Journal of Consulting and Clinical Psychology
2006, Vol. 74, No. 2, 219–228


0022-006X/06/$12.00 DOI: 10.1037/0022-006X.74.2.219

# Unresolved Attachment, PTSD, and Dissociation in Women With Childhood Abuse Histories

K. Chase Stovall-McClough and Marylene Cloitre
New York University

The primary objective of this study was to examine unresolved trauma as assessed by the Adult Attachment Interview and current psychiatric symptoms, focusing on posttraumatic stress disorder (PTSD) and dissociation, in a group of adult female childhood abuse survivors. The authors examined psychiatric symptoms and attachment representations in a group with ($n = 30$) and without ($n = 30$) abuse-related PTSD. The findings revealed that unresolved trauma carried a 7.5-fold increase in the likelihood of being diagnosed with PTSD and was most strongly associated with PTSD avoidant symptoms rather than dissociative symptoms. The utility of a PTSD framework for understanding unresolved trauma and the role of intentional avoidance of trauma cues in the maintenance of traumatized states of mind are discussed.

*Keywords:* attachment, unresolved attachment, childhood abuse, posttraumatic stress disorder

Until recently, trauma theory and attachment theory have developed along relatively independent lines. Trauma theory and research have proliferated primarily within a cognitive–behavioral framework, whereas attachment theory and research have flourished within psychodynamic and developmental disciplines. A shared dialogue is needed between these scientific communities, however, as there is no empirical work addressing the consequences of childhood abuse for both adult attachment organization and psychopathology, particularly traumatic stress symptoms. This is surprising given that a number of studies have begun to suggest an association between childhood trauma, disorganized infant attachment, unresolved adult attachment, and clinical symptoms in childhood, adolescence, and early adulthood (e.g., E. A. Carlson, 1998; V. Carlson, Cicchetti, Barnett, & Braunwald, 1989; Lyons-Ruth, Easterbrooks, & Cibelli, 1997). Borrowing from a cognitive model of posttraumatic stress disorder (PTSD) and attachment research on unresolved childhood trauma, this study examines the distribution of unresolved attachment representations in adults with histories of abuse and attempts to promote an integrated understanding of unresolved attachment representations and the potential connection to traumatic stress symptoms.

## Background

Childhood abuse has been linked with a variety of poor outcomes, both in terms of psychiatric symptoms and problematic attachment representation. From a trauma theory perspective, abuse by a caretaker during childhood is a particularly devastating trauma because it occurs during crucial developmental years, when basic capacities for emotion regulation and identity formation are taking shape. In addition, children must cope, often by themselves, with the overwhelming nature of abuse in the context of limited cognitive and psychological resources (e.g., Briere, 1988). In such a setting, psychiatric symptoms, such as PTSD, often develop and endure through adolescence and into adulthood (e.g., Briere, 1988; Browne & Finkelhor, 1986). Without clinical attention, childhood abuse can be associated with lifelong struggles with trauma-related symptoms, including poor affect regulation, hyperarousal, intrusive reexperiencing, and interpersonal struggles (e.g., van der Kolk & McFarlane, 1996). For instance, as many as 48%–85% of survivors of childhood abuse show a lifetime prevalence of PTSD (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997).

It has also been well established in the attachment literature that exposure to childhood abuse has detrimental effects on the attachment of children. For instance, maltreated children are more likely to be classified as having a disorganized attachment, with as many as 80% of maltreated children classified as disorganized (V. Carlson et al., 1989). In turn, disorganized attachment predicts later maladaptive internal models of attachment in both preschoolers and school-age children (e.g., Main & Cassidy, 1988; Solomon, George, & De Jong, 1995), including role reversal and controlling behaviors with caregivers. Disorganization of attachment is also associated with aggressive and fearful peer relationships and externalizing symptoms in school-age children (e.g., Lyons-Ruth, Alpern, & Repacholi, 1993).

More recent investigations have explored the impact of childhood abuse on attachment representations in adults. Several studies have found that insecure (preoccupied and dismissing) and unresolved attachment classifications are overrepresented in psychiatric populations (see Dozier, Stovall, & Albus, 1999; van IJzen-

K. Chase Stovall-McClough and Marylene Cloitre, Institute for Trauma and Stress, Child Study Center, School of Medicine, New York University.

This study was supported by National Institute of Mental Health (NIMH) Grant MH064973 to K. Chase Stovall-McClough and NIMH Grants MH57883 and MH62347 to Marylene Cloitre.

Correspondence concerning this article should be addressed to K. Chase Stovall-McClough, Child Study Center, New York University, 215 Lexington Avenue, 16th floor, New York, NY 10016. E-mail: chasemcclough@hotmail.com

doorn & Bakermans-Kranenburg, 1996). This includes both Axis I and II disorders and, in particular, psychiatrically hospitalized suicidal adolescents (Adam, Sheldon-Keller, & West, 1996), incarcerated adult men (Frodi, Dernevik, Sepa, Philipson, & Bragesjo, 2001), and adults diagnosed with borderline personality disorder (Fonagy et al., 1996; Patrick, Hobson, Castle, Howard, & Maughan, 1994). However, because many of the studies to date have examined heterogeneous clinical samples involving individuals with a variety of psychiatric conditions, they tell us little about the specific symptom profile associated with attachment representations (van IJzendoorn & Bakermans-Kranenburg, 1996). This study extends previous work on attachment and mental health by focusing on adult survivors of childhood abuse, unresolved attachment classifications, and the clinical symptoms most likely to reflect an ongoing traumatized state of mind: PTSD and dissociation.

The primary method in the attachment field for measuring resolution of childhood trauma (including childhood abuse and loss) is the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1996). Scoring of resolution of trauma is based on a linguistic analysis of the trauma narrative. More specifically, the classification of *unresolved with regard to a loss or trauma* is reserved for individuals who are unable to speak coherently about these experiences during the AAI (Main & Hesse, 1992a). Unlike the enduring, organized quality of secure and insecure attachment states of mind, these interviews are marked by sudden linguistic changes that are thought to reflect a momentary disorganization of mental state during discussions of loss, abuse, or other trauma. Examples of relevant linguistic breakdowns include confusion regarding time and place of a traumatic event, interference of visual–sensory aspects of traumatic memories, using odd phrases or words to stand for the abuse as if unable to name it, and speech suggesting unusual absorption into another state.

## Unresolved Attachment and PTSD

In the case of childhood abuse, PTSD offers a compelling model for understanding the mental disorganization associated with unresolved states of mind on the AAI. There are several reasons to believe that those rated as unresolved regarding early abuse may also carry a diagnosis of PTSD. First, literature on the clinical ramifications of childhood trauma suggests that the one Axis I psychiatric diagnosis that is most commonly associated with childhood abuse and that best captures the long-term sequelae of childhood abuse is PTSD (Briere, 1988; Browne & Finkelhor, 1986; Zlotnick, Zakriski, Shea, & Costello, 1996). Empirical evidence supports a strong link between early abuse and the presence of PTSD in children, adolescents, and adults. In childhood, physical and sexual abuse is associated with rates of PTSD as high as 70% within the 1st year following its report (see Saigh & Bremner, 1999, for review). For adolescents, several studies indicate that sexual abuse is consistently associated with some of the highest rates of PTSD compared with other traumas (e.g., Dubner & Motta, 1999; Giaconia et al., 1995; K. Horowitz, Weine, & Jekel, 1995). In adult clinical samples, PTSD has been identified as the most frequently occurring Axis I disorder associated with a history of childhood abuse (Cloitre, Scarvalone, & Difede, 1997), with lifetime prevalence rates as high as 85% (Roth et al., 1997).

Second, the theoretical mechanisms underlying the expression of both PTSD and unresolved states of mind, although developed separately, are notably similar. A cognitive model of PTSD proposes that a traumatic experience is initially stored in memory as a large associative network of stimulus–response features where the stimulus features (sights, smell, sounds, pain, etc.) are tied closely to the response features at the moment of the traumatic experience (physiological arousal, fleeing, hiding, freezing, etc.). For most, there is an initial pattern of intrusive reexperiencing symptoms alternating with avoidance and numbing symptoms. This pattern is understood to be an adaptive process by which a trauma can be gradually assimilated into memory (Foa & Hearst-Ikeda, 1996; M. J. Horowitz, 1976). Reexperiencing symptoms allows an individual to process traumatic material, whereas initial avoidance reflects an effort to contain the intensity of emotions triggered by reexperiencing and allows for the gradual mental reorganization and assignment of meaning (e.g., "a terrible thing happened, but I am safe now").

Under ideal conditions, usually facilitated by talking through the experience, the original traumatic network of stimulus–response features is gradually integrated into the larger store of autobiographical memories, and the connection between traumatic cues and fight–flight response is gradually loosened. M. J. Horowitz (1976) suggested that functionally impairing levels of PTSD result when a traumatic experience or aspects of the fearful experience have not been fully integrated or assimilated into memory as a past event that can no longer bring harm. Similarly, Foa and colleagues (Foa & Hearst-Ikeda, 1996; Foa & Kozak, 1986) suggested that the ongoing disorganization of traumatic memories, including unintegrated perceptual–sensory aspects of a trauma, result from impediments to emotional processing of the trauma. Thus, when a traumatic event is kept locked away or otherwise chronically avoided, the result is often long-term struggles with PTSD symptoms and ongoing fragmentation of memory and fear-related belief systems. Indeed, among the strongest predictors of PTSD is the level of cognitive avoidance present following a traumatic event (e.g., Bryant & Harvey, 1995).

Similar to the cognitive model of PTSD is a proposal by Main and Hesse (1992a) that unresolved speech in the AAI results from the unmonitored invasion of unassimilated or disorganized traumatic material into speech during discussions of abuse, loss, or other trauma. More specifically, the lapses in discourse seen during discussions of childhood trauma are understood to result from "interference from memories and/or affects which create a momentary collapse in discourse strategy" (Hesse, 1996, p. 5). Several attachment researchers have described the compelling links between the coding of unresolved and the intrusive and avoidant symptoms of PTSD (Fearon & Mansell, 2001; Lyons-Ruth & Block, 1996; Turton, Hughes, Fonagy, & Fainman, 2004). For instance, Fearon and Mansell (2001) pointed to the similarities between intrusive and avoidant symptoms of PTSD and indices of unresolved loss, suggesting that unresolved loss can be conceptualized as an expression of traumatic stress. Similarly, Lyons-Ruth and Block (1996) argued that the symptoms of PTSD can be thought of as an index of what Main and Hesse (1990) regarded as "the traumatized adult's continuing state of fear" (p. 420), a state of mind intended to be captured in unresolved speech.

## Unresolved Attachment and Dissociation

Dissociation has also been suggested as a conceptual framework for understanding the type of incoherent speech that is associated with an unresolved classification on the AAI (Liotti, 1992, 2004; Main & Hesse, 1992a). Main and Hesse (1992a) suggested that it is often the interference from "dissociated memory systems" (e.g., indications that a person believes that a loved one is both dead and alive) that accounts for the lapses in monitoring during discussions of trauma or loss. Liotti (1992, 2004) has proposed a unitary perspective that ties early trauma or loss, disorganized attachment, and unresolved AAI responses to the disruption in memory and consciousness that is often seen in dissociative phenomena. There is some limited empirical support for such a link. In a nonclinical sample, Hesse and van IJzendoorn (1998) found that adults with an unresolved attachment classification scored higher on Tellegen's Absorption Scale compared with those who were not unresolved. Although absorption is a component of dissociative phenomena, it is not a psychiatric symptom and does not necessarily involve the degree of mental fragmentation and lapse in time–space orientation as is seen in clinically relevant dissociative phenomena. In another study, West, Adam, Spreng, and Rose (2001) found that unresolved loss or trauma in a clinical sample of adolescents was correlated with dissociative-like symptoms by using a scale derived from the Youth Self-Report. However in another study, dissociative symptoms, as measured by the well-validated Dissociation Experiences Scale, was not found to be related to maternal frightened–frightening behavior (Lyons-Ruth & Block, 1996), the parental behavioral concomitant of unresolved attachment. Accordingly, dissociative processes may be present in adults with unresolved trauma ($U_{tr}$) or loss, but more work is needed to understand the potential cognitive mechanisms underlying the U classification.

## The Current Study

The primary objective of the current study was to examine the presence of unresolved states of mind regarding childhood abuse and current psychiatric symptoms, with a focus on PTSD and dissociation, in a group of women with histories of physical and sexual abuse. In this study, we compared attachment representations among those who met *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM–IV;* American Psychiatric Association, 1994) criteria for PTSD and those who did not (trauma controls [TCs]). The use of a traumatized non-PTSD group allowed us to examine whether disorganization of speech as seen in the U classification might be uniquely associated with PTSD or whether it is a feature common to abuse-related trauma in general. These diagnostic groups are also appropriate for the examination of dissociative symptoms as the presence of PTSD and dissociation is often correlated in abused samples. Finally, by including both poorly and adequately functioning adults, we hoped to maximize the range of symptom and attachment profiles.

This study examined five primary hypotheses related to $U_{tr}$ and the association between $U_{tr}$, PTSD, and dissociation. First, following the meta-analytic results by van IJzendoorn and Bakermans-Kranenburg (1996), we expected $U_{tr}$ on the AAI to be associated with more Axis I diagnoses in general, exclusive of PTSD. With regard to its association with PTSD, we expected that women with $U_{tr}$ would be more likely to be diagnosed with abuse-related PTSD than those who were not classified as $U_{tr}$. Third, we expected $U_{tr}$ to be associated with higher PTSD total scores, and because $U_{tr}$ often involves the intrusion of unassimilated traumatic material into speech, we expected $U_{tr}$ to predict higher PTSD intrusive symptom scores. Fourth, in line with current theories on dissociative processes and unresolved attachment (Liotti, 1992, 2004; Main & Hesse, 1992a), we tested the hypothesis that $U_{tr}$ would be associated with higher dissociative symptoms and, fifth, explored the relative contributions of PTSD and dissociative symptoms to the prediction of $U_{tr}$ status. We also separately explored the relationship between unresolved loss with the presence of Axis I diagnoses in general, PTSD in particular, and the severity of PTSD and dissociative symptoms.

## Method

### *Participants*

Participants were self-referred as part of two studies: a PTSD assessment study and a randomized clinical trial for PTSD related to childhood sexual and/or physical abuse. Participants from these studies did not differ with regard to sociodemographic characteristics (ethnicity, age, income, marital status, education, or living status) or abuse history characteristics. All participants were reached through advertisements in local papers, hospital and community clinics, and word of mouth. These institutional review board-approved advertisements targeted adults with histories of abuse who were currently experiencing a broad range of abuse-related symptoms, including PTSD and interpersonal and mood regulation problems. Participants were included in this study if they were women, had a history of sexual or physical abuse by a caretaker or person in authority to them before the age of 18, were literate in English, and were currently between the ages of 18 and 65. Women interested in participating were initially interviewed by a phone screener and were excluded from the larger studies if they reported current bipolar disorder, substance dependence, psychotic symptoms, and/or a severe eating disorder or acute suicidality requiring immediate clinical attention. To more clearly examine the relationship between PTSD and attachment organization, we excluded additional participants from these analyses if they met *DSM–IV* criteria for borderline personality disorder.

Sixty women, ranging in age from 19 to 62 years ($M = 36.10$, $SD = 10.36$), participated in this study. The sample was ethnically diverse, with 43% of the sample Caucasian, 32% of the sample African American, and 13% of the sample Hispanic. The large majority of the sample had at least some college training (90%), most were single (60%) and living alone (32%) or with family members (40%), and most reported annual earnings of $30,000 or less (63%). Of the sample, 91% ($n = 55$) reported being sexually abused, 70% ($n = 42$) reported being physically abused, and 62% ($n = 37$) reported experiencing both. With regard to the extent of sexual abuse, 27% reported moderate abuse (i.e., occurred on a regular basis for a year or more), and 40% reported severe abuse (i.e., occurred on a frequent basis for 2 years or more, or was violent or cruel). Regarding the severity of sexual abuse, 13% reported fondling over clothes, 26% reported fondling without clothes, and 61% reported sexual abuse involving penetration. Twenty-eight percent ($n = 17$) reported that the primary perpetrator of sexual abuse was their father, 18% ($n = 11$) reported sexual abuse by a trusted adult family member (e.g., uncle or cousin), 30% ($n = 18$) reported sexual abuse by a trusted adult outside the family (e.g., neighbor or coach), and 13% ($n = 8$) reported sexual abuse by an older sibling. No participants reported being sexually abused by their mother or mother figure. The total number of perpetrators ranged from zero to three, with a mean of 1.35.

With regard to physical abuse, participants reported an average of 6.5 years of physical abuse (ranging from less than a year to 14 years), and 57% described physical abuse that was moderate (i.e., the abuse was frequent, left bruises, or resulted in lacerations or burns) to severe (i.e., the abuse included concussions, damage to internal organs, burns, loss of function, or medical complications). Equal numbers of participants reported physical abuse by their father or father figure (33%; $n = 14$) as reported abuse by their mother or mother figure (33%; $n = 14$). Although the veracity of childhood abuse reports could not be tested in this study, it is worth noting that none of the demographic measures, including the subject's age or current psychiatric symptoms, predicted type or severity of abuse reported in this sample.

## Procedure

All aspects of subject recruitment, screening, and evaluation were approved by the governing institutional review board committee. After receiving a complete description of the study and discussing any questions with a master's- or doctoral-level clinician, participants gave written informed consent. Participants then completed a battery of assessments that included both clinical interviews and self-report measures. During the first of two evaluations, the AAI (George et al., 1996) was administered by trained doctoral-level research assistants. History of abuse, PTSD diagnosis, and additional Axis I and II diagnostic information were assessed during the second evaluation. All diagnostic interviews were administered by either a master's- or postdoctoral-level clinician or by a doctoral-level student and were scored by a doctor of clinical psychology.

## Measures

*AAI (George et al., 1996).* The AAI is an hour-long interview designed to assess an adult's current state of mind with regard to attachment. The interview consists of 18 questions that ask subjects to reflect on their childhood experiences with caregivers. The interviews were transcribed verbatim, proofread by a research assistant, and coded according to Main and Goldwyn's (1998) classification system. Participants' attachment states of mind were rated as secure (F), dismissing (Ds), preoccupied (E), or unresolved regarding trauma or loss (U).

For the Unresolved Scale, transcripts were examined for lack of resolution surrounding early traumatic experiences, including abuse and loss. Uncorrected or unexplained lapses in discourse (e.g., disoriented speech, unsuccessful denial of the occurrence or intensity of abuse, using odd phrases or words to stand for the trauma) and/or reasoning (e.g., feeling personally causal of trauma, disorientation in space or time, fears of mental possession) were rated on a 9-point scale. Scores above 5 were automatically assigned an unresolved classification, whereas scores equaling 5 were assigned either a primary or alternative unresolved classification by the rater. An unresolved classification for this study was included in the analyses only if the transcript was rated with a primary unresolved classification. Because unresolved speech occurs in only parts of the interview and represents only momentary linguistic breakdowns, transcripts classified as unresolved are also always given a secondary rating of secure, dismissing, or preoccupied to capture the subject's overall approach to the interview (i.e., U/F, U/Ds, U/E). For the purposes of this study, however, we were most interested in the primary and mutually exclusive classifications (U, F, Ds, and E).

Four independent coders, blind to all study information, including psychiatric status, participated in the coding of the transcribed interviews. All had been trained to code the AAI by Mary Main and Erik Hesse and had met the reliability criterion of at least 85% agreement. Sixteen of the 60 transcripts (27%) were double coded to establish interrater reliability for the three-way classifications. Interrater agreement for the three-way attachment classifications (F, Ds, and E) was excellent, with only one disagreement (94% concordance; $\kappa = .89$). Interrater agreement for the four-way attachment classifications (F, Ds, E, and U classifications) was 75% ($\kappa = .64$). Disagreements about classifications were resolved by bringing in an independent third rater to reach consensus.

AAI classifications have been found to be independent of verbal IQ, nonattachment-related autobiographical memory, and social desirability (Bakermans-Kranenburg & van IJzendoorn, 1993). The AAI has good test–retest reliability for up to a year and a half (Fonagy, Steele, & Steele, 1991), and the distribution of classifications among nonclinical samples remains consistent across international lines (van IJzendoorn & Bakermans-Kranenburg, 1996).

*Clinician Administered Posttraumatic Scale for DSM–IV (CAPS; Blake et al., 1990).* Current PTSD diagnosis was determined by using the CAPS. This is a 30-item clinical interview validated with combat veterans that contains separate 0-to-4 Frequency and Intensity scales for PTSD symptoms. Current PTSD is assessed by examining the frequency and intensity of symptoms in the past month. Interrater reliability for frequency and severity is excellent for the Intrusion, Arousal, and Avoidance subscales ($r > .92$). Internal consistency is also good ($\alpha = .87$ for each subscale; Blake et al., 1995). Interrater agreement for clinicians in the larger study from which this sample was drawn was excellent (CAPS diagnosis, $\kappa = 1.00$). The standard administration of the CAPS requires the clinician to identify the relevant index event as traumatic (Criterion A) and then to review symptoms in reference to the index event. In this case, all current symptoms of PTSD were assessed in reference to events of childhood physical and/or sexual abuse. To ensure that the symptoms in Criteria B and C (intrusion and avoidance of trauma-related stimuli) were specifically related to the index trauma, clinicians elicited several examples from subjects to confirm that the symptoms were specific to childhood abuse stimuli.

*Structured Clinical Interview for DSM–IV Axis I Disorders (Spitzer, Gibbon, & Williams, 1996).* Each participant was administered the Structured Clinical Interview for *DSM–IV* Axis I Disorders to determine diagnostic information about *DSM–IV* Axis I criteria. This instrument has adequate interrater reliability with kappas between .70 and .94 (Skre, Onstad, Torgersen, & Kringlen, 1991). Sixty-eight percent of the sample ($n = 41$) met *DSM–IV* criteria for at least one Axis I disorder other than PTSD. Forty-six percent ($n = 28$) met criteria for one or more anxiety disorders (panic disorder, $n = 7$; social phobia, $n = 13$; specific phobia, $n = 9$; obsessive–compulsive disorder, $n = 3$; generalized anxiety disorder, $n = 11$). Forty-five percent ($n = 27$) met criteria for one or more mood disorders (major depressive disorder, $n = 15$; dysthymia, $n = 12$; bipolar disorder, $n = 1$). Although substance dependence was ruled out from the study, 5% ($n = 3$) met criteria for a substance use disorder. Finally, 3% ($n = 2$) met criteria for an eating disorder, and 8% ($n = 5$) met criteria for a somatoform disorder.

*Trauma Symptom Inventory (Dissociation subscale).* The Trauma Symptom Inventory is a 100-item measure that assesses 10 dimensions of trauma-related symptoms, including dissociation (Briere, Elliott, Harris, & Cotman, 1995). We selected the Dissociation subscale to obtain a measure of statelike dissociation. The Dissociation subscale is composed of 14 items, rated on a scale ranging from 0 (*not at all*) to 4 (*extremely*) on severity. Examples of scale items include "a feeling of being far-away," "feeling outside your body," and "feeling like two people." In our sample, the internal consistency for these items was .92 (mean severity = 1.49, $SD = 1.03$, with a range from 0 to 3.93).

# Results

## Preliminary Analyses

*Attachment organization.* This is the first report on the distribution of attachment classifications using the AAI in adults with

histories of abuse. An examination of the four-way AAI classification system revealed that 22% of the women were secure, 13% were dismissing, 8% were preoccupied, and 57% were unresolved. Of the 34 subjects who were unresolved, 22 were classified as unresolved regarding childhood abuse, 7 were unresolved regarding loss, and 5 were unresolved for both abuse and loss. In total, 27 (45%) of the women were unresolved regarding abuse ($U_{tr}$). The distribution of AAI classifications for this sample of adult abuse survivors revealed a statistically higher percentage of unresolved classifications (combined loss and trauma) than is generally reported with other clinical samples (57% vs. 40% found in the meta-analysis by van IJzendoorn & Bakermans-Kranenburg, 1996; $z = 2.27$, $p < .05$).

The four-way distribution of AAI classifications was not associated with any demographic variables, including age, level of education, personal earnings, ethnicity, religion, marital status, employment, and living situation. This was also true when we compared those who were unresolved with those who were not. Two logistic regressions were used to examine the likelihood of being classified as unresolved regarding abuse ($U_{tr}$) on the basis of abuse characteristics (severity, duration, and extent) of both physical and sexual abuse; however, because abuse characteristics were highly correlated, a Bonferroni-type adjustment was made to reduce an inflated Type I error rate. For physical abuse, three variables were examined: duration of physical abuse, extent of physical abuse during the worst year, and clinician's rating of severity. For sexual abuse, we examined severity of sexual abuse, extent of sexual abuse (combination of duration and frequency), and number of perpetrators. None of these variables predicted $U_{tr}$ on the AAI.

*PTSD versus TCs.* Women diagnosed with PTSD had a mean CAPS score of 68.40, whereas the TC group had a mean CAPS score of 29.40, $t(58) = 9.43$, $p < .001$. The total CAPS score as well as all the subscale scores were significantly different between these two groups in the expected direction. PTSD and TC groups were also examined with regard to differences on demographic characteristics, abuse characteristics, and extent of psychopathology. The PTSD and TC groups were similar with regard to all demographic variables (i.e., personal earnings, ethnicity, religion, marital status, employment, living situation) with the exception of age and level of education. The TC group was older ($M_{TC} = 40.03$ years vs. $M_{PTSD} = 32.17$ years), $t(60) = 3.15$, $p < .01$, and more educated, $t(60) = 2.29$, $p < .05$, than the PTSD group. The groups did not differ in the number of women who reported physical abuse, $\chi^2(1, N = 60) = 0.32$, $p > .05$; sexual abuse, $\chi^2(1, N = 60) = 0.22$, $p > .05$; or both, $\chi^2(1, N = 60) = 0.07$, $p > .05$. A series of $t$ tests were used to examine any differences between groups on variables reflecting severity of abuse (as described above) by using a Bonferroni-type adjustment to reduce the Type I error rate. None of these comparisons were significant.

Finally, we examined differences in the number of *DSM–IV* Axis I diagnoses received beyond PTSD between the PTSD and TC groups. These analyses revealed only a marginal difference in the total number of Axis I disorders ($M_{TC} = 1.03$ vs. $M_{PTSD} = 1.73$), $t(58) = 1.93$, $p = .06$, but no differences in the number of mood disorders, $t(58) = 1.46$, $p = .15$; substance use disorders, $t(58) = -1.80$, $p = .08$; eating disorders, $t(58) = 0.00$, $p = 1.00$; and somataform disorders, $t(58) = 1.68$, $p = .10$. Those individuals diagnosed with PTSD had slightly more anxiety disorders than did the TC group ($M_{TC} = 0.05$ vs. $M_{PTSD} = 1.00$), $t(58) = 2.06$, $p = .04$.

### *Primary Analyses*

*$U_{tr}$ and Axis I diagnoses.* To test the hypothesis that $U_{tr}$ on the AAI would be associated with more psychopathology in general (excluding PTSD), we examined differences in the total number of Axis I disorders assigned between those with and without $U_{tr}$. Consistent with our hypotheses, $U_{tr}$ was associated with more Axis I diagnoses ($M_U = 1.81$ vs. $M_{notU} = 1.03$), $t(58) = 2.17$, $p < .05$, and, specifically, more anxiety disorders ($M_U = 1.07$ vs. $M_{notU} = 0.50$), $t(58) = 2.44$, $p < .05$. There were no significant differences in the rates of mood disorders, substance use disorders, eating disorders, or somatoform disorders.

*$U_{tr}$ and PTSD.* Because the PTSD and TC groups differed with regard to their age and level of education, these variables were used as covariates for all analyses involving PTSD and TC group differences. Using logistic regression, controlling for age and education, we examined the likelihood of being diagnosed with PTSD on the basis of $U_{tr}$ status. Results indicated that those women with $U_{tr}$ classifications were 7.5 times more likely to be diagnosed with PTSD compared with those who were not $U_{tr}$ (Wald $z = 8.56$, $p < .01$; see Table 1).

We further examined the relationship between AAI classifications and PTSD by exploring the likelihood of receiving a PTSD diagnosis as a function of the four-way AAI distribution (U, F, Ds, E). The overall chi-square test was significant for the four-way comparison, $\chi^2(3, N = 60) = 8.47$, $p < .05$. See Figure 1 for distribution of attachment classifications by PTSD status. To more closely examine group differences, we created three dummy codes to make specific comparisons by using logistic regression: $U_{tr}$ versus dismissing, $U_{tr}$ versus preoccupied, and $U_{tr}$ versus secure

Table 1
*Logistic Regression Analysis of PTSD as a Function of Unresolved Trauma*

| Variable | *B* | *SE* | Wald test (*z* ratio) | Significance | OR | 95% CI for OR |
|---|---|---|---|---|---|---|
| Age | −0.090 | .034 | 7.055 | .008 | 0.914** | 0.855–0.977 |
| Education | −0.677 | .330 | 4.201 | .040 | 0.508* | 0.266–0.971 |
| Unresolved trauma | 2.016 | .689 | 8.558 | .003 | 7.511** | 1.945–28.997 |

*Note.* PTSD = posttraumatic stress disorder; OR = odds ratio; CI = confidence interval.
* $p < .05$. ** $p < .01$.

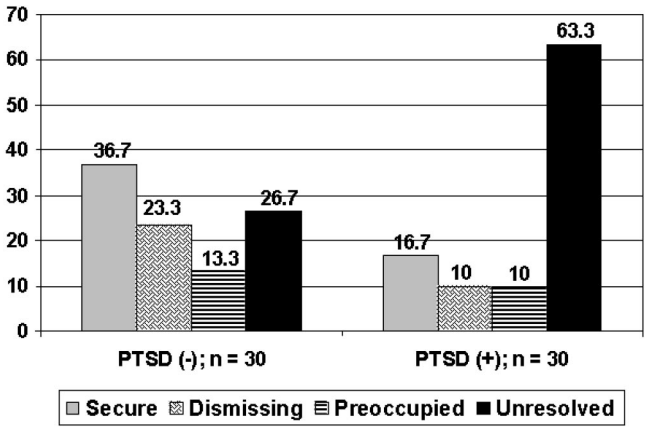


*Figure 1.* Percentile distribution of the four-way attachment classifications as a function of posttraumatic stress disorder (PTSD) status among 60 women with childhood abuse histories.

categories. After controlling for age and education, we found that those with $U_{tr}$ were significantly more likely to be diagnosed with PTSD diagnosis compared with those with dismissing (Wald $z = 7.72$, $p < .01$) and secure states of mind (Wald $z = 5.80$, $p < .05$), but not with preoccupied states of mind (Wald $z = 0.990$, $p > .05$).

We further examined the relative contribution of $U_{tr}$ and preoccupied states of mind to the diagnosis of PTSD. We used a hierarchical logistic regression to determine whether $U_{tr}$ remained a significant predictor of PTSD after controlling for the impact of preoccupied status. The results indicated that preoccupied status alone did not predict the likelihood of having PTSD and that $U_{tr}$ status continued to significantly predict PTSD status over and above preoccupied status ($U_{tr}$ Wald $z = 5.69$, $p < .05$). Next, we considered the relative contributions of unresolved–preoccupied attachment (U/E; $n = 17$) and preoccupied attachment only (E; $n = 7$). Although the small size of the $2 \times 2$ breakdown (U/E and E $\times$ PTSD status) precluded a valid chi-square test and the Fisher's exact test was nonsignificant, it is interesting to note that 71% ($n = 12$) of those classified as unresolved–preoccupied were PTSD positive, whereas only 43% ($n = 3$) of those classified as preoccupied only were PTSD positive. Taken together, these data suggest it is unresolved status, rather than preoccupied status, that contributes most significantly to the diagnosis of PTSD.

*$U_{tr}$ and PTSD Severity subscale scores.* The CAPS produces a total score as well as three subscale scores for Intrusion, Avoidance, and Hypervigilance. As expected, a $U_{tr}$ classification was associated with more severe PTSD as indicated by a higher total CAPS score (mean $U_{tr} = 56.63$ vs. mean not $U_{tr} = 42.70$), $t(58) = 2.19$, $p < .05$. It is interesting to note that $U_{tr}$ was not associated with PTSD intrusion or arousal symptoms but rather was associated specifically with more severe avoidance symptoms, $t(58) = 2.37$, $p < .05$.

Multivariate analyses were used to further examine the comparisons among the four-way (U, Ds, E, and F) attachment classifications on PTSD total and subscale scores. Using dummy-coded comparisons ($U_{tr}$ vs. dismissing, $U_{tr}$ vs. preoccupied, and $U_{tr}$ vs. secure), we found results that were similar to those reported above. Women classified as having $U_{tr}$ had higher avoidance symptom totals compared with those who were dismissing, $F(1, 59) = 4.193$, $p < .05$. Those with $U_{tr}$ had higher PTSD total symptoms, $F(1, 59) = 4.80$, $p < .05$, and avoidance symptoms, $F(1, 59) = 5.27$, $p < .05$, compared with those who were secure.

*$U_{tr}$ and dissociation symptoms.* We examined the relationship between $U_{tr}$ and dissociative symptoms as measured by the Trauma Symptom Inventory. $U_{tr}$ status did not predict severity of dissociative symptoms (mean $U_{tr} = 1.68$ vs. mean not $U_{tr} = 1.30$), $t(56) = 1.43$, $p = .16$, although dissociative symptoms were marginally correlated with $U_{tr}$ scores ($r = .27$, $p = .05$). Thus, it was not surprising that when $U_{tr}$ was treated as the dependent variable in a logistic regression analysis, PTSD symptom totals significantly predicted $U_{tr}$ status over and above dissociative scores (Wald $z = 4.42$, $p < .05$). See Table 2 for results.

*Unresolved loss.* We also examined the contribution of unresolved loss to the risk for psychiatric diagnoses, and PTSD more specifically, as there is some work suggesting that unresolved loss and $U_{tr}$ classifications are associated with different psychiatric sequelae (Adam et al., 1996; Riggs & Jacobvitz, 2002). The same set of analyses reported above was repeated to compare those with and without unresolved loss on the primary variables of interest. Unresolved loss was not associated with the presence of more Axis I disorders, with the exception of substance use disorders, $\chi^2(1, N = 60) = 4.19$, $p < .05$; however, it is not clear how meaningful this association is, given that the number of women that met this diagnostic criteria was quite low ($n = 3$) with two of the three classified as U regarding loss. Regarding PTSD, unresolved loss did not predict PTSD diagnosis, $\chi^2(1, N = 60) = 0.34$, $p > .05$, or symptom severity or subscale scores. Finally, unresolved loss did not predict severity of dissociative symptoms, $t(54) = 0.80$, $p = .43$.

Table 2
*Logistic Regression Analysis of Unresolved Trauma as a Function of Dissociative and PTSD Symptoms*

| Variable | *B* | *SE* | Wald test (*z* ratio) | Significance | OR | 95% CI for OR |
|---|---|---|---|---|---|---|
| Dissociation | −0.016 | .323 | 0.002 | .961 | 0.984 | 0.523–1.853 |
| PTSD total | 0.029 | .014 | 4.416 | .036 | 1.030* | 1.002–1.058 |

*Note.* PTSD = posttraumatic stress disorder; OR = odds ratio; CI = confidence interval.
* $p < .05$.

## Discussion

This is the first study to examine the distribution of AAI-derived attachment classification in adults with histories of childhood abuse. A breakdown of the four-way classifications reveals that over half the sample (57%) was classified as unresolved regarding either abuse, loss, or both as compared with secure (22%), dismissing (13%), or preoccupied (8%) classifications. This is significantly higher than the average frequency of unresolved attachment classifications found in other clinical samples (40%; van IJzendoorn & Bakermans-Kranenburg, 1996). Consistent with Fonagy et al. (1996), we found that $U_{tr}$ was associated with a greater number of Axis I disorders, particularly anxiety disorders. This finding adds to the growing literature indicating an overrepresentation of unresolved attachment classifications in clinical samples (van IJzendoorn & Bakermans-Kranenburg, 1996) and underscores the potential etiological role of unresolved attachment-related traumas in the development of psychiatric conditions. This study, however, extends previous work on attachment and mental health by focusing on the associations between unresolved representations and the specific psychiatric diagnosis of PTSD.

The present study demonstrates that unresolved childhood abuse as assessed by the AAI predicts the likelihood with which adult survivors will be diagnosed with PTSD. $U_{tr}$ was associated with a seven-and-a-half-fold increase in the likelihood of being diagnosed with abuse-related PTSD, after controlling for age and education level. Additional analyses revealed that $U_{tr}$ significantly predicted PTSD diagnosis compared with secure and dismissing states of mind and offered unique contributions to the diagnosis of PTSD over and above preoccupied attachment status. These findings introduce the potential value of attachment organization for predicting risk for childhood abuse-related PTSD.

Conversely, these findings also support the usefulness of a PTSD model for understanding the mental disorganization that occurs following abuse and that is likely to contribute to an unresolved state of mind on the AAI. Specifically, these results suggest that both the Unresolved Scale of the AAI and the clinician-assessed symptoms of PTSD capture important aspects of an ongoing traumatized mental state resulting from early abuse. This is particularly interesting because, despite the similarities between the symptoms of PTSD and unresolved speech, each are measured in critically different ways. The symptoms of PTSD are measured by a clinician's assessment of patient behavior (e.g., hypervigilance, avoidance of trauma-related cues, and flashbacks) as well as a patient's report of his or her subjective experience (e.g., "I'm always on guard"; "When I am reminded of the abuse, I become very upset"; and "I try to distract myself to stop thinking about it"). Unresolved speech, on the other hand, is not measured by patient self-report, nor is it captured by observable behavior. Instead, unresolved speech is scored by careful analysis of the language used during discussions of abuse and the organization of the narrative in response to AAI questions. Transcripts are examined for specific indicators of linguistic disorganization that are, by definition, not acknowledged or monitored by the subject. So, whereas PTSD captures overt behavioral consequences and subjective experiences of trauma, unresolved speech reflects the underlying mental disorganization to which the patient does not necessarily have access.

These data raise an important issue regarding a possible mechanism of risk for abuse-related symptoms in the aftermath of childhood abuse. The relationship between $U_{tr}$ and adult PTSD status, although cross-sectional in nature, raises the possibility that the relative degree of mental disorganization surrounding the abuse, as reflected in $U_{tr}$, may be a risk factor for the development of PTSD. It is interesting to note that support for this idea can be found in the trauma literature itself. Recent work by Foa and colleagues (Amir, Stafford, Freshman, & Foa, 1998) seems to underscore the crucial link between the presence of trauma symptoms and the organization of an individual's trauma narrative. Using a coding system developed by Foa, Molnar, and Cashman (1995) to explore the cohesiveness of trauma narratives, Harvey and Bryant (1999) demonstrated that acute stress disorder following motor vehicle accidents was associated with the degree of disorganization of the spoken trauma narrative. The degree of fragmentation (as evidenced by repetition, unfinished thoughts, and speech fillers) and disorganization (as evidenced by disjointedness and confusion in thinking) of the trauma narrative has also been linked in several studies to a diagnosis of PTSD (Amir et al., 1998; Gray & Lombardo, 2001; Halligan, Michael, Clark, & Ehlers, 2003). In addition, two studies have found that successful treatment of PTSD was related to an increase in organization of the trauma narrative (Foa et al., 1995; van Minnen, Wessel, Dijkstra, & Roelofs, 2002). It is interesting that the type of disorganization and fragmentation of speech that is predictive of later PTSD in these studies is in some aspects noticeably similar to that described in the coding of unresolved speech in the AAI.

Furthermore, it appears that when the emotional processing of abuse-related experiences is impeded, there is increased risk for continued mental disorganization and ongoing traumatization in the form of PTSD symptoms. In line with this idea, our findings also showed that $U_{tr}$ most strongly predicted PTSD avoidant symptoms, rather than intrusive or arousal symptoms. The association between $U_{tr}$ and PTSD avoidant symptoms raises the issue as to whether avoidance of trauma-related information in particular may maintain disorganized states of mind after abuse and place one at risk for long-term PTSD. Indeed, after controlling for trauma severity, avoidant symptoms following a range of traumatic events have often been found to be among the strongest predictors of ongoing PTSD (e.g., Bryant & Harvey, 1995; Creamer, Burgess, & Pattison, 1992), whereas intrusive recollections of the trauma tend to be only weakly associated with ongoing PTSD (Perry, Difede, Musngi, Frances, & Jacobsberg, 1992; Shalev, 1992).

It is interesting to note that although PTSD positive women reported more dissociative symptoms than did non-PTSD women in this sample ($M_{TC} = 1.76$ vs. $M_{PTSD} = 1.16$), $t(56) = 2.29$, $p < .05$, $U_{tr}$ was not associated with a significant difference in severity of dissociative symptoms as measured by the Trauma Symptom Inventory. These findings, although at odds with Hesse and van IJzendoorn (1998) and West et al. (2001), represent the second of two studies (Lyons-Ruth & Block, 1996) to measure dissociation as a clinical phenomena by using a reliable and well-validated measure of dissociation. Lyons-Ruth and Block also failed to find an association between dissociation and the behavioral correlates

of $U_{tr}$ (e.g., frightened–frightening parental behavior). This is somewhat surprising, particularly given the strong theoretical links between unresolved states of mind, disorganized infant attachment, and dissociative phenomena (e.g., Liotti, 1992, 2004; Main & Hesse, 1992a) as well as empirical evidence linking disorganized infant attachment and later dissociative symptoms in adolescence (E. A. Carlson, 1998). It should be noted that all of these studies used different measures of dissociation, possibly representing different phenomena. Furthermore, it is important to consider that dissociative processes may be expressed differently in children and adolescents compared with adults. Future studies on this topic should be sensitive to issues regarding methodology and definition of dissociative phenomena and the impact of development on the expression of dissociative experiences.

Our findings also do not necessarily refute a dissociation hypothesis of unresolved states of mind, as PTSD avoidance and dissociative symptoms, to a limited degree, conceptually overlap. Both can be thought of as serving the overarching goal of providing escape from traumatic material and inhibiting the emotional processing of traumatic experience, which has been implicated as a primary mechanism linking trauma to poor outcome (Foa & Kozak, 1986). However, PTSD avoidance and dissociation are distinct clinical phenomena, having different clinical and research implications. PTSD avoidance is primarily volitional and does not interfere with an individual's orientation to the present (time, space, and place). Dissociation, on the other hand, is an involuntary process that has the effect of removing one from a present orientation (i.e., losing time, feeling like two people, feeling outside one's own body). Our data point to the potentially important association between active, volitional avoidance and traumatized states of mind and suggest that such behavior and symptoms might be considered as a potential target for treatment in adults with $U_{tr}$. Furthermore, clinicians working with adults or parents with $U_{tr}$ may need to consider that PTSD avoidance and dissociation require separate clinical strategies for treatment; whereas PTSD avoidant symptoms are greatly relieved by exposure techniques and dissociative coping strategies, and especially dissociative disorders can be exacerbated by such flooding techniques. Dissociative symptoms must be handled more delicately, through building of distress tolerance often in the context of a long-term treatment.

A second set of clinical considerations regarding the relationship between $U_{tr}$ and disorganized infant attachment is worth noting. Previous literature has consistently shown that parents classified as unresolved regarding loss or trauma are likely to have children with disorganized attachments (e.g., van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). To the extent that this is true, these data raise the possibility that PTSD symptoms have a role in this link, and parents with abuse-related PTSD may be at risk for forming problematic relationships with their children. Over 70% of those with $U_{tr}$ in this sample were also PTSD positive. Furthermore, the parental behaviors (frightened–frightening) that bridge unresolved loss and trauma to disorganized attachment are consistent with PTSD symptoms. In the existing coding scheme (Main & Hesse, 1992b), frightened–frightening behavior (e.g., intrusive facial looming, avoidance of a distressed infant, trancelike states, and overly timid or deferential behaviors) bears some phenotypical resemblance to the traumatized individual's intrusive–avoidant response to trauma-related cues. One might argue that for the abused parent, an infant's unmitigated helplessness and acute distress in response to daily frustrations may serve as traumatic cues, flooding the parent with unmanageable memories or feeling states. As has been argued elsewhere (e.g., Fearon & Mansell, 2001; Lyons-Ruth & Block, 1996), a PTSD formulation could help explain both the intrusive hostile behaviors and withdrawn, avoidant, and numbing responses of traumatized parents. An awareness of the full range of symptoms and behaviors associated with unresolved states of mind can lead to better understanding of these parents and have important implications for treatment. Specifically, current PTSD treatment models, which promote the reorganization of traumatic memories through narrative exploration and exposure to internal traumatic cues (Cloitre, Koenen, Cohen, & Han, 2002; Foa & Kozak, 1986), offer a promising avenue for future work with traumatized and unresolved parents.

This study has several limitations, including the cross-sectional nature of the design. This study did not examine the direct impact of abuse on adult attachment states of mind, and we therefore cannot draw conclusions about the impact of abuse on adult attachment generally. This study also focused on women with histories of abuse and does not address the attachment or psychiatric outcomes for men who have been abused. It is important that future work address the attachment outcomes for abused boys and men. In addition, our results may not hold for other interpersonally traumatized populations, such as rape or domestic violence victims or individuals who would be classified as unresolved regarding a loss. The use of retrospective self-reported abuse information that cannot be verified raises the issue of report biases in reporting of abuse that could have masked true group differences. We also did not examine the more profound global breakdowns in narrative discourse that are represented in the *cannot classify* category (Hesse, 1996) in this sample. It is possible that such transcripts, if present in this sample, could tell us additional information about the psychiatric outcomes of adult abuse survivors. Finally, because this sample was a self-selected, symptomatic, and primarily treatment-seeking group, we cannot speak to the presence of $U_{tr}$ among adults without any psychiatric symptoms or who are not seeking treatment. These data do, however, speak to the strong association of trauma-related symptoms and unresolved states of mind in a typical outpatient sample of adult female abuse survivors.

## References

Adam, K. S., Sheldon-Keller, A. E., & West, M. (1996). Attachment organization and history of suicidal behavior in clinical adolescents. *Journal of Consulting and Clinical Psychology, 64,* 264–272.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Amir, N., Stafford, J., Freshman, M. S., & Foa, E. B. (1998). Relationship between trauma narratives and trauma pathology. *Journal of Traumatic Stress, 11,* 385–392.

Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (1993). A psychometric study of the adult attachment interview: Reliability and discriminate validity. *Developmental Psychology, 29,* 870–879.

Blake, D. D., Weathers, F. W., Nagy, L. M., Kaloupek, D. G., Gusman, F. D., Charney, D. S., & Keane, T. M. (1995). The development of a clinician-administered PTSD scale. *Journal of Traumatic Stress, 8,* 75–90.

Blake, D. D., Weathers, F. W., Nagy, L. M., Kaloupek, D. G., Klauminzer, G., Charney, D. S., & Keane, T. M. (1990). A clinician rating scale for assessing current and lifetime PTSD: The CAPS-1. *Behavior Therapist, 13,* 187–188.

Briere, J. (1988). The long-term clinical correlates of childhood sexual victimization. In R. A. Prentky & V. L. Quinsey (Eds.), *Annals of the New York Academy of Sciences: Vol. 528. Human sexual aggression: Current perspectives* (pp. 327–334). New York: New York Academy of Sciences.

Briere, J., Elliott, D. M., Harris, K., & Cotman, A. (1995). Trauma Symptom Inventory: Psychometrics and association with childhood and adult victimization in clinical samples. *Journal of Interpersonal Violence, 10,* 387–401.

Browne, A., & Finkelhor, D. (1986). Impact of child abuse: A review of the research. *Psychological Bulletin, 99,* 66–77.

Bryant, R. A., & Harvey, A. G. (1995). Avoidant coping style and posttraumatic stress following motor vehicle accidents. *Behaviour Research and Therapy, 33,* 631–635.

Carlson, E. A. (1998). A prospective longitudinal study of attachment disorganization/disorientation. *Child Development, 69,* 1107–1128.

Carlson, V., Cicchetti, D., Barnett, D., & Braunwald, K. G. (1989). Finding order in disorganization: Lessons from research on maltreated infants' attachments to their caregivers. In D. Cicchetti & V. Carlson (Eds.), *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect* (pp. 494–528). New York: Cambridge University Press.

Cloitre, M., Koenen, K. C., Cohen, L. R., & Han, H. (2002). Skills training in affective and interpersonal regulation followed by exposure: A phase-based treatment for PTSD related to childhood abuse. *Journal of Consulting and Clinical Psychology, 70,* 1067–1074.

Cloitre, M., Scarvalone, P., & Difede, J. (1997). Posttraumatic stress disorder, self- and interpersonal dysfunction among sexually retraumatized women. *Journal of Traumatic Stress, 10,* 437–452.

Creamer, M., Burgess, P., & Pattison, P. (1992). Reaction to trauma: A cognitive processing model. *Journal of Abnormal Psychology, 101,* 452–459.

Dozier, M., Stovall, K. C., & Albus, K. E. (1999). Attachment and psychopathology in adulthood. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 497–519). New York: Guilford Press.

Dubner, A. E., & Motta, R. W. (1999). Sexually and physically abused foster care children and posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 67,* 367–373.

Fearon, R., & Mansell, W. (2001). Cognitive perspectives on unresolved loss: Insights from the study of PTSD. *Bulletin of the Menninger Clinic, 65,* 380–396.

Foa, E. B., & Hearst-Ikeda, D. (1996). Emotional dissociation in response to trauma: An information-processing approach. In L. K. Michelson & W. J. Ray (Eds.), *Handbook of dissociation: Theoretical, empirical, and clinical perspectives* (pp. 207–224). New York: Plenum Press.

Foa, E. B., & Kozak, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin, 99,* 20–35.

Foa, E. B., Molnar, C., & Cashman, L. (1995). Change in rape narratives during exposure therapy for posttraumatic stress disorder. *Journal of Traumatic Stress, 8,* 675–690.

Fonagy, P., Leigh, T., Steele, M., Steele, H., Kennedy, R., Mattoon, G., et al. (1996). The relation of attachment status, psychiatric classification, and response to psychotherapy. *Journal of Consulting and Clinical Psychology, 64,* 22–31.

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

Frodi, A., Dernevik, M., Sepa, A., Philipson, J., & Bragesjo, M. (2001). Current attachment representations of incarcerated offenders varying in degree of psychopathy. *Attachment & Human Development, 3,* 269–283.

George, C., Kaplan, N., & Main, M. (1996). *Attachment Interview for Adults*. Unpublished manuscript, University of California, Berkeley.

Giaconia, R. M., Reinherz, H. Z., Silverman, A. B., Pakiz, B., Frost, A. K., & Cohen, E. (1995). Traumas and posttraumatic stress disorder in a community population of older adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 34,* 1369–1380.

Gray, M. J., & Lombardo, T. W. (2001). Complexity of trauma narratives as an index of fragmented memory in PTSD: A critical analysis. *Applied Cognitive Psychology, 15,* S171–S186.

Halligan, S. L., Michael, T., Clark, D. M., & Ehlers, A. (2003). Posttraumatic stress disorder following assault: The role of cognitive processing, trauma memory, and appraisals. *Journal of Consulting and Clinical Psychology, 71,* 419–431.

Harvey, A. G., & Bryant, R. A. (1999). Predictors of acute stress following motor vehicle accidents. *Journal of Traumatic Stress, 12,* 519–525.

Hesse, E. (1996). Discourse, memory, and the Adult Attachment Interview: A note with emphasis on the emerging cannot classify category. *Infant Mental Health Journal, 17,* 4–11.

Hesse, E., & van IJzendoorn, M. H. (1998). Parental loss of close family members and propensities towards absorption in offspring. *Developmental Science, 1,* 299–305.

Horowitz, K., Weine, S., & Jekel, J. (1995). PTSD symptoms in urban adolescent girls: Compounded community trauma. *Journal of the American Academy of Child & Adolescent Psychiatry, 34,* 1353–1361.

Horowitz, M. J. (1976). *Stress response syndromes*. Oxford, England: Jason Aronson.

Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. (1995). Posttraumatic stress disorder in the national comorbidity survey. *Archives of General Psychiatry, 52,* 1048–1060.

Liotti, G. (1992). Disorganized/disoriented attachment in the aetiology of the dissociative disorders. *Dissociation, 5,* 196–204.

Liotti, G. (2004). Trauma, dissociation, and disorganized attachment: Three strands of a single braid. *Psychotherapy: Theory, Research, Practice, Training, 41,* 472–486.

Lyons-Ruth, K., Alpern, L., & Repacholi, B. (1993). Disorganized infant attachment classification and maternal psychosocial problems as predictors of hostile-aggressive behavior in the preschool classroom. *Child Development, 64,* 572–585.

Lyons-Ruth, K., & Block, D. (1996). The disturbed caregiving system: Relations among childhood trauma, maternal caregiving, and infant affect and attachment. *Infant Mental Health Journal, 17,* 257–275.

Lyons-Ruth, K., Easterbrooks, A., & Cibelli, C. (1997). Infant attachment strategies, infant mental lag, and maternal depressive symptoms: Predictors of internalizing and externalizing problems at age 7. *Developmental Psychology, 33,* 681–692.

Main, M., & Cassidy, J. (1988). Categories of response to reunion with the parent at age 6: Predictable from infant attachment classifications and stable over a 1-month period. *Developmental Psychology, 24,* 415–426.

Main, M., & Goldwyn, R. (1998). *Adult attachment classification system*. Unpublished manuscript, University of California at Berkeley.

Main, M., & Hesse, E. (1990). Adult lack of resolution of attachment-related trauma related to infant disorganized/disoriented behavior in the Ainsworth strange situation: Linking parental states of mind to infant behavior in a stressful situation. In M. Cumming (Ed.), *Attachment in the preschool years: Theory, research and intervention* (pp. 339–426). Chicago: University of Chicago Press.

Main, M., & Hesse, E. (1992a). Disorganized/disoriented infant behavior in the strange situation, lapses in the monitoring of reasoning and discourse during the parent's Adult Attachment Interview, and dissociative states. In M. Ammaniti & D. Stern (Eds.), *Attachment and psychoanalysis* (pp. 86–140). Rome: Gius, Laterza, & Figli.

Main, M., & Hesse, E. (1992b). *Frightening, frightened, timid/deferential, dissociated, or disorganized behavior on the part of the parent: Coding system*. Unpublished manuscript, University of California at Berkeley.

Patrick, M., Hobson, R., Castle, D., Howard, R., & Maughan, B. (1994). Personality disorder and the mental representation of early social experience. *Development and Psychopathology, 6,* 375–388.

Perry, S. W., Difede, J., Musngi, G., Frances, A. J., & Jacobsberg, L. (1992). Predictors of posttraumatic stress disorder after burn injury. *American Journal of Psychiatry, 149,* 931–935.

Riggs, S. A., & Jacobvitz, D. (2002). Expectant parents' representations of early attachment relationships: Associations with mental health and family history. *Journal of Consulting and Clinical Psychology, 70,* 195–204.

Roth, S., Newman, E., Pelcovitz, D., van der Kolk, B., & Mandel, F. S. (1997). Complex PTSD in victims exposed to sexual and physical abuse: Results from the *DSM–IV* field trial for posttraumatic stress disorder. *Journal of Traumatic Stress, 10,* 539–555.

Saigh, P. A., & Bremner, J. (1999). The history of posttraumatic stress disorder. In P. A. Saigh & J. Bremner (Eds.), *Posttraumatic stress disorder: A comprehensive text* (pp. 1–17). Needham Heights, MA: Allyn & Bacon.

Shalev, A. Y. (1992). Posttraumatic stress disorder among injured survivors of a terrorist attack: Predictive value of early intrusion and avoidance symptoms. *Journal of Nervous and Mental Disease, 180,* 505–509.

Skre, I., Onstad, S., Torgersen, S., & Kringlen, E. (1991). High interrater reliability for the structured clinical interview for *DSM–IV–R* Axis I (SCID-I). *Acta Psychiatrica Scandinavica, 84,* 167–173.

Solomon, J., George, C., & De Jong, A. (1995). Children classified as controlling at age six: Evidence of disorganized representational strategies and aggression at home and at school. *Development and Psychopathology, 7,* 447–463.

Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1996). Structured Clinical Interview for *DSM–IV* Axis I disorders. New York: New York State Psychiatric Institute, Department of Biometrics Research.

Turton, P., Hughes, P., Fonagy, P., & Fainman, D. (2004). An investigation into the possible overlap between PTSD and unresolved responses following stillbirth: An absence of linkage with only unresolved status predicting infant disorganization. *Attachment & Human Development, 6,* 241–253.

van der Kolk, B. A., & McFarlane, A. C. (1996). The black hole of trauma. In B. A. van der Kolk, A. C. McFarlane, & L. Weisaeth (Eds.), *Traumatic stress: The effects of overwhelming experience on mind, body, and society* (pp. 3–23). New York: Guilford Press.

van IJzendoorn, M. H., & Bakermans-Kranenburg, M. J. (1996). Attachment representations in mothers, fathers, adolescents, and clinical groups: A meta-analytic search for normative data. *Journal of Consulting and Clinical Psychology, 64,* 8–21.

van IJzendoorn, M. H., Schuengel, C., & Bakermans-Kranenburg, M. J. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology, 11,* 225–249.

van Minnen, A., Wessel, I., Dijkstra, T., & Roelofs, K. (2002). Changes in PTSD patients' narratives during prolonged exposure therapy: A replication and extension. *Journal of Traumatic Stress, 15,* 255–258.

West, M., Adam, K., Spreng, S., & Rose, S. (2001). Attachment disorganization and dissociative symptoms in clinically treated adolescents. *Canadian Journal of Psychiatry, 46,* 627–631.

Zlotnick, C., Zakriski, A. L., Shea, M., & Costello, E. (1996). The long-term sequelae of sexual abuse: Support for a complex posttraumatic stress disorder. *Journal of Traumatic Stress, 9,* 195–205.

Received June 10, 2005
Revision received October 11, 2005
Accepted October 13, 2005 ■