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### TRAUMA AND DISSOCIATION

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The past decade has witnessed an intense reawakening of interest in the study of trauma and dissociation. In particular, the contributions of Janet, which had been largely eclipsed by developments within modern ego psychology and cognitive behavioral therapy, have enjoyed a resurgence of interest. Putnam (1989) and van der Kolk and van der Hart (1989) have provided a contemporary reinterpretation of the contributions of Janet to the understanding of traumatic stress and dissociation. Recent research on the interrelations among trauma, memory, and dissociation is presented in a forthcoming book by Bremner and Marmar.

Paralleling the resurgence of interest in theoretical studies of trauma and dissociation, there has been a proliferation of research studies addressing the relationship of trauma and general dissociative tendencies. Chu and Dill (1990) reported that psychiatric patients with a history of childhood abuse reported higher levels of dissociative symptoms than those without histories of child abuse. Carlson and Rosser-Hogan (1991), in a study of Cambodian refugees, reported a strong relationship between the amounts of trauma the refugees had experienced and the severity of both traumatic stress response and dissociative reactions. Spiegel and colleagues (1988) compared the hypnotizability of Vietnam combat veterans with PTSD to patients with generalized anxiety disorders, affective disorders, and schizophrenia, as well as to the normal comparison group. The group with PTSD was found to have hypnotizability scores that were higher than both the psychopathological and normal controls.

Recent empirical studies have supported a strong relationship among trauma, dissociation, and personality disturbances. Herman and colleagues (1989) found a high prevalence of traumatic histories in patients with borderline personality disorder. A profound relationship has been reported for childhood trauma and multiple personality disorder (MPD). Kluft (1993) proposes that the dissociative processes that underlie multiple personality development continue to serve a defense function for individuals who have neither the external nor internal resources to cope with traumatic experiences. Coons and Milstein (1986) reported that 85% of a series of 20 MPD patients had documented allegations of childhood abuse. Similar observations have been made by

and Putnam and colleagues (1986), who reported rates of severe childhood abuse as high as 90% in patients with MPD. The nature of the childhood trauma in many of these cases is notable for its severity, multiple elements of physical and sexual abuse, threats to life, bizarre elements, and profound rupture of the sense of safety and trust when the perpetrator is a primary caretaker or other close relationship.

**Peritraumatic Dissociation.** The studies reviewed clearly demonstrate the relationship between traumatic life experience and general dissociative response. One *fundamental aspect* of the dissociative response to trauma concerns immediate dissociation at the time the traumatic event is unfolding. Trauma victims not uncommonly will report alterations in the experience of time, place, and person, which confers a sense of unreality of the event as it is occurring. Dissociation during trauma may take the form of altered time sense, with time being experienced as slowing down or rapidly accelerated; profound feelings of unreality that the event is occurring, or that the individual is the victim of the event; experiences of depersonalization; out-of-body experiences; bewilderment, confusion, and disorientation; altered pain perception; altered body image or feelings of disconnection from one's body; tunnel vision; and other experiences reflecting immediate dissociative responses to trauma. We have designated these acute dissociative responses to trauma as peritraumatic dissociation.

Although actual clinical reports of peritraumatic dissociation date back nearly a century, systematic investigation has occurred more recently. Wilkinson (1983) investigated the psychological responses of survivors of the Hyatt Regency Hotel skywalk collapse in which 114 people died and 200 were injured. Survivors commonly reported depersonalization and derealization experiences at the time of the structural collapse. Holen (1993), in a long-term prospective study of survivors of a North Sea oil rig disaster, found that the level of reported dissociation during the trauma was a predictor of subsequent PTSD. Koopman and colleagues (1994) investigated predictors of posttraumatic stress symptoms among survivors of the 1991 Oakland Hills firestorm. In a study of 187 participants, dissociative symptoms at the time the firestorm was occurring more strongly predicted subsequent posttraumatic symptoms than did anxiety and the subjective experience of loss of personal autonomy.

*Peritraumatic Dissociative Experiences Questionnaire.*  
Based on the important clinical and early research observations on peritraumatic dissociation as a risk

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factor for chronic MD, we embarked on a series of studies to develop a reliable and valid measure of peritraumatic dissociation. We designated this measure the Peritraumatic

Dissociative Experiences Questionnaire (Marmar et al. 1996). In a first study with the PDEQ, the relationship of peritraumatic dissociation and posttraumatic stress was investigated in male Vietnam theater veterans (Marmar et al., 1994). In a first replication of this finding, the relationship of peritraumatic dissociation with symptomatic distress was determined in emergency services personnel exposed to traumatic critical incidents (Weiss et al., 1995; Marmar et al., 1996). In a second replication, the relationship of peritraumatic dissociation and posttraumatic stress was investigated in female Vietnam theater veterans (Tichenor et al., 1994).

Across the four studies, the PDEQ has been demonstrated to be internally consistent, strongly associated with measures of traumatic stress response, strongly associated with a measure of general dissociative tendencies, strongly associated with level of stress exposure, and unassociated with measures of general psychopathology. These studies support the reliability and convergent, discriminant, and predictive validity of the PDEQ. Strengthening these findings are two independent studies utilizing the PDEQ by investigators in other MD research programs. Bremner and colleagues (1992), utilizing selective items from the PDEQ as part of a measure of peritraumatic dissociation, reported a strong relationship of peritraumatic dissociation with posttraumatic stress response in an independent sample of Vietnam War veterans. In the first prospective study with the PDEQ, Shalev and colleagues (1996) examined the relationship of PDEQ ratings gathered in the first week following trauma exposure to posttraumatic stress symptomatology at 5 months. In this study of acute-physical-trauma victims admitted to an Israeli teaching hospital emergency room, PDEQ ratings at 1 week predicted stress symptomatology at 5 months, over and above exposure levels, social supports, and Impact of Event scores in the first week. This study is noteworthy in that it is the first finding with the PDEQ in which ratings were gathered prospectively.

*Mechanisms for Peritraumatic Dissociation.* The strong replicated findings relating peritraumatic dissociation to subsequent PTSD raise theoretically important questions concerning the mechanisms that underlie peritraumatic dissociation. Speculation concerning psychological factors underlying trauma-related dissociation date back to the early contributions of Breuer and Freud (1895/1955). In their formulation, traumatic events are actively split off from conscious experience but return in the disguised form of symptoms. The dissociated complexes have an underground psychological life, causing hysterics to "suffer mainly from reminiscences." Janet (1889) proposed that trauma-related dissociation occurred in individuals with a fundamental constitutional defect in psychological functioning, which he designated *la misere psychologique*. Janet proposed that normal individuals have sufficient psychological energy to bind together their mental experiences, including memories, cognitions, sensations, feelings, and volition, into an integrated synthetic whole under the control of a single personal self with access

to conscious experience (Nemiah, in press). From Janet's perspective, peritraumatic dissociation results in the co-existence within a single individual of two or more discrete, dissociative streams of consciousness, each existing independently from the others, each with rich mental contents, including feelings, memories, and bodily sensations, and each with access to conscious experience at different times.

Contemporary psychological studies of peritraumatic dissociation have focused on individual differences in the threshold for dissociation. It is also possible that the threshold for peritraumatic dissociation or generalized dissociative vulnerability is a heritable trait, aggravated by early trauma exposure and correlated with hypnotizability, as suggested by Spiegel and colleagues (1988).

A second line of investigation concerning the underlying mechanisms for peritraumatic dissociation focuses on the neurobiology and neuropharmacology of anxiety. A yohimbine challenge study by Southwick and colleagues (1993) suggests that, in individuals with PTSD, flashbacks occur in the context of high-threat arousal states. It is also significant that panic disorder patients frequently report dissociative reactions at the height of their anxiety attacks. The effects of yohimbine in triggering flashbacks in PTSD patients and panic attacks in patients with panic disorder is mediated by a central catecholamine mechanism, as yohimbine serves as an alpha-adrenergic receptor antagonist, resulting in increased firing of locus ceruleus neurons. These observations suggest that the relationship between peritraumatic dissociation and PTSD may, for some individuals, be mediated by high levels of anxiety during the trauma.

Marmar et al (1996) reported on individual differences in the level of peritraumatic dissociation during critical-incident exposure in emergency services personnel. They found the following factors to be associated with greater levels of peritraumatic dissociation: younger age; higher levels of exposure during critical incident; greater subjective perceived threat at the time of critical incident; poorer general psychological adjustment; poorer identity formation; lower levels of ambition and prudence, as defined by the Hogan Personality Inventory; greater external locus of control; and greater use of escape/avoidance and emotional self-control coping. Taken together these findings suggest that emergency services personnel with less work experience, more vulnerable personality structures, higher subjective levels of perceived threat and anxiety at the time of incidence occurrence, greater reliance on the external world for an internal sense of safety and security, and greater use of maladaptive coping strategies are more vulnerable to peritraumatic dissociation.

*Treatment for Trauma Related Dissociation.* To date, no controlled clinical trials have been reported of psychosocial or pharmacological intervention specifically targeting trauma related dissociation. Kluft (1993), in an overview of clinical reports on treatment approaches for trauma-related dissociation, recommends individual, supportive-expressive psychodynamic psychotherapy, augmented as needed with hypnosis or drug-facilitated interviews. In 1993, van der Hart and Spiegel advocated the use of hypnosis as a way of

creating a safe, calm mental state in which the patient has control over traumatic memories, as an approach to the treatment of trauma-induced dissociative states presenting as hysterical psychosis.

Contemporary psychodynamic approaches to the treatment of trauma-related dissociation emphasize the establishment of the therapeutic alliance, reconstruction of traumatic memories, working through of problematic weak and strong self-concepts activated by the trauma, and transference interpretation aimed at helping the patient process perceived threats in the relationship with the therapist without resorting to dissociation (Horowitz, 1986; Maraiar, 1991). As the previously dissociative elements are brought in to a more coherent self, the further use of traditional psychodynamic psychotherapy can help the patient solidify gains, mourn losses, and resolve conflicts through interpretation.

From a neuropharmacological point of view, Pitman (personal communication, 1994) has advocated the use of medi-

cations to lower threat arousal levels at the time of traumatic occurrence. Alpha-2 adnergic agonists, beta-blockers, or other non-sedating, anti-arousal agents, could be provided to emergency services personnel to aid in the modulation of arousal responses to life-threatening or gruesome exposure. Advances in critical incident stress-debriefing procedures may lead to psychological interventions that lower immediate threat appraisal and consequently reduce the likelihood of sustained peritraumatic dissociation.

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