurt and to his mother's well-being continued to be noticeable by the end of treatment, but the parents and the therapist decided that the parents could continue to help Gregory on their own.

These interventions addressed simultaneously Gregory's and his mother's traumatic responses and the impact that the attack had on their relationship. The successful outcome of the treatment provides evidence for the usefulness of integrating direct trauma treatment with interventions geared at alleviating conflicts in the infant–parent relationship, promoting areas of pleasure and reciprocity, and preventing the internalization of maladaptive relationship patterns. In the case of Gregory, the effectiveness of the intervention was greatly enhanced by the absence of psychopathology in the parents and by the secure attachments Gregory had established with his parents prior to the attack. In more complicated clinical situations, treatment needs to address the different sources of risk to increase the chances for a successful outcome.

CONCLUSION

There is some irony in the fact that much current attachment research focuses on internalized personality features (Kobak, 1999) because Bowlby (1944, 1951, 1960, 1969/1980, 1973, 1980) revolutionized clinical thinking by calling attention to the importance of real-life events such as separation, loss, abuse, and maltreatment (i.e., exposure to interpersonal trauma) in the ontogenesis of psychopathology. At the time, this emphasis on the importance of reality contributed to Bowlby's lengthy ostracism from then prevailing psychoanalytic ideas, which focused on subjective experience (Fonagy, 2001; Lieberman & Zeanah, 1999). It was not until several decades later that another psychoanalyst, Robert Wallerstein (1973), called for a psychoanalytic understanding to the "problem of reality." This call now needs to be heeded by attachment theorists and researchers as they continue their important work of elucidating the role of trauma in early child development. The "problem of reality" has a specific manifestation in the "problem of trauma" as a disruptive external influence in the infant's unfolding personality, sense of self, and trust in the capacity of the attachment figure to protect from danger and fear. Reality and internalization need to be addressed simultaneously in clinical situations to restore the infant's momentum towards health.

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