

TRAUMA AND POSTTRAUMATIC RESPONSES: AN
EXAMINATION OF FEAR AND BETRAYAL

by

ANNE PUJOL DEPRINCE

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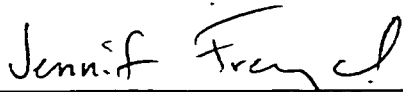
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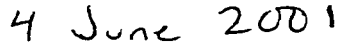
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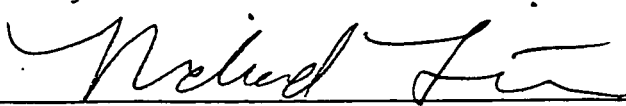
Dr. Jennifer J. Freyd, Chair of the Examining Committee



Date

Committee in charge: Dr. Jennifer J. Freyd, Chair
 Dr. Sara D. Hodges
 Dr. Jeffrey R. Measelle
 Dr. Mary E. Wood

Accepted by:



Dean of the Graduate School

An Abstract of the Dissertation of

Anne Pujol DePrince for the degree of Doctor of Philosophy

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Title: TRAUMA AND POSTTRAUMATIC RESPONSES: AN EXAMINATION OF
FEAR AND BETRAYALApproved: 
Dr. Jennifer J. Freyd

To date, most research on the emotions central to posttraumatic stress disorder (PTSD) has focused on fear. Complimenting and extending this literature, the current project draws on betrayal trauma theory to introduce betrayal as a factor in understanding posttraumatic symptoms, including PTSD. Betrayal trauma theory proposes that there is a social utility in remaining unaware of interpersonal traumas when they are perpetrated by a caregiver on whom the victim is dependent. Betrayal trauma theory and recent empirical work implicate dissociation as an important process in facilitating knowledge isolation of trauma-related information. The current project extends betrayal trauma theory beyond examinations of knowledge isolation to consider the contribution of betrayal to PTSD and dissociative experiences.

The relationships between fear, betrayal, PTSD and dissociative symptoms were examined in a community sample of 75 individuals who self-reported one or more traumatic event(s). The hypothesis that betrayal would significantly predict PTSD

withdrawal and dissociative symptoms above and beyond fear was tested. In addition, the prediction that fear would significantly predict PTSD arousal symptoms above and beyond betrayal was tested. Several measures of betrayal and fear were examined, including coding of narrative accounts of fear and betrayal, self-reported betrayal/fear, and implicit betrayal/fear scores. Implicit betrayal/fear scores were computed based on the context of the traumatic events reported (i.e., number of times caregiver abuse was reported, presence of injury/threat). Several measures of dissociative symptoms were included. Results provided support for the hypothesized relationship between betrayal and posttraumatic responses. Consistent with predictions, self-reported betrayal significantly predicted multiple measures of dissociation and PTSD withdrawal above and beyond fear. Contrary to predictions, self-reported fear and implicit fear did not significantly predict PTSD arousal and anxiety. The role of betrayal in understanding posttraumatic responses, the relationship between PTSD and dissociation, and several methodological issues central to trauma research are considered.

CURRICULUM VITA

NAME OF AUTHOR: Anne Pujol DePrince

PLACE OF BIRTH: Livingston, New Jersey

DATE OF BIRTH: November 7, 1972

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon
Duke University

DEGREES AWARDED:

Doctor of Philosophy in Psychology, 2001, University of Oregon
Master of Science in Psychology, 1997, University of Oregon
Bachelor of Arts in Psychology and History, 1994, Duke University

AREAS OF SPECIAL INTEREST:

Traumatic Stress Studies
Clinical Psychology

PROFESSIONAL EXPERIENCE:

Teaching Assistant, Department of Psychology, University of Oregon,
Eugene, 1996-1997.

Instructor, Department of Psychology, University of Oregon, Eugene,
1997-2000.

Therapist, University of Oregon Psychology Department, Eugene, 1997-
1998.

Therapist, Center for Community Counseling, Eugene, 1998-2001.

Intake Counselor, Center for Community Counseling, Eugene, 1999-2000.

Assessment Specialist, University Counseling and Testing Center, Eugene, 1999-2001.

AWARDS AND HONORS:

Emotion Research Training Fellow, National Institute of Mental Health, 1998-2000

Research Award, Psychology Department, University of Oregon, 2000.

University of Oregon General Scholarship, 1998-2000.

Summa cum laude, Duke University, 1994.

Graduation with Distinction in Psychology, Duke University, 1994.

Duke University William Griffith Service Award, 1994.

Undergraduate Research Grant Recipient, Duke University, 1993.

Dean's List with Distinction, Duke University, 1991-1994.

Golden Key National Honor Society, 1991.

GRANTS:

Center for the Study of Women in Society, University of Oregon, 1998

Stephen Wasby Dissertation Award, 2000.

PUBLICATIONS:

DePrince, A.P., Becker, K.A. & Freyd, J.J. (under review). New conceptualization of memory and cognitive schemas for children who have been sexually abused. Invited chapter for L.E.A. Walker, S.W. Gold, & B.A. Lucenko (Eds.) Handbook on Sexual Abuse of Children: Assessment, Treatment, and Legal Issues. New York: Springer.

DePrince, A.P. & Freyd, J.J. (in press). The intersection of gender and betrayal in traumatic exposure and trauma sequelae. Chapter invited for R. Kimerling, P.C. Oumette, & J. Wolfe (Eds.) Gender and Posttraumatic Stress Disorder: Clinical, Research, and Program-Level Applications. Guilford Press.

DePrince, A.P. & Freyd, J.J. (in press). Directed forgetting and dissociative tendencies: The role of attentional context. Journal of Trauma and Dissociation.

DePrince, A.P. & Freyd, J.J. (in press). Meaning for trauma: Perspectives on fear and betrayal. Invited chapter for J. Kauffman (Ed.) Loss of the Assumptive World. Taylor and Francis.

DePrince, A.P. & Freyd, J.J. (in press). The meeting of trauma & cognitive science: Facing challenges and creating opportunities at the crossroads. To appear in: Freyd, J.J. & DePrince, A.P. (Eds). Volume in preparation. Trauma and Cognitive Science: A Meeting of Minds, Science, and Human Experience. To be published as a Special Issue of the Journal of Aggression, Maltreatment, and Trauma and simultaneously as a book published by Haworth Press.

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DEDICATION

To my partner, Susan, for taking so many leaps of faith with me.

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CHAPTER I

INTRODUCTION

Recent research using a random sampling of individuals across the United States found that 72% of respondents reported having experienced at least one traumatic event, ranging from childhood trauma to car accidents to murder of a loved one (Elliott, 1997). This study is in line with other research indicating that a significant portion of the population has experienced trauma, and that a substantial number of those individuals exposed to trauma go on to experience psychological distress related to the trauma (for reviews, see van der Kolk & McFarlane, 1996; McFarlane & DeGirolamo, 1996). Given the high prevalence of trauma, researchers and clinicians have begun to examine a broad range of symptoms associated with trauma, including posttraumatic stress disorder (PTSD) and dissociative responses (e.g., van der Kolk & McFarlane, 1996; Herman, 1992; Putnam, 1997; Meadows & Foa, 1998; Wagner & Linehan, 1998; Cloitre, Scarvalone & Difede, 1997; Cloitre, 1998).

Much of the literature on posttraumatic responses has focused on PTSD and in turn, when considering emotions, has focused primarily on the fear associated with trauma. The focus on fear has allowed the field to make significant progress in understanding particular dimensions of trauma and posttraumatic responses. Recent theoretical work by a number of researchers, though, suggests that fear is only one of many emotions and cognitions important to understanding the context of traumatic events

and the breadth of posttraumatic responses. Betrayal trauma theory (Freyd, 1996), for example, emphasizes the role that social betrayal plays in understanding how humans process traumatic events. This dissertation examines underlying assumptions in the current conceptualization and categorization of PTSD that have led researchers to focus on fear as the primary emotion associated with traumatic events and posttraumatic responses. An alternative view of trauma that considers the role of social betrayal in evaluating traumatic events and understanding posttraumatic responses will be proposed.

A Brief Historical Perspective on the Study of PTSD and Dissociation

Hysteria, soldier's heart, shell shock and posttraumatic stress disorder are among the many terms that bookmark psychiatry's history of grappling with human responses to trauma. The roots of traumatic stress studies lay as early as the 19th century, when psychiatrist Pierre Janet was among the first to draw a connection between childhood traumatic experience and what was termed "hysteria" in women (van der Kolk, Weisaeth, & van der Hart, 1996). At that time, Janet articulated the basic principles of dissociative phenomenon based on his observation of alterations in consciousness in hysterical patients (Putnam, 1989). Janet also expanded on the adaptive nature of dissociation for dealing with acute and/or chronic trauma (Putnam, 1989). In recent history, dissociation has been defined as a failure to integrate thoughts, emotions and experiences in a normally expected fashion (see Putnam, 1997). Putnam (1997) describes dissociation as

“characterized by alterations of certain types of memories, skills, and knowledge, and by alterations in core aspects of sense of self and identity (p. 14).”

Though Janet and his colleagues pursued discussion of dissociation and trauma at the turn of the century, a period of disinterest ensued during which time little was written on the topic. Trauma and dissociation surfaced as areas of study only briefly after World Wars I and II (see van der Kolk, Weisaeth, et al., 1996; Herman, 1992; Hilgard, 1986). Following the Vietnam war, a renewed interest in trauma arose as veterans returned with reports of hyperarousal, intrusive recollections, and other stress-related symptoms (Herman, 1992). During the same time period, traumatic responses to childhood abuse and sexual violence were documented, including writings on a proposed “rape trauma syndrome” (Herman, 1992). On the heels of political pressure from Vietnam veterans and participants in the women’s movement of the 1970s, posttraumatic stress disorder (PTSD) entered the Diagnostic and Statistical Manual of Mental Disorders - 3rd Edition (DSM-III) in 1980 (Herman, 1992).

While PTSD entered the diagnostic system in 1980, symptoms of traumatic syndromes have long been represented in the various revisions of the Diagnostic and Statistical Manual for Mental Disorders (DSM). DSM I conceptualized trauma symptoms as neurotic neuroses, while DSM II discussed transient situational disturbances or gross stress reactions (Keane, 1993). PTSD was formally included in the third revision of the DSM and classified as an anxiety disorder. The placement of PTSD as an anxiety disorder was consistent with views in the field at that time, particularly the beliefs that a

specific stressor was etiologically responsible for the onset of the disorder and anxiety was the core symptom (Keane, 1993). The DSM III definition of PTSD transformed notions of stress because stress responses were no longer restricted to acute responses in otherwise healthy people; rather, DSM III recognized that traumatic events can lead to long term changes in people and interact with other forms of distress, such as depression (Brett, 1996). PTSD entered the diagnostic nomenclature at a time in which most PTSD research focused largely on symptoms exhibited by Vietnam veterans (see Herman, 1992 for a detailed review of the history of the development of the PTSD diagnosis). In evaluating the underlying assumptions in the PTSD diagnosis, it is important to keep in mind that initial conceptualizations of the disorder were primarily based on male veterans' experiences in a fairly circumscribed trauma (i.e., combat).

Under the current formulation, a diagnosis of PTSD requires that the individual has experienced a traumatic event that involved threat of death or serious injury to self or others (APA, 1994). In addition, the person's response at the time of the trauma must involve "intense fear, helplessness or horror" (APA, 1994, p. 428). Together, these two requirements comprise the Criteria A component of PTSD. Additional criteria for the diagnosis are divided into three clusters: Criteria B, C, and D. Cluster B includes intrusive symptoms that involve re-experiencing of the traumatic event (e.g., recurrent intrusive recollections, nightmares). Cluster C includes withdrawal symptoms that involve avoidance and numbing responses (e.g., efforts to avoid thoughts or feelings, impaired recall for the traumatic event, restricted range of affect). Finally, Cluster D

includes symptoms of arousal (e.g., hypervigilance, sleeping difficulties, exaggerated startle response). To meet the criteria for PTSD, one or more intrusive symptoms, three or more withdrawal symptoms and two or more arousal symptoms must be present.

Experiences that are dissociative in nature appear in PTSD and Acute Stress Disorder (ASD) diagnoses, in addition to the dissociative disorders. Though dissociation was initially central to thinking about trauma during Janet's time, dissociation is not mentioned as a specific criteria within PTSD. While the PTSD-withdrawal cluster overlaps to some extent with dissociative experiences (e.g., memory impairment, feeling of detachment, restricted range of affect), the criteria do not emphasize the role of dissociative experiences in the posttraumatic response. A diagnosis of Acute Stress Disorder (ASD), however, requires that three dissociative symptoms be present (ASD; DSM IV, 1994). Though ASD and PTSD are both believed to be diagnoses that arise from the same etiology (i.e., a traumatic event), ASD highlights the role of dissociative symptoms while PTSD does not.

Fear Paradigm in Relation to PTSD Classification

Since the mid-1980's, conceptualizations of trauma have centered on the fear or anxiety invoked by the trauma. This focus on fear is arguably intimately tied to the current classification of PTSD as an anxiety disorder. In examining the relation between fear and the anxiety disorder classification of PTSD, evidence supporting that classification will be examined.

Proposed similarities between panic and PTSD have been used to support the classification of PTSD as an anxiety disorder (Brett, 1996). For example, Barlow has made a compelling case by applying his models of development and consolidation of anxiety disorders to PTSD (Brett, 1996). This model suggests that when individuals with biological and psychological vulnerabilities experience stressful life events, they begin to organize their lives around beliefs that stressful events are largely unpredictable.

According to anxiety models, the fears experienced by these individuals contribute to chronic hyperarousal and anxiety. Barlow and others argue that anxiety about the future is at the core of PTSD (Brett, 1996). Based on this assumption, the literature reflects extensive investigations of alterations in information processing that contribute to the cycle of anxiety in PTSD (Brett, 1996). For example, van der Kolk and McFarlane (1996) outline six factors that are involved in alterations in information processing in those individuals who meet criteria for PTSD. The six factors include: the experience of persistent intrusions interferes with attending to other incoming information, compulsive re-exposure to situations like the trauma, active attempts to avoid triggers, inability to modulate arousal, changes in attention, distractibility and stimulus discrimination, and alterations in defense mechanisms.

Additional theoretical support for the placement of PTSD as an anxiety disorder is drawn from Barlow's model of panic disorder (Brett, 1993, 1996). Barlow argues that PTSD and panic are similar in the pattern of intrusive thoughts about the stressor, efforts to avoid the stressor, and hypervigilance. Some have suggested that PTSD can be

thought of as a cued panic attack, reinforcing the underlying assumption that PTSD symptoms are anxiety-based.

Limited support of the anxiety classification has been drawn from studies of family history and animal models (Brett, 1993; Brett, 1996). In addition, some researchers have argued that PTSD is an anxiety disorder based on studies of comorbidity which indicate that PTSD co-occurs with other anxiety disorders, as well as depression and substance abuse (Brett, 1993). Van der Kolk and McFarlane (1996) raise an interesting point related to any consideration of comorbidity studies. People with simple diagnoses of PTSD tend not to seek treatment, while those who have co-occurring depression, anxiety disorders or substance abuse do seek treatment (van der Kolk & McFarlane, 1996). Van der Kolk and McFarlane (1996) suggest that people who can make meaning of their symptoms as appropriate responses to traumatic events are able to manage their symptoms. For those individuals whose symptoms are quite complicated, van der Kolk and McFarlane (1996) suggest that they are not able to make meaning of their reactions and therefore require intervention in order to manage the symptoms. If van der Kolk and McFarlane (1996) are correct, this has implications for the comorbidity argument because research studies drawing on treatment-seeking samples may be capturing a higher percentage of individuals with co-existing diagnoses than exists in the general population. Keane (1993) echoes this concern, noting that research with individuals who have comorbid disorders leaves the literature very unclear as to which symptoms are central to PTSD and which are secondary to other forms of distress.

In recent years, the placement of PTSD as an anxiety disorder has been met with controversy by leading researchers in the field of traumatic stress (e.g., Keane, 1993; Brett, 1996; Brett, 1993; Herman, 1992). Brett (1993, 1996) discusses several objections to the anxiety disorder classification. First, none of the findings in the current literature on family history or comorbidity demonstrate a strong relationship between PTSD and other anxiety disorders (Brett, 1993). Second, the literature does not tell us whether the arousal in PTSD is anxiety or whether PTSD has the same pathophysiology as other anxiety disorders (Brett, 1996). Third, Brett (1996) suggests that the pattern of intrusions and withdrawal in PTSD might be more closely related to mourning and bereavement than cycles of anxiety; van der Hart (2000) suggested that intrusions and withdrawal are actually dissociative phenomenon, not necessarily related to anxiety. Fourth, PTSD symptoms include very specific effects on memory that are not evident in other anxiety disorders (Brett, 1996). The controversy surrounding PTSD's classification invites us to examine the underlying assumptions and effects of conceptualizing PTSD as an anxiety disorder. Arguably, the placement of PTSD as an anxiety disorder affects both our research and treatment approaches because of the assumptions that underlie its categorization.

Exploring the Influence of Anxiety Classification on PTSD Research

What effects does the classification of PTSD as an anxiety disorder have on research? A number of models of PTSD have borrowed concepts from anxiety models

(Brett, 1996) and therefore may have incorporated implicit assumptions that PTSD functions in the same manner as anxiety disorders more generally. These assumptions drive research questions, methodology and data interpretation. When we consider underlying assumptions that have been inferred from the placement of PTSD as an anxiety disorder, one of the most prominent is probably the assumption that fear is the emotion at the core of the PTSD response.

The assumption that fear is at the core of the PTSD response has influenced much research, theory and treatment. Lang's theory of fear as a cognitive structure has been applied to anxiety disorder research broadly and recently to PTSD specifically (Rothbaum & Foa, 1996). Within this framework, the underlying assumption in research and treatment is that the individual with PTSD has pathological elements in the fear structure that require modification (Rothbaum & Foa, 1996). Treatment, therefore, requires the activation of the fear structure and provision of corrective information, which is thought to, in turn, decrease symptoms (Rothbaum & Foa, 1996). A review of treatment outcome studies revealed that behavioral and cognitive behavioral treatments most reliably decrease anxiety and arousal-related symptoms as opposed to withdrawal symptoms (Blake & Sonnenberg, 1998). It may be the case that treatments developed from the assumption that fear underlies the trauma response will better address anxiety-related symptoms.

In addition, the classification of PTSD as an anxiety disorder likely affects the outcome measures that researchers have chosen in research and treatment effectiveness

studies. For example, until recently studies of PTSD did not routinely include measures of dissociation. It may be the case that the withdrawal symptoms are interpreted as part of the anxiety-loop that theoretically helps to maintain distress in anxiety disorders (e.g., experiencing anxiety leads to avoidance which leads to more anxiety) and are not evaluated for their relationship to other dissociative phenomenon. That is to say, the withdrawal symptoms may have an additional etiology that is not explored because of the assumptions of an anxiety model. Understanding other models for withdrawal symptoms provides opportunities to develop new, and improve existing, interventions.

The underlying assumptions researchers rely on in designing research is critically important, particularly in terms of how these assumptions implicitly define PTSD. In this respect, Keane (1993) has outlined several concerns about the statistical approaches to PTSD diagnosis that have been used to date. First, current research is based on categorizing people as to whether or not they meet criteria for PTSD. There is inherent circularity in this logic because the subject selection process assumes that the current criteria are valid (Keane, 1993). If only people who meet current PTSD criteria are included in studies, the bias is naturally in favor of findings that support the current criteria and classification (Keane, 1993). Keane (1993) also highlights the problems in the categorization of PTSD as present or absent. This dichotomy is actually inconsistent with the standard assessment instruments that run on continuous scales (Keane, 1993), as well as extensive evidence in the literature that many people have posttraumatic symptoms that do not necessarily meet the full criteria (e.g., Blank, 1993). Posttraumatic

responses that do not meet full criteria are not well understood. Are these low level symptoms healthy responses to an abnormal situation that will decrease over time (Blank, 1993), or do they represent some meaningful indication of a continuum or posttraumatic response that is not captured by the current diagnostic system? Notably, those individuals with low level symptoms are largely not included in research studies.

While the placement of PTSD as an anxiety disorder biases the field to ask certain questions, the categorization likewise discourages the field from asking other questions. With the focus on anxiety, researchers have been slower to ask empirical questions about alternative roles that the withdrawal cluster may play in the onset and maintenance of PTSD. The assumption has been that withdrawal symptoms occur in response to increased anxiety. For example, Foa, Zinbarg and Rothbaum (1992) proposed that PTSD-withdrawal could be divided into two separate processes – avoidance and numbing – that relate to cycles of anxiety. Specifically, they suggested that avoidance involves effortful processes that people engage in to avoid trauma-related information; in contrast, they proposed that numbing involves automatic processes that result from chronic hyperarousal (Foa et al., 1992). In later work, Foa and Riggs (1993) suggested that numbing results from the failure of avoidance behaviors to reduce anxiety caused by trauma-related stimuli. The models that Foa and colleagues propose assume that the PTSD-withdrawal cluster functions in response to distress caused by anxiety. While this may be true under some circumstances, alternative explanations for the function of the withdrawal cluster have not been thoroughly examined. Further, Tampo and Irwin

(1999) note that most studies in the PTSD literature use a single index of PTSD and do not examine the three clusters separately. They argue that this reflects the underlying assumption that the three clusters have the same etiology. Assuming the same etiology for all three clusters of PTSD symptoms necessarily limits any alternative hypotheses that might be generated to extend our understanding of these clusters.

Examining the Relationship Between Dissociation and PTSD

At a conceptual level, several symptoms in the withdrawal cluster of PTSD are similar to dissociative phenomenon (e.g., inability to remember trauma-related information, feelings of estrangement from others). The conceptual relationship between the withdrawal cluster and dissociation provides initial evidence that alternative models for understanding the onset and maintenance of withdrawal symptoms in the context of dissociation should be examined. While the withdrawal cluster has many characteristic features of dissociation, dissociation was not routinely used as an outcome variable in research studies on PTSD until recently. As researchers include measures of dissociation, connections between PTSD and dissociation are identified. For example, recent evidence suggests that people who meet criteria for PTSD score higher on the Dissociative Experiences Scale (DES), a widely used self-report measure of dissociation (e.g., Putnam, 1997, Maldonado & Spiegel, 1998; Yehuda et al., 1996; Carlier, Lamberts, Fouwels, Gersons, 1996). A growing literature on peritraumatic dissociation (dissociation at the time of the trauma) suggests that ratings of peritraumatic dissociation are highly

predictive of later distress and PTSD (e.g., Weiss, Marmar, Metzler, & Ronfeldt, 1995; Tichenor, Marmar, Weiss, Metzler, & Ronfeldt, 1996).

Some researchers have suggested that dissociation may play a central role in the onset and/or maintenance of PTSD. For example, van der Kolk and Fisler (1995) suggest that dissociation is at the core of the development of PTSD. In addition, Braun (1988) and van der Hart (2000) have suggested that intrusive symptoms may in fact be dissociative phenomenon. Van der Hart (2000) likened the intrusive PTSD symptoms to positive dissociation symptoms (e.g., presence of intrusive memories), whereas the withdrawal symptoms reflect negative dissociation symptoms (e.g., feeling detached from others). Indeed, the experience of a flashback fits many definitions of dissociation, where normally integrated aspects of consciousness are not integrated (e.g., one's mental experience may not be integrated with conscious awareness of current surroundings, passage of time, etc.).

While evidence does exist to support the relation between dissociation and PTSD, the results across studies are not consistent. For example, Tampke and Irwin (1999) proposed that if van der Kolk and Fisler (1995) and others are correct that dissociation is closely related to PTSD withdrawal, then dissociation should predict PTSD withdrawal beyond the contribution of anxiety. Tampke and Irwin (1999) tested this prediction in a sample of Australian Vietnam veterans. Results were not consistent with their predictions. Intrusion and withdrawal symptoms were predicted by a trait anxiety measure; arousal symptoms were predicted by anxiety and dissociation. In evaluating

this finding, it is important to note that the sample included male combat veterans and is therefore not likely representative of other types of trauma.

With recent interests in dissociation, some speculation about PTSD as a dissociative disorder can be found in the literature. The support for moving PTSD to the dissociative disorders comes from studies suggesting connections between dissociation and PTSD, such as elevated scores on dissociative measures in individuals who meet criteria for PTSD. Additional support for categorizing PTSD as a dissociative disorder is drawn from the observation that both PTSD and dissociative disorders are reactions to extreme stress and therefore have similar etiologies (Brett, 1993). Further, both PTSD and dissociative disorders include alterations in memory among their criteria (Brett, 1993). In spite of this support, PTSD does include anxiety that is more consistent with the other anxiety disorders than the dissociative disorders (Brett, 1993). In addition, some people with PTSD do not experience amnesia or dissociative episodes (Brett, 1993).

The relationship between PTSD and dissociation is by no means straightforward, as illustrated in recent work by Putnam (e.g., 1997). Putnam (1997) reported on a study of dissociative tendencies in individuals who meet criteria for PTSD. Half of the participants scored in the extreme on the DES and half in the normal range. Putnam (1997) raised the question as to whether there may be two forms of PTSD; he proposed that one form includes pathological dissociation and the second form does not. This is consistent with other suggestions in the field that a two dimension model of PTSD (one

dimension involves intrusions and the other involves withdrawal) might better fit human responses to trauma (e.g., Laufer, Brett, & Gallops, 1985c).

Putnam (1997) also noted that 36 different combinations of PTSD symptoms can be used to meet the full criteria. To date, the literature does not reflect systematic study of the different symptom combinations that can be formed to qualify for meeting full PTSD criteria. Rather, people are broadly categorized as meeting or not meeting full criteria. Removing the assumption that anxiety or fear are at the core of the PTSD response, research questions might be more urgently directed at understanding the different ways in which PTSD can be manifested and the predictors of these different symptoms pictures.

If PTSD were to be categorized as a dissociative disorder, or the presence of dissociation in PTSD were more explicitly acknowledged, research and clinical questions would likely be influenced. First, investigating the role of dissociation in trauma response would become a more central research question. To date, dissociation has received increased attention in terms of how it influences trauma responses, but the literature is still quite young in this respect. In addition, theoretical considerations of how dissociation functions at different points in time, as well as how different levels of dissociation affect PTSD, would increase (e.g., van der Hart, van der Kolk, & Boon, 1998). The movement of PTSD to the dissociative disorders might also increase research on treatment for dissociation. While the literature does contain treatment models for dissociative disorders (e.g., van der Hart, van der Kolk & Boon, 1998; Putnam, 1997),

few studies consider treating dissociative tendencies in PTSD. Treatment protocols discuss the importance of preventing dissociation during exposure to anxiety- or fear-provoking stimuli in order to make the exposure more effective, but tend not to consider focusing on the dissociation as a clinically meaningful factor independent of exposure. Refreshingly, at least one chapter (by Wagner and Linehan) in Follette, Ruzek and Abueg's (1998) comprehensive volume on treatment for trauma focus on treatment of dissociative behavior. Wagner and Linehan (1998) discuss the role and etiology of dissociative phenomenon in a range of disorders (e.g., dissociative disorder, PTSD, borderline personality disorders and somatization disorders). Wagner and Linehan (1998) also suggest ways to adapt Linehan's dialectical behavior therapy to the treatment of dissociative tendencies.

Examining Specific Symptoms and Antecedents in PTSD

While recent research appears to assume that fear and anxiety-related symptoms are central to PTSD, several examples of research in which investigators examined the heterogeneity in PTSD are available. As early as 1985, under the rubric of the DSM-III definition of PTSD, leading researchers recognized the alteration between reactivity/intrusions and psychic numbing (van der Kolk, 1985). At this point in the development of the field, some researchers suggested that the withdrawal symptoms of PTSD might be most central, though perhaps less recognized clinically because individuals tended not to seek treatment during this phase of the disorder (e.g., van der

Kolk, 1985). Van der Kolk & Ducey (1985) argued that emotional constriction is probably the more common form of PTSD, but individuals experiencing such symptoms likely are not recognized. Van der Kolk (1985) noted that professionals were most bothered by management of individuals who were in the reactive phase of the disorder and foreshadows a focus on the anxiety-related symptoms that occurs in the 1990's in both clinical and research settings.

Laufer, Brett and Gallops (1985a, 1985b) were among the first researchers to examine war stressors and their relation to specific symptoms. Looking at combat vets, they found that combat exposure contributed to hyperarousal and intrusive imagery; however, witnessing abusive violence (e.g., attacking civilians, rape, defiling dead bodies, etc.) contributed to hyperarousal, numbing and cognitive disruption symptoms. Based on these findings, Laufer et al.(1985) suggested that two forms of PTSD might exist: a reexperiencing disorder and a denial-based disorder. To test this hypothesis, they looked at the relationship of different stressors to the full PTSD criteria, a reexperiencing disorder and a denial-based disorder. Combat exposure was only weakly related to the full PTSD criteria, though witnessing abusive violence was strongly related to the existing criteria. Participating in abusive violence contributed to a denial symptoms and did not relate at all to the full PTSD criteria. Combat exposure was significantly related to reexperiencing and not to the denial based symptoms. Laufer, Brett and Gallop (1985a) argue that the DSM-III PTSD diagnosis was biased towards diagnosing those with reexperiencing symptoms and only those with both reexperiencing and denial

symptoms would be caught by the diagnostic category. Interestingly, some have criticized DSM-IV criteria for being biased towards diagnosing those with withdrawal symptoms because more Criteria C symptoms are required than Criteria A or B (e.g., Norris, 1992).

Laufer et al. (1985c) suggested that an alternate model to the DSM-III version of PTSD might better fit different types of war trauma. Specifically, they proposed that different traumatic events will result in different types of symptom responses. Drawing on Horowitz's notion that there are two primary mental states following trauma – intrusions and avoidance – the authors proposed a two-dimensional model of PTSD (Laufer et al., 1985c). Laufer et al. (1985c) introduce data from Vietnam war veterans to support their proposal. In a sample of 251 veterans, Laufer et al. (1985c) argue that data supports their assertion that stress symptoms differ based on the specific type of war trauma experienced (e.g., combat versus abusive violence). In addition, they introduce the notion that posttraumatic symptoms are not static over time; rather, they note that symptoms fluctuate, thereby creating different patterns of symptoms longitudinally.

Yehuda, Southwick, and Giller (1992) examined contextual factors associated with trauma and their relation to PTSD severity. Drawing on work by Laufer and others, Yehuda et al. (1992) report that the type of war trauma experienced by veterans is significantly related to PTSD severity. Further, the authors highlighted the importance of atrocities in war in the development and maintenance of PTSD. O'Toole, Marshall, Schureck, and Dobson (1999) examined four components of combat experience (direct

combat exposure, exposure to death and injury, exposure to civilian death and injury and exposure to mutilation) and their relation to PTSD. Each of the four components of combat experience was differentially related to the PTSD clusters.

Laufer et al.'s (1985abc) study was among the first of a handful of studies that have examined specific stressors in traumatic events and recognized that stressors are not uniform. In considering different stressors, Laufer et al. (1985a) noted that threat to life, bereavement, degree of warning and exposure to the grotesque were among the most important characteristics to be considered for war traumas. In more recent research, several characteristics of civilian trauma have been used to predict posttraumatic distress. Researchers frequently break traumatic events into broad groups, such as crime (e.g., physical assault, robbery, rape) and noncrime (e.g., natural disaster, motor vehicle accident) (e.g., Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). Several studies also examine the presence of injury or threat during the trauma (e.g., Resnick et al., 1993), as well as the age, sex and race of the trauma survivors and time since the event.

In the context of the epidemiological research, the relationship between several civilian traumas and PTSD has been examined. Across several studies, higher rates of PTSD have been found for sexual assault than most other civilian traumatic events (e.g., Kilpatrick et al., 1989; Breslau, Davis, Andreski, & Peterson, 1991; Norris, 1992; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Direct threat to life or receipt of an injury have also been identified as important risk factors for PTSD (Resnick et al., 1993; Kilpatrick et al., 1989). Finally, violent crime has been found to be more strongly related

to more severe distress and PTSD than property crime or non-crime traumas (e.g., Resnick et al., 1993; Kilpatrick et al., 1989; Norris & Kaniasty, 1994). In addition, factors such as age at the time of the trauma and time since the event are also routinely examined in research.

Shortcomings of the PTSD Diagnosis: Looking Beyond Fear

Many researchers and clinicians have noted that the current PTSD diagnosis does not capture the breadth and depth of the impact of trauma. Examples of alterations that may follow trauma, but are not captured by the current PTSD criteria include: changes in interpersonal relatedness (e.g., Cloitre, 1998), tolerance of intimacy (e.g., Turner, McFarlane & van der Kolk, 1996), systems of meaning (e.g., Roth & Newman, 1991; Janoff-Bulman, 1992), alexithymia (e.g., Cloitre, 1998), family system functioning (e.g., Figley, 1995; Compton & Follette, 1998). Herman (1992) outlines six domains which are altered by prolonged trauma that are not adequately addressed by the current PTSD criteria: affect regulation, consciousness, self-perception, perception of perpetrator, relations with others, and systems of meaning.

Herman (1992) proposed a complex PTSD diagnosis to capture responses to prolonged trauma. Complex PTSD has helped to re-conceptualize traditional notions that posttraumatic reactions fall within the anxiety disorders. Herman (1992) argues that prolonged trauma, as in the case of prisoners of war, the Holocaust, some child abuse and domestic violence, differs greatly from single event traumas. Herman (1992) commented

that the majority of trauma research to date examined relatively circumscribed events (e.g., combat, disaster, rape). Relatively circumscribed traumas do not include characteristics of prolonged trauma, such as environmental pressures that result in changes in domains such as character, personal identity, affect, and somatization. Herman's (1992) recommendation for a spectrum of posttraumatic stress disorders was not accepted in the last revision of the DSM. In addition, though the DSM-IV Advisory Subcommittee on PTSD voted unanimously to place PTSD in a new stress response category, the DSM-IV Task Force did not support this change (Brett, 1996). Herman's (1992) work highlights the importance of looking beyond traditional assumptions about trauma to understand the complexities of human experience and reactions to trauma.

Theoretical Developments Beyond Fear

Several investigators have examined meanings ascribed to traumatic events beyond fear. Janoff-Bulman (1992) suggested that trauma shatters three basic assumptions held about the world: the world is benevolent, the world is meaningful, and the self is worthy. Janoff-Bulman (1992) employs information processing approaches to explore the ways in which schemas and other cognitive factors influence humans' cognitive conservatism and resistance to changing these basic assumptions. Given that humans are resistant to any change in these assumptions, traumatic experiences shatter the assumptions. Within this shattered assumption framework, coping and healing from trauma requires that individuals reconcile their old set of assumptions with new, modified

assumptions. Empirical investigations have resulted in good support for this theory and provided additional information about how the type of trauma experienced influences which assumption(s) are affected (e.g., Janoff-Bulman, 1989; 1992).

Roth and colleagues have incorporated the role of assumptions in their work with survivors of sexual assault (e.g., Lifton, 1996; Newman, Riggs, & Roth, 1997; Roth & Newman, 1993; Roth & Lebowitz, 1988; Roth & Newman, 1991). Roth and Newman (1991) note that the survivor must grapple with the meaning of the trauma, as well as the emotional impact, in order to end preoccupation with negative feelings. Sexual trauma confronts survivors with both affects (e.g., rage, helplessness) and meanings (self-blame, challenged ability to trust) that have long term effects (Roth & Newman, 1991). Within this conceptualization, Roth and Newman (1991) note four major schemas that are affected by trauma; these include the three assumptions outlined by Janoff-Bulman, as well as a fourth notion that people are trustworthy and worth relating to. Roth and Newman (1993) and Roth, Lebowitz and DeRosa (1997) discuss the importance of narrative and the schemas that are affected by the trauma in both assessment and treatment. Roth and colleagues have written extensively on their coding system, as well as conducted studies that show good validity for the system (Lifton, 1996).

During the DSM-IV field trials, Roth and colleagues used the coding system to successfully predict whether individuals would meet criteria for PTSD alone or no PTSD, compared to concurrent PTSD and complex PTSD (Newman, Riggs & Roth, 1997). The coding system has not yet been used to examine the influence of particular themes on

predicted symptom structures (e.g., employing theoretical predictions to examine the relation between fear themes and arousal or trust and dissociation). To date, Roth and colleagues have looked at whether overall disruption in themes (e.g., helplessness, fear, rage) affect symptoms of PTSD and complex PTSD. Roth and colleagues have illustrated that alterations in important themes are related to overall symptomatology (e.g., Newman, Riggs, & Roth, 1997). However, employing the occurrence of specific themes to predict symptom configurations have not been examined to date.

Betrayal Trauma Theory

Freyd (1994, 1996, in press) proposed betrayal trauma theory to account for memory impairment for traumatic events. Betrayal trauma theory posited that there is a social utility in remaining unaware of abuse when the perpetrator is a caregiver (Freyd, 1996). This theory has made a significant contribution to the field in a number of ways. First, the theory accounts for memory failure in a way that can be empirically tested. Second, the theory stresses a meaning for the trauma that previously had not been focused on to any large extent in research: betrayal. In delineating the theory, Freyd (1996) lays out why and how humans are excellent at detecting betrayals; however, under some circumstances detecting betrayals may be counter-productive to survival. Specifically, in cases where a victim is dependent on a caregiver, survival may require that she/he remain unaware of the betrayal. In the case of childhood sexual abuse, a child who is aware that her/his parent is being abusive may withdraw from the relationship (e.g., withdraw in

terms of proximity or emotionally). For a child who depends on a caregiver for basic survival, withdrawing may actually be at odds with ultimate survival goals, particularly when the caregiver responds to withdrawal by reducing caregiving. In such cases, the child's survival would be better ensured by being blind to the betrayal and isolating the knowledge of the event, thus remaining engaged with the caregiver.

Betrayal trauma theory invokes dissociation as a likely mechanism in isolating awareness of abuse and betrayal. The betrayal trauma framework has been primarily applied to child abuse to date, but informs processing in other types of trauma, such as domestic violence and combat (see Shay, 1994 for discussion of betrayal in combat). Freyd (in press) noted that traumatic events involve differing degrees of fear and betrayal, depending on the context and characteristics of the event. Looking at a two dimensional model with fear on one axis and social betrayal on the other, the possibility that traumas may involve mainly betrayal or fear, or a combination of both, extends the traditional assumptions in PTSD research that the fear is at the core of responses to trauma (see Figure 1).

Freyd's (1996) betrayal trauma theory implicates dissociation as an important mechanism in keeping threatening information from awareness. Indeed, DePrince and Freyd (1999; in press; in preparation a; Freyd & DePrince, in press) have found empirical support for the relationship between dissociation and knowledge isolation in laboratory tasks. Across several laboratory tasks, individuals who score high on the Dissociative

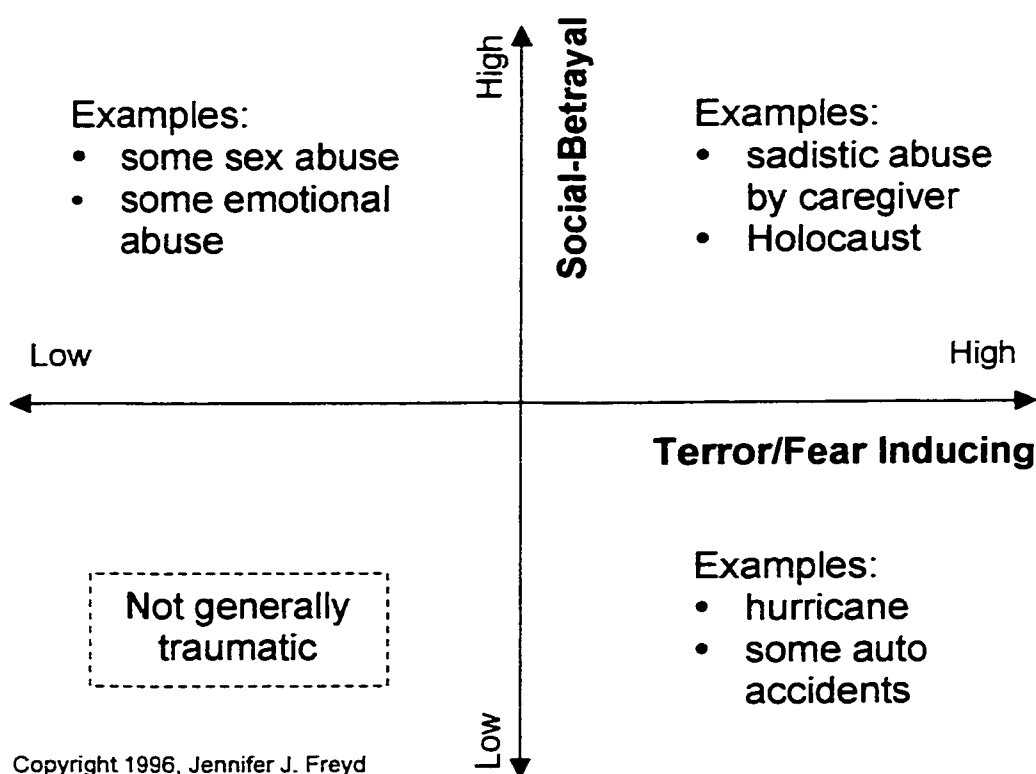


FIGURE 1. Freyd's Two-Dimensional Model for Traumatic Events

Experiences Scale (DES) tend to recall fewer trauma and more neutral words compared to individuals who score low on the DES and recall more trauma and fewer neutral words (DePrince & Freyd, 1999, in press, in preparation a). Survey methods compliment the laboratory research that has provided support for betrayal trauma theory. For example, Freyd, DePrince and Zurbriggen (in press) found that physical and emotional abuse perpetrated by a caregiver was related to higher levels of self-reported memory impairment for the events compared to non-caregiver abuse. Taken together, these investigations support the underlying model in betrayal trauma theory. Specifically,

betrayal appears to invoke dissociative responses that help the individual to keep threatening information from awareness under conditions where the individual's survival depends upon the perpetrator.

Proposed Model

Based on the betrayal trauma theory framework and empirical evidence of the relation between betrayal and dissociation, the following model is proposed. This model seeks to extend betrayal trauma theory beyond considerations of knowledge isolation as a means for maintaining attachments that are necessary to attachment to other forms of withdrawal. It is hypothesized that betrayal will predict dissociative and withdrawal symptoms, such as alexithymia, somatic dissociation, and PTSD withdrawal (e.g., restricted range of affect, feeling of detachment or estrangement from others) beyond fear. As in the case of memory impairment, withdrawing from one's emotional experiences (alexithymia, restricted range of affect), physical sensations (somatic dissociation) and cognitive experiences (dissociation as measured by the DES) may provide traumatized individuals with a means for maintaining abusive relationships that are necessary for survival. Further, even if individuals are no longer in the dependent relationships that involved betrayal, withdrawal symptoms may have been learned as a coping responses and continued later in life. Fear, on the other hand, is proposed to relate more directly to anxiety and arousal symptoms. Because many traumatic events involve degrees of both betrayal and fear, betrayal and fear likely contribute to both withdrawal

and arousal symptoms. It is the strength of the betrayal-withdrawal and fear-arousal relations that is stressed in this model. See Figure 2.

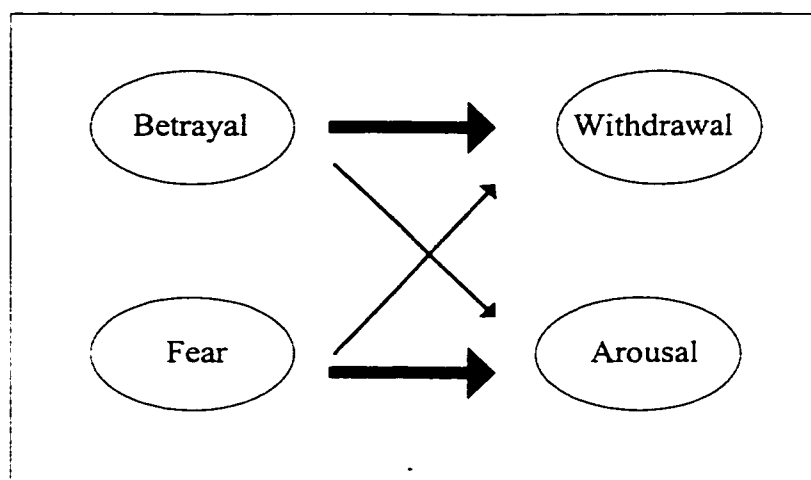


FIGURE 2. Proposed Relationship Between Fear, Betrayal, Withdrawal and Arousal

Given theoretical and empirical evidence, DePrince & Freyd (in preparation b) predicted that betrayal would predict dissociative and withdrawal symptoms beyond fear, but not arousal; fear would predict arousal symptoms beyond betrayal, but not dissociative or numbing symptoms. To test these predictions, DePrince and Freyd (in preparation b) mailed surveys to approximately 80 individuals in counseling through a community agency. 30 participants returned completed surveys. The survey include the Betrayal Trauma Inventory, developed in Freyd's lab, based on Lizak et al. (2000). The BTI asks specific questions about the occurrence of sexual, physical, emotion and life stress events. For example, "Before you were the age of 16, someone beat you with an object (for example, a stick, club, bat or similar object)." For each item that the

participants endorsed, they were asked to complete a series of follow-up questions which sought to gain more information about the context of the stressful life event. Follow-up questions included items such as: relationship to perpetrator, how often the participant had talked about the event, degree of injury, age at time of event, duration of event, alcohol use at time of event. The follow-up questions also contained an item that asked, "How do you feel about the experience now?". Participants saw a list of emotion words, as well as a space to fill in their own words. The survey also included the Dissociative Experiences Scale (DES), the Revised Civilian Mississippi Scale for PTSD, and the Trauma Symptom Checklist (TSC-40).

To test the prediction that betrayal would be associated with more dissociative or numbing symptoms, and that fear would be associated with arousal symptoms, we computed the total number of times each participants endorsed either fear or betrayal. We then computed their scores on the numbing and arousal factors of the Mississippi Civilian PTSD Scale outlined by Norris and Perilla (1996). Finally, we calculated the DES score for each participant. A correlation matrix was computed for the following factors; number of fear endorsements, number of betrayal endorsements, numbing PTSD score, arousal PTSD score, and dissociation. Consistent with our predictions, betrayal was positively correlated with numbing and dissociation, but not with arousal. Fear was significantly correlated with arousal, but not numbing or dissociation. Multiple regression analyses were conducted to examine the contribution of fear and betrayal to predicting current DES score, as well as scores on a measure of PTSD-avoidance,

intrusion, and arousal symptoms. As hypothesized, the effect of betrayal in predicting dissociation was significant, even when controlling for fear. The same pattern was revealed when predicting avoidance, though betrayal did not reach conventional significance levels ($p=.085$). The patterns were less clear when predicting intrusive and arousal symptoms; neither fear nor betrayal appeared to uniquely contribute to the models. The pilot study provides preliminary support for the relationship between specific emotions (i.e., betrayal) and certain posttraumatic symptoms.

In addition to providing preliminary evidence for unique contribution of betrayal to posttraumatic symptoms, particularly dissociation, this study extends work conducted to date by Freyd and colleagues by looking at people's conscious awareness of betrayal. The initial formulation of betrayal trauma theory was based on the idea that individuals who were betrayed by caregivers use dissociative mechanisms to remain unaware of the betrayal. This pilot study begins to examine what happens to dissociation (as measured by the DES) and PTSD when the individual is aware of their feelings of betrayal.

Methodological Considerations in Expanding Beyond Fear

Most of the research on trauma conducted to date has relied on survey methodology or structured interviews that focus on posttraumatic symptoms. Increasingly, researchers, especially feminist scholars, argue that narrative methodology should be employed when studying forms of oppression, including women's experiences of violence (e.g., Anderson, Armitage, Jack & Wittner, 1990). Anderson et al. (1990)

note that narrative methods are particularly important in studying the experiences of women because narrative allows the woman to communicate context. Similarly, Roth and Newman (1991) argue that asking women, particularly survivors of violence, to speak about their experiences offers women who have traditionally been silenced an opportunity to speak their experiences. In this way, Roth and Newman (1991) argue that narrative methods are especially critical to understanding women's internal worlds following sexual violence.

The assumption that fear is at the core of PTSD responses suggests that research derived from this paradigm will frequently fail to ask about emotions beyond fear. In this way, much as Keane (1993) cautioned against using PTSD as the criteria for entrance to studies and then concluding from those studies that the construct of PTSD holds up, research that looks only at fear and its relation to anxiety will likely be self-supporting. Factors that relate to fear are sometimes taken into consideration, but are still consistent with assumptions that fear is at the core of the PTSD response. For example, studies may examine the relation of injury to a particular posttraumatic outcome (e.g., Resnick et al., 1993). Injury, within the fear paradigm, is likely a proxy for fear because fear is thought of as an emotion that arises from the life-threatening aspects of many traumas.

Much research to date has also assumed that trauma is a unitary construct. While some researchers do highlight differences between single event and ongoing traumas, research studies frequently treat categories of trauma (e.g., sexual assault) as a single entity. Contextual factors, such as the perpetrator in interpersonal violence or degree of

social support, are not generally taken into account. These contextual factors can help to deconstruct the assumption that trauma is a unitary construct and highlight differences in traumatic events in theoretically meaningful ways. Contextual factors such as the perpetrator-victim relationship, map more closely on to paradigms that assume betrayal and relational factors are central to understanding trauma responses. Likely, developing a broader repertoire of contextual factors to be examined systematically in research will be a critical step in gaining a deeper understanding of the myriad responses humans have to trauma.

Finally, current research reflects an underlying assumption that the researcher understands what trauma looks like and will reflect those assumptions in the construction of research tools. These assumptions are influenced by the filters and biases the researcher brings to his or her work. For example, a frequent methodology employed in the trauma literature is to recruit for a particular trauma population (e.g., sexual assault survivors). Green et al. (2000) argue that few studies attempt to screen for the experience of multiple traumas when evaluating posttraumatic responses and that this failure makes it difficult to evaluate findings. When multiple events are screened, research indicates that multiple events are associated with higher levels of symptoms (for a review, see Green et al., 2000). Green et al. (2000) report that in a sample of 1,909 sophomore women, 80-85% of participants who reported a traumatic event reported at least one additional event. By failing to ask about additional traumas, researchers may be perpetuating a belief that any given individual does not experience multiple traumas.

While the field, and perhaps society as a whole, have become more aware that traumas happen to significant proportion of people, there still seems to be a bias not to ask about multiple traumas.

Objectives of the Present Study

The objective of this project was to examine the relative contributions of betrayal and fear to the prediction of posttraumatic responses. In a community sample of 75 participants, betrayal and fear were measured in three ways: self report, observational rating, and implicit rating. In addition, the project sought to include survivors from a range of traumas and to examine the pattern of traumas in a community sample (e.g., single traumatic events versus multiple traumatic events).

Within the broad objective of the study, several specific aims were specified. The first specific aim was to extend an existing semi-structured interview and coding system developed by Roth and colleagues to assess themes associated with trauma (e.g., betrayal, fear, anger, loss), as well as the individual's awareness of those meanings. The coding system was modified to incorporate betrayal, which had not previous been included by Roth. In addition, the interview and coding system were expanded to be used with survivors of trauma other than sexual assault. I hypothesized that the total number of themes present would predict PTSD and dissociation. Support for this prediction is derived from Newman, Riggs and Roth's (1997) finding that the number of themes

present and resolution distinguished individuals with PTSD and concurrent complex PTSD from those with PTSD alone and no PTSD.

The second aim was to test specific predictions regarding the relationship between measures of betrayal and fear and configurations of symptoms. The prediction that betrayal would be the better predictor of withdrawal and dissociative symptoms than fear was tested. Further, the prediction that fear would be the better predictor of anxiety and arousal symptoms (e.g., hyperarousal) was also tested.

A third aim of the study was to address methodological issues pertinent to traumatic stress studies. In order to address methodological limitations in the literature, the major predictions were tested in several ways. First, several measures of betrayal and fear were used (e.g., self-report, observer rating). Second, since dissociative responses are not a unitary construct, multiple measures of dissociation were employed to examine whether the predicted relationships hold up across different aspects of dissociation. Finally, self-report trauma measures included behaviorally defined events and follow-up questions that sought to gain information about the context of the traumatic event (e.g., perpetrator-victim relationship, duration of trauma).

CHAPTER II

METHODS

Participants

Seventy-five individuals recruited from the Eugene community based on self-reported traumatic experiences participated in the study. See Table 1 and 2 for participant demographics; one participant did not report her ethnicity and fourteen participants did not report their income. Participants were recruited through flyers placed at community agencies (e.g., Center for Community Counseling and University of Oregon Counseling Center) and local stores. Flyers announced a study examining the effects of stressful life events such as car accidents, childhood sexual or physical abuse, sexual assault. Participants who were accepted into the study reported experiences across a range of traumatic events (e.g., childhood sexual abuse, adult assault, car accidents). Participants received \$25.00 for their participation.

TABLE 1. Participant Demographics

| Participants | n | Age | Income | Years of Education |
|--------------|----|-------------|--------------------|--------------------|
| Male | 26 | 31.1 (11.8) | \$12,091 (\$9,320) | 13.7 (2.1) |
| Female | 49 | 30.5 (11.6) | \$9,665 (\$6,444) | 14.0 (2.2) |

TABLE 2. Number of Participants Reported by Ethnicity

| Participants | Asian American | African American | Hispanic | Native American | Caucasian | Multi- Ethnic |
|--------------|-------------------|---------------------|----------|--------------------|-----------|------------------|
| Male | 0 | 2 | 3 | 0 | 16 | 6 |
| Female | 1 | 2 | 1 | 0 | 39 | 5 |

Materials

Seven measures of symptoms or world views that have been related to trauma were included. Within this battery, four measures assessed aspects of dissociative tendencies: the Dissociative Experiences Scale, the Toronto Alexithymia Scale (TAS-20), the Trauma-Symptom Checklist (TSC-40) Dissociation subscale, and the Somatoform Dissociation Questionnaire (SDQ-5). The Revised Civilian Mississippi Scale for PTSD (RCMS-PTSD) assessed current PTSD symptoms. The World Assumptions Scale (WAS) and Relationship Questionnaire were also included. In addition, the Betrayal Trauma Inventory (BTI) assessed a broad range of traumatic experiences.

The Dissociative Experiences Scale (DES) is a 28 item self-report measure that assess dissociation (Bernstein & Putnam, 1986). The DES is the most widely used measure of dissociation. Participants indicate what percentage of time they experience each of the 28 items. Sample items include “Some people have the experience of feeling as if they are standing next to themselves or watching themselves do something and they actually see themselves as if they were looking at another person” and “Some people find

that they become so involved in a fantasy or daydream that it feels as though it were really happening to them”. The DES has been shown to have good validity and reliability. The measure is scored by taking an average across the 28 items for each participant.

The Revised Toronto Alexithymia Scale-20 (TAS-20) is a 20 item self-report measure that has been shown to contain three factors: difficulty identifying feelings, difficulty describing feelings, and externally-oriented thinking (Bagby, Taylor, & Parker, 1993). The TAS-20 is included to assess unawareness of emotional states that might not be otherwise captured in the PTSD or dissociation measures. Participants are asked to indicate how much they agree or disagree on a five point scale. The TAS-20 has been shown to have good validity and to be positively correlated with observer rating of alexithymia (Bagby, Parker, & Taylor, 1993). Sample items include “I am often confused about what emotion I am feeling” and “When I am upset, I don’t know if I am sad, frightened or angry”. The TAS-20 is scored by summing the total responses across the twenty items.

The Trauma-Symptom Checklist (TSC-40) is a 40 item checklist which includes symptoms commonly associated with the experience of traumatic events. The TSC-40 is included to capture a range of more general symptoms not captured in the other more specific measures. Six subscales have been identified within the TSC-40, including dissociation, anxiety, depression, sexual abuse trauma index, sleep disturbance and sexual problems. The TSC-40 is scored by summing the items that contribute to each subscale

for subscale scores and summing all responses for the total score. Participants were asked to indicate how frequently they experienced each of the forty items on a scale of zero to three. The TSC-40 has been shown to have good reliability and validity (Briere, 1996). Sample items include “anxiety attacks” and “trouble getting along with others”.

The Somatoform Dissociation Questionnaire-5 (SDQ-5) was derived from a subset of items in the Somatoform Dissociation Questionnaire-20 (SDQ-20). The SDQ-5 was developed for use as a brief screen for dissociative disorders (Nijenhuis, Spinhoven, van Dyck, van der Hart, & Vanderlinden, 1998). The SDQ-5 has been shown to discriminate between individuals diagnosed with dissociative disorders and other psychiatric disorders (Nijenhuis et al., 1998). Participants were asked to indicate how applicable each SDQ-5 item was to them on a scale of one to five. Sample items include “My body, or part of it, is insensitive to pain” and “It is as if my body, or a part of it, has disappeared”. The SDQ-5 is scored by summing the responses to the five items.

The Revised Civilian Mississippi Scale for PTSD (RCM-PTSD) is a self-report measure of posttraumatic symptoms derived from the original version of the scale used in veteran populations (Norris & Perilla, 1996). The RCM-PTSD contains 30 items and has been shown to be a reliable and valid measure of PTSD across a variety of traumas (Norris & Perilla, 1996). Norris and Perilla (1996) report on a scoring method that groups items that are consistent with the clusters of PTSD symptoms: PTSD criterion B (intrusion), PTSD criterion C (withdrawal), PTSD criterion D (arousal) and guilt. The RCMS-PTSD can be scored as a continuous measure of PTSD or as a measure of the

presence or absence of PTSD based on an algorithm reported by Norris and Perilla (1996). Participants rate items on a scale of one to five where one is not at all true and five is extremely true. Sample items include “Since the event, unexpected things make me jump” and “I try to stay away from anything that will remind me of things which happened during the event”.

The World Assumptions Scale (WAS) is a 32 item self-report measure in which participants are asked to indicate how much they agree with statements on a scale of one (strongly agree) to six (strongly disagree). The WAS is composed of eight four-item subscales. Each of the subscales represents an assumption identified by Janoff-Bulman (1989) as part of a heuristic model of people’s assumptions about the world. The eight subscales include benevolence of the world, benevolence of people, justice, controllability, randomness, self-worth, self-controllability, and luck. The WAS has been used with samples who do and do not report trauma history to examine alternations in assumptions related to trauma (Janoff-Bulman, 1989; 1992).

A Self-Report Attachment Style Prototype Questionnaire (Bartholomew & Horowitz, 1991) was administered. The questionnaire provided four statements that reflected four attachment styles: secure, preoccupied (preoccupied with relationships), dismissing (dismissing of intimacy, counter-dependent) and fearful (fearful of intimacy, socially avoidant). Participants were asked first to indicate which statement best corresponded to them. Next, they were asked to rate how like them each statement was on a scale of one (not at all like me) to seven (very much like me). Bartholomew and

Horowitz report on the use of the prototypes in a study examining attachment styles in young adults. The attachment ratings were validated by self-report measures of interpersonal functioning and self-concepts (Bartholomew & Horowitz, 1991).

The Betrayal Trauma Inventory (BTI) is an extensive survey instrument that includes behaviorally-defined events that fall under four categories: sexual, physical and emotional abuse before age sixteen, as well as stressful life events (e.g., natural disasters, divorce, medical illness) across the life span. For each item that participants endorse, they are asked a series of follow-up questions. The follow up items elicit information such as feelings regarding the event, memory impairment, the experience of talking about the event, perpetrator relationship if applicable, age, duration of event. The BTI is a modified version of the Abuse and Perpetration Inventory (API) developed by Lizak and colleagues (Lizak et al., 2000). The API's validity was demonstrated in a sample of men in which the questionnaire accurately identified men who reported abuse histories in a structured interview (Lizak et al., 2000). The API contains sections on physical and sexual abuse before the age of 16. These items were included in the BTI with items specific to women added (the API was developed only for men); the perpetration items were not included in the BTI. In addition, several follow-up questions were added to the original API, such as questions about the perpetrator-victim relationship. Emotional abuse items were created for the BTI. Finally, the life event items were taken from the Life Stressor Checklist-Revised (Wolfe, Kimerling, Brown, Chrestman, & Levin as reported in Wolfe & Kimerling, 1997).

For the physical, sexual and emotional abuse items, the following scores were calculated to create variables that would capture aspects of the context of the traumatic event. A score for caregiver betrayal was calculated by summing the total number of times that participants reported abuse by a caregiver. Participants indicated perpetrator relationship in the question “Was the personal responsible for caring for you (for example providing you with food or shelter)”. For each event, participants also indicated the number of times that the event happened from four selections (one time, two to five times, six to twenty times, more than twenty times). Participants’ responses were coded in the most conservative way possible as one for one time, two for two to five times, six for six to 20 times and 21 for more than 20 times. An injury score was computed from items in the sexual and physical abuse in which participants were asked to indicate degree of injury, such as “mild bruises or scratches” and “broken teeth, broken bones, or injury needing medical care”. For each event, the injury score ranged from zero (no injury) to four (multiple injuries) for physical abuse and zero (no injury) to three (multiple injuries) for sexual abuse. Total injuries per event were summed across all events for the total injury score.

Participants were also asked to endorse how they felt about the events that they reported now and at the time the event occurred. Participants instructed to check as many of the following items as applied: don’t know, negative, positive, neutral, confused, fear, shame, betrayed, happy, angry, other. Scores for current feelings and feelings at the time of the event were determined by summing the total number of times each reaction was

endorsed across all event items in the BTI, including physical, emotional, sexual abuse and life events.

A brief self-report measure of trauma history was used prior to the interview. The Freyd-Goldberg Brief Traumatic Events Survey (Freyd-Goldberg) includes twelve behaviorally defined traumatic events, ranging from non-interpersonal traumas (e.g., natural disasters) to interpersonal traumas (Freyd & Goldberg, in preparation). Interpersonal traumatic events distinguish between those perpetrated by someone relationally close to the victim and those perpetrated by someone not close to the victim. For each item, participants were asked to indicate whether the event occurred never, once or twice or more than twice. In addition, participants were asked to indicate whether events occurred before or after age 18. The Freyd-Goldberg is a relatively new instrument that has been used in approximately three studies to date.

The Thematic Assessment Measurement System (TAMS; Lifton, 1996) is a coding system developed by Roth and colleagues to examine the integration of thematic material. Though Roth and colleagues have been using the system for a number of years (e.g., Roth & Lebowitz, 1988, Roth & Newman, 1993; Newman, Riggs, & Roth, 1997), the coding system was most recently updated in a validity study conducted by Lifton (1996) at Duke University. The system has been used to assess the presence or absence of twelve themes, as well as the degree of resolution the individual shows for each theme. Twelve themes were identified by Lifton (1996): helplessness, rage, fear, loss, shame, people trustworthy, reciprocity, alienation, reenactment, self-blame/guilt, legitimacy, and

meaningful world. An additional theme of betrayal was added for the purposes of the current study. For each of the themes, resolution was rated on a four point scale, modified from Lifton's (1996) six point scale. The resolution ratings ranged from no awareness that the theme is present (e.g., survivors shows either verbal or non-verbal indications of anger, but explicitly denies anger) to awareness and resolution of theme indicating that the survivor accepts the past and current adaptation (e.g., survivor acknowledges that she/he cannot replace what was lost following an assault and has grieved those losses). Roth's original coding system was applied to a semi-structured interview during which time survivors of sexual violence were asked questions to elicit information about their experience of the twelve themes. The narrative given by the participant was coded for the presence or absence of each theme, as well as the degree to which the theme has been resolved. For the purposes of the current study, the TAMS was applied to a range of traumatic events, not just sexual violence.

Procedure

Participants were recruited by flyers; individuals interested in participating contacted the researcher by phone. The researcher confirmed that the participant was eighteen years of age or older. Potential participants were informed that any person who had been hospitalized in the last six months for emotional reasons or attempted suicide in the last six months would be denied participation in the study. No participants were denied entry into the study based on these criteria.

Upon arrival for the interview, participants received an informed consent form and were given a verbal description of the study. In addition to outlining the experiment, the consent discussed videotaping. Participants were asked for consent to videotape the interview for coding purposes and were given details about the storage and disposal of the videotaped interviews. Following informed consent, participants completed the Freyd-Goldberg Brief Trauma Questionnaire and returned it to the interviewer. Participants then took part in a semi-structured interview that drew on events that participants indicated they were willing to discuss from the Freyd-Goldberg. Interviews ranged from forty-five minutes to three hours. All interviews were conducted by DePrince. Following the interview, participants were given an opportunity to take a break. After the break, participants were asked to complete a series of questionnaires in a private room. Upon completing the measures, participants placed the questionnaires in an envelope and dropped the envelope into a box to insure privacy. Participants were debriefed as to the purposes of the study, informed of local counseling resources and compensated for their participation.

Training for inter-rater reliability

Five undergraduates at the University of Oregon were selected to be research assistants for the purposes of implementing the TAMS coding. Research assistants were asked to sign a confidentiality statement at the onset of the project. Research assistants received training a modified TAMS coding manual, as well as on general information on

trauma research and ethics. Research assistants were blind to the specific predictions of the study.

During training, research assistants attended weekly meetings, during which time they discussed the coding system, coded practice written vignettes and ultimately began coding full length practice interviews. Throughout training, research assistants were given background on the TAMS and general theoretical information about themes related to trauma. As research assistants became familiar with the coding system, they worked independently to code practice interviews. For each interview, research assistants were instructed to assign a code for each theme, as well as provide a written explanation of the code. Each research assistant coded ten full length practice interviews. At weekly meetings, the research assistants discussed their codes for the practice interviews until consensus on all codes was reached.

Following training, research assistants began coding full length interviews. Each coder had a subset of their interviews randomly designated to be double-coded for reliability check by another research assistant. During weekly meetings, two coders presented an interview that was double coded and discussed the rationale for each code. Consensus was reached for any discrepancies. These meetings served to address coder drift concerns because the remaining four research assistants attended, listened to discussions of coding decisions and asked questions as needed. Research assistants continued to record their reasoning for each code throughout the study.

CHAPTER III

RESULTS

Coding Reliability

Of the 75 interviews coded using the TAMS, 26 (35%) were double-coded to evaluate reliability. Reliability was assessed at two levels: first, the percent agreement for the presence or absence of the theme and second, the level of resolution of the theme. Percent agreement for ratings of theme present or absent are presented in Table 3. Percent agreements for ratings of theme present or absent were above 75% for all themes. Coders reached total agreement on the presence and absence of fear and betrayal themes in the current study.

To examine reliability of the level of resolution of the theme, percent agreement and Pearson correlations were calculated. To increase reliability, two codes were combined. Codes three and four each included movement towards resolution, such as a change in behavior that improved the individual's level of functioning. At level four, in contrast to level three, participants were rated as showing full resolution of the theme. Combining code levels three and four to create one code that captured any resolution resulted in better reliability. Percent agreement and correlations are presented in Table 4. Several variables did not reach acceptable levels of reliability (e.g., helplessness, shame) and were not used in follow-up analyses.

TABLE 3. Percent Agreement for Presence or Absence of Themes

| Theme | Percent Agreement |
|--------------------|-------------------|
| Helplessness | 96 |
| Rage | 96 |
| Fear | 100 |
| Loss | 96 |
| Shame | 81 |
| People Trustworthy | 92 |
| Reciprocity | 77 |
| Alienation | 91 |
| Reenactment | 88 |
| Self-Blame/Guilt | 88 |
| Betrayal | 100 |
| Legitimacy | 88 |
| Meaningful World | 96 |

TABLE 4. Reliability Statistics for Theme Resolution

| Theme | Correlation | Percent Agreement |
|--------------------|-------------|-------------------|
| Helplessness | .20 | 77 |
| Rage | .43* | 88 |
| Fear | .60** | 77 |
| Loss | .77*** | 73 |
| Shame | .25 | 65 |
| People Trustworthy | .63** | 77 |
| Reciprocity | .18 | 58 |
| Alienation | .37 | 65 |
| Reenactment | .54** | 69 |
| Self-Blame/Guilt | .55** | 62 |
| Betrayal | .80*** | 85 |
| Legitimacy | .60** | 69 |
| Meaningful World | .76*** | 88 |

*p<.05 **p<.01 ***p<.001

Reported Trauma

Self-report histories of trauma were taken from two questionnaires: the Freyd-Goldberg Brief Trauma Events Survey (Freyd-Goldberg) and the Betrayal Trauma Inventory (BTI). The Freyd-Goldberg yielded data about twelve types of trauma before and after age 18. Data for the Freyd-Goldberg is missing from one female participant. Participants endorsed an average of 8.1 (standard deviation 4.9) items on the Freyd-Goldberg. Table 5 provides descriptive information on the percentage of participant who endorsed multiple traumas on the Freyd-Goldberg. This table captures participants' reports of the presence of each of the separate trauma types, but does not include the number of time that participants reported each event occurred. The percentage of participants who endorsed each of the 24 categories of trauma is reported in Table 6.

TABLE 5. Rates of Endorsement for Multiple Traumas on the Freyd-Goldberg

| Number of Separate Event Types Endorsed | Percentage |
|--|------------|
| 1 event | 4 |
| 2-5 events | 30 |
| 6-10 events | 38 |
| 11-15 events | 20 |
| 16-20 events | 5 |
| more than 20 events | 3 |

TABLE 6. Percentage of Men (n=26) and Women (n=48)
who Endorsed Traumas on the Freyd-Goldberg

| | Before 18 | | After 18 | |
|--|-----------|--------|----------|--------|
| | Male | Female | Male | Female |
| Natural disaster | 42 | 42 | 31 | 23 |
| Accident | 38 | 21 | 62 | 25 |
| Witness injury of someone close | 31 | 40 | 38 | 23 |
| Witness injury of someone not close | 42 | 27 | 62 | 35 |
| Witnessed family member attacked | 27 | 40 | 31 | 21 |
| Attacked by someone close | 31 | 56 | 35 | 29 |
| Attacked by someone not close | 31 | 38 | 50 | 31 |
| Sexual contact with someone close | 15 | 44 | 15 | 23 |
| Sexual contact with someone not close | 19 | 46 | 19 | 27 |
| Emotionally/psychologically mistreated | 58 | 77 | 50 | 20 |
| Death of own child | 0 | 6 | 8 | 2 |
| Trauma not covered | 31 | 44 | 50 | 46 |

The Betrayal Trauma Inventory yielded data on physical, emotional, and sexual abuse before the age of 16, as well as stressful life events occurring at any age. For physical abuse, one item was removed from the analysis, “Before the age of 16, someone slapped you with an open hand on your face”. Given that this item may capture culturally-sanctioned discipline practices that are not currently defined as abusive, the item was deleted in order to more conservatively estimate physical abuse. For sexual abuse items, items were deleted if the following two criteria were met: the age difference was less than five years between the participant and the other party and no force was indicated. These items were assumed to be normative sexual experiences and were not defined as sexual abuse. The percentage of participants reporting at least one instance of caregiver and noncaregiver physical, sexual and emotional abuse is presented in Table 7.

Responses to the Freyd-Goldberg and BTI were compared. BTI and Freyd-Goldberg items were first examined for percent agreement for presence of particular types of abuse (e.g., emotional abuse, sexual abuse by caregiver). Because the BTI childhood trauma sections specified events before age 16, only the Freyd-Goldberg items before age 18 were examined. Several differences between the measures will be considered in the Chapter III that warrant conservative interpretation of any differences in reporting between the measures. Comparing emotional abuse reported by caregivers (presence or absence) and endorsement of emotional or psychological mistreatment on the Freyd-Goldberg showed 77% agreement. One of the Life Event items on the BTI asked, “Have you been emotionally abused or neglected (for example, being frequently shamed,

TABLE 7. Percentage of Participants Reporting Childhood Trauma by Trauma Type

| Reported Trauma Type | Male (n=26) | Female (n=49) |
|---|----------------|------------------|
| 3 types of childhood trauma: physical, emotion and sexual | 31 | 55 |
| At least two types of childhood trauma | 42 | 35 |
| At least one type of childhood trauma | 23 | 6 |
| No childhood trauma | 4 | 4 |
| Emotional abuse by caregiver | 46 | 78 |
| Emotional abuse by noncaregiver | 42 | 45 |
| Physical abuse by caregiver | 54 | 67 |
| Physical abuse by noncaregiver | 65 | 45 |
| Sexual abuse by caregiver | 15 | 31 |
| Sexual abuse by noncaregiver | 38 | 53 |

embarrassed, ignored, or repeatedly told that you were ‘not good’)?”. There was 70% agreement between endorsement of this item and BTI emotional abuse items, as well as 74% agreement between this item and the Freyd-Goldberg emotional abuse item. Notably, the Life Event item did not specify an age for the event, whereas the Freyd-Goldberg and BTI items did. There was 64% agreement between physical abuse by a caregiver on the BTI and physical attack by someone close on the Freyd-Goldberg; 62% agreement was found for physical abuse by a noncaregiver as reported in the BTI and

someone not close as reported in the Freyd-Goldberg. In terms of sexual abuse, 74% agreement was found for caregiver sexual abuse on the BTI and sexual contact by someone close on the Freyd-Goldberg; 68% agreement was found for noncaregiver sexual abuse and sexual contact by someone not close.

To examine reports of natural disasters and accidents, responses from two items on the Life Events section of the BTI were compared to the Freyd-Goldberg. The Life Events items were “Have you ever been in a serious disaster (for example, a massive earthquake, hurricane, tornado, fire explosion)?” and “Have you ever had a very serious accident or accident-related injury (for example, a bad car wreck or on-the-job-accident)?”. Comparisons revealed 77% agreement between the Freyd-Goldberg and the Life Event natural disaster items. Seventy-six percent agreement was found for reported accidents across the Life Event item and the Freyd-Goldberg accident items. Notably, presence of these items were not defined as prior to age 16 in the Life Event items; therefore, endorsement of the items before or after age 18 on the Freyd-Goldberg was rated as present.

In addition to examining percent agreement for the presence of several types of trauma, comparisons of the BTI and Freyd-Goldberg yield information about designing responses to capture the number of times that events occur. The Freyd-Goldberg response options were never, one to two times and more than two times; these were coded as zero, one and three respectively. The BTI response options were never, one time, two-five times, six to 20 and more than 20 times; these were coded as zero, one, two, six and

21 respectively. The mean number of times reported by each questionnaire are reported in Table 8. Males and females differed in their reporting of number of time events occurred for emotional abuse perpetrated by caregiver, as measured by the BTI ($t(72)=-3.127, p=.003$), sexual abuse before age 18 perpetrated by “someone close” ($t(63)=-2.792, p=.007$) and “someone not close” ($t(63)=-2.673, p=.010$). Equal variances were not assumed in these tests because of the unequal cell sizes.

Table 8. Mean (Standard Deviation) of Number of Times Categories of Events Were Reported (BTI Data Summed Across Items)

| Abuse Type | <u>BTI</u> | | <u>Freyd-Goldberg</u> | |
|------------------------|----------------|------------------|-----------------------|------------------|
| | Male (n=26) | Female (n=48) | Male (n=26) | Female (n=48) |
| Emotional: Caregiver | 16.1 (27.7)* | 52.6 (71.7)* | 1.8 (1.4) | 2.1 (1.3) |
| Physical: caregiver | 16.5 (29.4) | 20.4 (33.1) | .8 (1.2) | 1.3 (1.3) |
| Physical: noncaregiver | 8.0 (15.5) | 3.9 (9.3) | .8 (1.1) | .7 (1.1) |
| Sexual: caregiver | 6.1 (28.2) | 24.1 (98.2) | .5 (1.1)* | 1.4 (1.5)* |
| Sexual: noncaregiver | 12.9 (38.9) | 14.7 (28.2) | .4 (.9)* | 1.2 (1.3)* |

* significant difference, $p<.05$

Betrayal and Fear

Several measures of betrayal and fear were analyzed. First, the level of resolution of betrayal and fear as coded by the TAMS was determined. Second, the total number of times that participants endorsed betrayal or fear as an emotion they felt at the time of the

trauma on the full BTI was calculated. Third, the number of times that people endorsed betrayal or fear as an emotion they feel now on the full BTI was calculated. In terms of betrayal, a sum of the total number of events endorsed as perpetrated by a caregiver (caregiver events), as well as the total number of times perpetrated (caregiver times), on the childhood abuse sections of the BTI was also used. For fear, a score for total injuries/threats was calculated across the childhood abuse sections of the BTI. The means of the betrayal and fear measures and inter-correlations are reported in Tables 9 and 10 respectively.

Symptom Measures

Scores for each of the symptoms measures were calculated. Intercorrelations of symptoms measures are reported in Table 11. The mean and standard deviations for dissociation and PTSD/anxiety symptoms measures can be found in Table 12. The RCMS-PTSD was scored in two ways. First, the measure was treated as a continuous measure of PTSD and a sum was computed for each subscale (intrusion, withdrawal and arousal). The scores for each subscale are reported in Table 12. Second, an algorithm proposed by Norris and Perilla (1996) was used to determine how many participants met the symptom criteria for PTSD. Based on Norris and Perilla's algorithm, individual symptoms were counted as present only if participants endorsed a score of three or higher. Present items were then grouped into their respective categories (e.g., intrusion, avoidance) and counted to determine whether the minimum number of symptoms

TABLE 9. Mean (Standard Deviation) of Betrayal Measures

| | Male | Female |
|--------------------------|-------------|--------------|
| | Mean (SD) | Mean (SD) |
| Betrayal Measures | | |
| Betrayal-Resolution | 2.1 (.8) | 2.0 (.7) |
| Betrayal-Then | 7.4 (7.5) | 7.7 (7.8) |
| Betrayal-Now | 4.1 (6.2) | 5.4 (9.5) |
| Caregiver-Events | 4.4 (7.4) | 8.4 (10.7) |
| Caregiver-Times | 38.7 (95.0) | 99.4 (181.2) |
| Fear Measures | | |
| Fear-Resolution | 2.4 (.8) | 2.4 (.8) |
| Fear-Then | 11.0 (9.6) | 13.2 (11.0) |
| Fear-Now | 1.7 (3.4) | 2.4 (4.1) |
| Injury | 5.5 (8.3) | 11.5 (22.4) |

TABLE 10. Correlations Between Betrayal and Fear Variables

| | Betrayal- Resolution | Betrayal- Then | Betrayal- Now | Caregiver Times | Caregiver Events | Fear- Resolution | Fear-Then | Fear-Now |
|---------------------|-------------------------|-------------------|------------------|--------------------|---------------------|---------------------|-----------|----------|
| Betrayal- Then | .143 | | | | | | | |
| Betrayal- Now | .047 | .583*** | | | | | | |
| Caregiver Times | .008 | .507*** | .412*** | | | | | |
| Caregiver Events | .057 | .615*** | .523*** | .935*** | | | | |
| Fear- Resolution | .056 | .129 | .059 | -.068 | -.081 | | | |
| Fear-Then | .114 | .775*** | .701*** | .491*** | .603*** | .149 | | |
| Fear-Now | .091 | .290* | .498*** | .548*** | .549*** | .005 | .414*** | |
| Injury | -.010 | .494*** | .470*** | .913*** | .897*** | -.131 | .503*** | .517*** |
| | ***p<.001 | | | | | | | |

*p<.05,

TABLE 11. Correlations Between Symptom Measures

| | DES | TSC-Diss | SD | TAS | PTSD-total | PTSD-withdrawal | PTSD-intrusion | PTSD-arousal |
|-----------------|---------|----------|----------|---------|------------|-----------------|----------------|--------------|
| TSC-Diss | .657*** | | | | | | | |
| SD | .531*** | .596*** | | | | | | |
| TAS | .452*** | .577*** | .465*** | | | | | |
| PTSD-total | .504*** | .657*** | .470*** | .555*** | | | | |
| PTSD-withdrawal | .400*** | .534*** | .400*** | .496*** | .899*** | | | |
| PTSD-intrusion | .472*** | .623*** | .0427*** | .483*** | .936*** | .727*** | | |
| PTSD-arousal | .499*** | .625*** | .450*** | .536*** | .871*** | .694*** | .725*** | |
| TSC-Anxiety | .478*** | .734*** | .487*** | .455*** | .630*** | .509*** | .596*** | .606*** |

***p<.001

required by the DSM-IV for a diagnosis were present. Using this algorithm, 69% of the sample met the DSM-IV PTSD symptoms criteria.

Table 12. Mean (Standard Deviation) for Symptom Measures

| Measure | Mean (SD) |
|------------------|-------------|
| DES | 20.0 (12.9) |
| TSC-Dissociation | 7.1 (3.9) |
| SD | 8.8 (4.5) |
| TAS | 52.4 (12.4) |
| PTSD Total | 70.0 (19.4) |
| PTSD-Intrusion | 21.1 (8.6) |
| PTSD-Withdrawal | 27.0 (7.3) |
| PTSD-Arousal | 21.9 (5.6) |
| TSC-Anxiety | 8.9 (5.6) |

Analyses

Themes and PTSD

The hypothesis that the total number of themes present would predict total PTSD score was tested. The total themes present for each participant was entered into a regression equation to predict the total PTSD score. Total themes present was a

significant predictor of PTSD ($\beta=.244$, $(t(1,73)=2.149$, $p=.035)$). The total themes present was not predictive of DES, SDQ-5 or TAS scores, though the models for TSC-Dissociation and TSC-Anxiety approached conventional significance ($R\text{-square}=.039$, $(F(1,73)=2.970$, $p=.089)$ and $R\text{-square}=.038$, $(F(1,73)=2.908$, $p=.092)$ respectively).

Betrayal-Fear Resolution and Symptoms Measures

The resolution scores for betrayal and fear were entered into a series of multiple regression equations to predict PTSD symptoms using the RCMS-PTSD and dissociation using the DES. The models were not significant. Resolution of betrayal and fear did not predict PTSD symptomology as measured by the RCMS-PTSD, nor dissociation, as measured by the DES.

Endorsement of Betrayal and Fear in Prediction of Symptoms

To test the hypothesis that endorsement of feelings of betrayal would make a unique contribution to the prediction of current dissociative symptoms and PTSD withdrawal, while fear would not, the number of times participants endorsed betrayal and fear in the full BTI were entered into two multiple regression equations; both full models were significant. $R\text{-square}=.135$ for DES ($F(2,72)=5.638$, $p=.005$) and $R\text{-square}=.105$ for PTSD-withdrawal ($F(2,72)=4.202$, $p=.019$). The contribution of betrayal was significant above and beyond the contribution of fear in both analyses; fear was not a significant predictor. Additional multiple regression analyses were conducted for other measures of

dissociative responses to examine whether the predicted pattern would replicate across measures. The full models were significant for each of the respective multiple regression equations predicting SDQ-5, TSC-Dissociation and TAS scores. R-square=.099 for SDQ-5 $F(2,72)=3.936$, $p=.024$; R-square=.213 for TSC-Dissociation ($F(2,72)=9.745$, $p<.001$); R-square=.100, for TAS $F(2,72)=3.998$, $p=.023$). Within each of these multiple regression analyses, betrayal was a significant predictor above and beyond fear. Notably, time since the onset of childhood trauma and total childhood abuse events endorsed were entered into initial analyses. Time since the childhood trauma was computed by taking the average age for reported childhood abuse and subtracting that from participants' current ages. Neither of these variables significantly contributed to the models tested and were dropped from the analyses.

To test the hypothesis that endorsement of feelings of fear would predict above and beyond betrayal for current PTSD-arousal and TSC-anxiety, the number of times participants endorsed betrayal and fear in the full BTI were entered into a regression equation; the full models were significant. R-square=.132 for PTSD-Arousal ($F(2,72)=5.497$, $p=.006$); R-square=.222 for TSC-Anxiety ($F(2,72)=10.299$, $p<.001$). For exploratory purposes, a multiple regression equation with betrayal and fear as the independent variables and PTSD-Intrusion as the dependent variable was also run. The full model was significant. R-square=.213 for PTSD-Intrusion ($F(2,72)=9.742$, $p<.001$). Contrary to predictions, betrayal was predictive above and beyond fear in each of these analyses and fear was not a significant predictor. For regression tables, see Table 13.

TABLE 13. Multiple Regression Analyses Predicting Symptoms from Endorsement of Fear and Betrayal

| Measure | Variable | B | SE B | β |
|-----------------------------|----------|------|------|---------|
| DES | Betrayal | .444 | .191 | .293* |
| | Fear | .401 | .421 | .120 |
| PTSD-withdrawal | Betrayal | .248 | .110 | .289* |
| | Fear | .115 | .243 | .061 |
| TSC-Dissociation | Betrayal | .176 | .055 | .384** |
| | Fear | .128 | .121 | .128 |
| SD | Betrayal | .164 | .068 | .311* |
| | Fear | .008 | .150 | .007 |
| TAS | Betrayal | .363 | .188 | .249^ |
| | Fear | .343 | .413 | .107 |
| PTSD-Arousal | Betrayal | .228 | .083 | .348** |
| | Fear | .042 | .182 | .030 |
| PTSD-Intrusion | Betrayal | .404 | .122 | .399*** |
| | Fear | .236 | .268 | .106 |
| TSC-Anxiety | Betrayal | .224 | .078 | .343** |
| | Fear | .281 | .172 | .195 |
| ^p<.10 *p<.05 **p<.01 | | | | |

Implicit Betrayal and Fear in Predicting Symptoms

Implicit measures of betrayal and fear were used to follow-up the fear and betrayal endorsement analyses. Implicit betrayal was measured by the number of times participants indicated caregiver abuse in childhood, as assessed by the BTI physical, sexual and emotional abuse items. The degree of injury/threat reported on the childhood abuse portions of the BTI was to be used as a measure of fear. The strong correlation between caregiver abuse and degree of injury caused extreme multi-collinearity problems ($r=.91$). To remedy this, a score of one was assigned if any injury was reported and zero was assigned if no injury was reported.

To test the hypothesis that caregiver abuse would predict dissociative and PTSD avoidance symptoms above and beyond the presence of injury/threat, a series of multiple regression analyses were conducted. The full models for PTSD-Withdrawal and TAS analyses were not significant. The full models for DES, SDQ-5, and TSC-Dissociation analyses were significant. R-square=.082 for DES ($F(2,72)=3.231$, $p=.045$); R-square=.108 for SDQ-5 ($F(2,72)=4.358$, $p=.016$); R-square=.215 for TSC-Dissociation ($F(2,72)=9.835$, $p<.001$). Within each of these models, caregiver abuse predicted above and beyond the contribution of injury. To test the prediction that injury would predict PTSD arousal and TSC-Anxiety above and beyond the contribution of caregiver abuse, two multiple regression analyses were conducted. Both models were significant. R-square=.272 for TSC-Anxiety ($F(2,72)=13.426$, $p<.001$); R-square=.122 for PTSD-Arousal, ($F(2,72)=5.024$, $p=.009$). Contrary to the hypothesis, caregiver abuse was a

significant predictor above and beyond injury in both analyses. Finally, the full model predicting PTSD-Intrusion was significant. $R\text{-square}=.424$ for PTSD-Intrusion, ($F(2,72)=7.902, p=.001$). See Table 14 for regression tables.

To further explore the relation between caregiver betrayal and symptoms, multiple regression analyses were conducted to examine the contributions of the number of times caregiver and noncaregiver abuse occurred. The reported number of time that caregiver and noncaregiver abuse occurred were not significantly correlated ($r=.077, p=.510$). Predictions stated that the number of times a caregiver perpetrated abuse would represent a higher degree of betrayal and would therefore be more predictive of withdrawal symptoms as measured by DES than noncaregiver abuse. Follow-up analyses were conducted with TSC-Dissociation, SD and TAS to examine whether effects replicated across measures. Time since the trauma and total events were entered into the initial regression equations, but did not significantly contribute to the model and were removed from later analyses.

Regression analyses provided partial support for the predictions. Full models for DES and SDQ-5 were significant; the contribution of the number of times caregiver abuse was reported was above and beyond the number of times noncaregiver abuse was reported. $R\text{-square}=.112$ for DES, ($F(2,72)=4.556, p=.014$); $R\text{-square}=.118$ for SDQ-5, ($F(2,72)=4.802, p=.011$). The full model predicting TSC-Dissociation was significant; the number of times caregiver and noncaregiver abuse was reported significantly predicted total score. $R\text{-square}=.260$ for TSC-Dissociation, ($F(2,72)=12.645, p<.001$). In

TABLE 14. Multiple Regression Analyses Predicting Symptoms from
Implicit Measures of Betrayal and Fear

| Measure | Variable | B | SE B | β |
|------------------|-----------------|-------|-------|---------|
| DES | Caregiver Times | .021 | .010 | .256* |
| | Injury Present | 2.044 | 3.234 | .075 |
| SDQ-5 | Caregiver Times | .009 | .003 | .307* |
| | Injury Present | .561 | 1.115 | .059 |
| TSC-Dissociation | Caregiver Times | .010 | .003 | .401*** |
| | Injury Present | 1.179 | .902 | .143 |
| PTSD-Arousal | Caregiver Times | .012 | .004 | .340** |
| | Injury Present | .364 | 1.369 | .031 |
| TSC-Anxiety | Caregiver Times | .018 | .004 | .498*** |
| | Injury Present | .792 | 1.244 | .067 |
| PTSD-Intrusion | Caregiver Times | .024 | .006 | .424*** |
| | Injury Present | .007 | 2.043 | .000 |

^p<.10 *p<.05 **p<.01 ***p<.001

the case of the TAS, the full model did not reach significance. Please see Table 15 for regression tables.

TABLE 15. Multiple Regression Analyses Predicting Symptoms from Reported Caregiver and Noncaregiver Abuse

| Measure | Variable | B | SE B | β |
|--|--------------------|------|------|---------|
| DES | Caregiver times | .022 | .009 | .263* |
| | Noncaregiver times | .057 | .034 | .188 |
| SDQ-5 | Caregiver times | .009 | .003 | .315** |
| | Noncaregiver times | .012 | .012 | .114 |
| TSC-Dissociation | Caregiver times | .011 | .003 | .423*** |
| | Noncaregiver times | .023 | .009 | .254* |
| $\wedge p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$ | | | | |

Dissociation and PTSD

Scores from the TSC-Dissociation and TSC-Anxiety subscales were entered into a series of three multiple regression equations to predict PTSD-Withdrawal, Arousal and Intrusion scores. Each of the models was significant. R-square=.314 for PTSD-Withdrawal ($F(2, 72)=16.506, p < .001$); R-square=.430 for PTSD-Intrusion ($F(2, 72)=27.114, p < .001$); R-square=.437 for PTSD-Arousal ($F(2, 72)=27.995, p < .001$).

TSC-dissociation scores was a significant predictor for PTSD-Withdrawal. Both TSC-Dissociation and TSC-Arousal scores were significant predictors for PTSD-Arousal and PTSD-Intrusion. See Table 16 for regression tables.

TABLE 16. Multiple Regression Analyses Predicting PTSD Clusters from Dissociation and Anxiety

| Measure | Variable | B | SE B | β |
|--------------------|------------------|---------|------|-------------------|
| PTSD-Withdrawal | TSC-Dissociation | .653 | .270 | .347* |
| | TSC-Anxiety | .333 | .189 | .254 [^] |
| PTSD-Intrusion | TSC-Dissociation | .888 | .291 | .401** |
| | TSC-Anxiety | .468 | .203 | .302* |
| PTSD-Arousal | TSC-Dissociation | .563 | .187 | .392** |
| | TSC-Anxiety | .319 | .131 | .318* |
| [^] p<.10 | *p<.05 | **p<.01 | | |

Exploratory Analyses

Presence of betrayal and fear

Exploratory analyses were conducted to further examine the relation of betrayal and fear to reported symptoms and contextual factors of abuse. First, analyses were conducted based on the presence or absence of an endorsement of betrayal and fear in the

BTI. Forty-six participants indicated at least once on the BTI that they felt betrayed now in response to a traumatic event experienced; twenty-nine participants did not endorse betrayal. Because of the difference in sample size, equal variances were not assumed in the following independent samples t-tests. Comparisons of the groups (betrayal present, betrayal absent) revealed that those participants for whom betrayal was present scored higher on the DES ($t(73)=-3.696, p<.001$), TSC-Dissociation ($t(73)=-3.225, p=.002$), SDQ-5 ($t(73)=-2.441, p=.017$), TAS ($t(68)=-2.581, p=.012$) and RCMS-PTSD total ($t(73)=-2.619, p=.011$). Participants for whom feelings of betrayal were present reported significantly more instances where the perpetrator was a caregiver ($t(73)=-2.271, p=.026$), more injuries ($t(60)=-2.020, p=.048$), as well as endorsed more events across sexual, physical and emotional abuse items on the BTI ($t(72)=71.86, p=.018$). See Table 17 for descriptive statistics.

Thirty-five participants indicated that they currently felt fear for at least one event on the BTI; forty participants did not endorse fear. Independent sample t-tests with equal variances assumed were conducted to compare groups across symptom measures. Those who reported fear differed from those who did not only on the RCMS-PTSD score ($t(73)=-2.537, p=.013$), for which those who reported fear had significantly higher scores. The mean RCMS-PTSD scores for the fear and no fear groups respectively were 75.8 (standard deviation 18.31) and 64.86 (standard deviation 19.01). The groups did not differ on measures of contextual factors in childhood trauma, including number of

instances of abuse by caregiver or noncaregivers, average age of trauma onset, total events reported, and number of times abuse occurred.

TABLE 17. Descriptive Statistics for Symptom Measures and Contextual Variables Based on the Presence and Absence of Betrayal

| | Betrayal present Mean (Standard Deviation) | Betrayal Absent Mean (Standard Deviation) |
|------------------|---|--|
| DES | 23.71 (13.69) | 14.11 (8.79) |
| TSC-Dissociation | 8.07 (4.27) | 5.53 (2.52) |
| SDQ-5 | 9.70 (4.95) | 7.38 (3.27) |
| TAS | 55.15 (12.80) | 48.14 (10.53) |
| RCMS-PTSD Total | 74.25 (20.01) | 63.16 (16.39) |
| Caregiver Events | 8.72 (11.52) | 4.24 (5.38) |
| Total Events | 11.22 (8.80) | 7.00 (6.25) |
| Injury Score | 12.30 (22.99) | 4.86 (7.77) |

Emotions and PTSD

Rates of endorsement of ten emotions listed on the BTI were examined. These emotions included: “don’t know”, negative, positive, neutral, confused, fear, shame, betrayal, happy and angry. Participants indicated whether they felt these emotions at the time of the events and/or at present. Differences in the number of times emotions were

endorsed as present at the time of the traumatic event and now were compared between the 24 participants who met the symptom criteria for PTSD and the 51 who did not. Those who met the symptom criteria for PTSD reported significantly more fear ($t(61) = -2.752, p = .008$), shame ($t(50) = -2.141, p = .037$), and anger ($t(57) = -3.280, p = .002$) at the time of the events than those who did not meet the symptom criteria for PTSD; differences between betrayal at the time of the event approached significance ($t(50) = -1.647, p = .106$). Those who met the symptom criteria for PTSD reported significantly more betrayal ($t(73) = -2.558, p = .013$) and anger ($t(73) = -3.847, p = .001$) now than those who did not meet the symptom criteria for PTSD; differences in fear now were not significant ($t(48) = -1.378, p = .174$). See Table 18 for descriptive statistics.

TABLE 18. Descriptive Statistics for Emotions Endorsed by PTSD Present and PTSD Absent Groups

| | PTSD Present | PTSD Absent |
|---------------|---------------|-------------|
| Fear Then | 14.39 (11.07) | 8.25 (7.87) |
| Shame Then | 9.90 (7.76) | 6.08 (6.93) |
| Anger Then | 13.98 (8.91) | 7.79 (6.93) |
| Betrayal Then | 8.55 (7.83) | 5.58 (7.00) |
| Betrayal Now | 6.31 (9.59) | 2.17 (4.45) |
| Anger Now | 11.08 (12.35) | 3.75 (5.85) |
| Fear Now | 2.57 (3.92) | 1.29 (3.65) |

World Assumptions, Fear and Betrayal

The relation between the number of times fear and betrayal were endorsed as present now and subscales of the World Assumptions Scale were examined. See Table 17 for correlations.

TABLE 19. Correlations between Fear, Betrayal and the World Assumptions Scale

| WAS Subscale | Fear Now | Betrayal Now |
|-------------------|----------|--------------|
| Betrayal Now | .489** | |
| Justice | -.057 | .053 |
| Benevolent People | .036 | -.024 |
| Randomness | .238* | .170 |
| Benevolent World | -.064 | -.019 |
| Self-Control | .338* | .354** |
| Luck | .007 | .188 |
| Controllability | -.005 | -.026 |

Attachment Styles

Endorsement rates for each of the four attachment style prototypes were examined. Seven participants did not indicate a single prototype to which they belonged and were removed from the analysis. Sixteen percent of participants endorsed a secure

style, 45% endorsed a fearful style, 21% endorsed preoccupied style and 18% endorsed a dismissing style. A chi square analysis revealed that this pattern differed from what would be expected by chance (Chi-square (3)=15.647, $p=.001$).

CHAPTER IV

DISCUSSION

The objective of this dissertation was to examine the relationship between betrayal, fear, PTSD, and dissociative experiences. In addition, the dissertation sought to consider theoretical and methodological issues central to trauma research. Seventy-five participants took part in a semi-structured interview and completed an extensive self-report battery. Self-report measures of trauma and posttraumatic symptoms were taken. The semi-structured interviews were coded using a modified version of the TAMS to assess the presence and degree of resolution of 13 themes.

Self-Report Trauma History

Two measures of self-reported trauma history were used: the BTI and the Freyd-Goldberg. Participants completed the Freyd-Goldberg prior to the semi-structured interview and their responses were used as the starting place for the interview. The BTI was completed after the interview. This community sample reported very high levels of trauma. Across both the Freyd-Goldberg and the BTI, the sample consistently reported experiencing multiple traumatic events. Ninety-six percent of the sample reported more than one type of trauma on the Freyd-Goldberg; 68% endorsed more than five events and 28% endorsed more than ten events. All events on the Freyd-Goldberg were endorsed by one or more participants, with experiencing the death of one's own child reported the

least frequently. Responses to the physical, sexual and emotional abuse items on the BTI focused on events that occurred before age 16. Thirty-one percent of men and 55% of women endorsed at least one event in each of the three types of child abuse. Only four percent of men and women denied any child abuse.

The data from the self-reported trauma histories speak to the importance of querying participants about multiple traumatic events. Consistent with Green et al.'s (2000) cautioning, data from the current community sample support the argument that trauma studies must screen for multiple events. Had this study recruited for one particular type of trauma (e.g., rape) and failed to ask about other events, faulty conclusions about the role of the recruited trauma type (e.g., rape) in posttrauma functioning might have been drawn because the complexity of participants' histories would not have been taken into consideration. With a multiply traumatized sample, researchers must consider the complexities caused by experiencing many traumatic events.

In addition to looking at rates for the reporting of multiple traumatic events, the agreement in trauma reports between the BTI and Freyd-Goldberg were compared. Both of these measures are relatively new and have been used in a handful of studies (e.g., Freyd and Goldberg, in preparation; Freyd, DePrince, & Zurbriggen, in press). High levels of agreement were found between the inventories, despite several differences in wording across the measures. The Freyd-Goldberg asked about events before and after age 18, whereas the child abuse sections of the BTI inquired about events before age 16.

The BTI used a series of behaviorally defined events to capture emotional, physical and sexual abuse, whereas the Freyd-Goldberg used one broad behaviorally defined event for each type of abuse. The Freyd-Goldberg did not refer to caretaker versus non caretaker abuse, but rather asked about someone close perpetrating the abuse versus someone not so close. In spite of the differences in wordings across the measures, 62-77% agreement was found across the questionnaires. This suggests that both questionnaires are tapping important dimensions of childhood trauma in ways that people can understand and respond to consistently. In addition, reports on the Freyd-Goldberg items assessing natural disaster and accidents were consistent with similar items from the Life Events section of the BTI; 77% and 66% agreement was found respectively.

The number of times events were reported across the BTI and Freyd-Goldberg childhood physical, emotion and sexual abuse was examined. The Freyd-Goldberg used response options of never, one to two times and more than two times and the BTI used never, one time, two-five times, six-20 times and more than 20 times. When comparing male and female responses using these response options, the BTI indicated that women reported more caregiver emotional abuse than men, whereas the Freyd-Goldberg indicated that women reported more sexual abuse by both caregivers and noncaregivers than men. This suggests that some differences will be present in men and women's reports of the number of times abuse occurred depending on the response sets employed.

Response sets are an important consideration in trauma methodology because they may give the respondent a sense of the experimenters' expectations or assumptions about

abuse. That is, with a response set that ranges from zero to more than two, participants may assume that the experimenter does not believe traumas happen very frequently; whereas, a response set that offers an option of more than 20 may indicate to the participant that the experimenter expects traumas can occur at high rates. The participants' expectations about the researchers' understanding of trauma may influence their responses. In addition, the response set may help the participant define what the researcher means by the question and to determine the likelihood of the event applying to him/her. If, for example, items include small response sets (e.g., did the event happen never, once or twice), the participant may assume the event in question occurs very infrequently. If the participant has a question as to whether the item applies to him/her, he/she may be less likely to endorse the item because it is believed to occur relatively infrequently.

Thematic Assessment Measurement System

Reliability for the TAMS coding was good for the presence or absence of themes, as measured by percent agreement. The coders appeared able to reliably distinguish between instances when the theme was present and when it was not. Reliability for the resolution of individuals' themes was mixed. Coders achieved acceptable reliability for several variables, including the most important ones for the purposes of this study: betrayal and fear. Many variables (e.g., reciprocity, shame) did not reach acceptable levels of reliability as assessed by examining correlations and percent agreement data.

The failure to reach adequate levels of reliability for some themes likely reflects the complexity of the coding system. Lifton (1996) cautioned that the coding system relies on very subtle clinical information and might be difficult for coders who are not trained clinicians. In the case of the current study, the coders were undergraduate psychology majors who had some background in trauma, but were not trained mental health professionals. Though not trained clinicians, the coders were able to attain good levels of reliability on several themes, particularly fear and betrayal. Because of the range in reliability across themes, exploratory analyses with the resolution codes for themes were not conducted; analyses were limited to resolution of fear and betrayal and total themes present.

Consistent with previous work by Roth and colleagues, the total number of themes present was predictive of current PTSD. Prediction of TSC-Dissociation and TSC-Anxiety approached conventional significance. This suggests that the presence of themes is an indicator of broad distress. That is, the more themes that have altered by trauma, the higher levels of distress participants report, as measured by the RCMS-PTSD and TSC.

The degrees of resolution of betrayal and fear were not significant predictors for any of the symptoms measures. Several issues may explain the failure of these variables to predict distress. First, the degree of resolution of betrayal and fear may be less meaningful as predictors than the presence or absence of betrayal; the other measures of

betrayal and fear likely tapped more of the presence or absence of betrayal and did not tap the degree of resolution.

Second, the degree of resolution of betrayal and fear did not correlate significantly with any other measures of betrayal or fear, raising the question of what dimensions of betrayal and fear were tapped by the coding. Given that betrayal was added to the coding manual for this study, it might be that the definition of betrayal did not adequately capture essential components of the construct. If this were the case, though, one would expect that betrayal resolution would not correlate with other betrayal measures, but that fear resolution would correlate with other fear measures. The failure of both variables to correlate with other measures suggests that problems are not unique to the betrayal variable.

Several other possibilities exist for the failure of betrayal and fear resolution to relate to other measures of fear and betrayal. The coding system may not capture other meaningful dimensions of participants' discussion of betrayal and fear that would better relate to other self-report measures of betrayal and fear. The TAMS is focused on the degree to which participants change their behavior in adaptive ways to cope with feelings of fear and betrayal related to the trauma, but may not adequately capture other important dimensions, such as the emotional intensity of the betrayal and fear. Rather than capturing emotional intensity, the TAMS focuses on how participants move towards adaptive behavior (e.g., decreasing the ways in which a particular theme limits their activities or engagement in life). Anecdotally, the coding team frequently discussed the

experience that one participant would be assigned a particular code because she/he showed movement towards resolution, but that the same individual might exhibit an intensity of emotion that was qualitatively different from someone else coded at the same resolution level. While the coding system does provide for coding participants at a lower level of resolution if their emotional experience seems too intense for a particular level, this is a very subjective rating and may have been missed by coders. Alternatively, the coding rule that allows for participants to be rated at lower levels of resolution due to emotional intensity may not adequately capture important dimensions of emotion intensity. In addition, the coding system did not assess behavioral information in the interview. Future work might examine behavioral and/or physiological indications of distress or reactions to questions about particular emotions.

Another possibility for the lack of a significant correlation between betrayal and fear resolution and other measures is a participant bias. In order for participants to join the study, they had to be willing to take part in an interview. This suggests that there was likely a large self-selection bias. Likely individuals who were extremely distressed about events or those who had resolved most issues related to traumas were less likely to enter the study. The resolution variables, therefore, may have relatively little variance because they reflect a self-selected sample who was at a certain threshold of resolution. In terms of other variables, such as the number of times caregiver abuse occurred, participants likely had more variability. In addition, fear and betrayal resolution, which are based on current functioning, will not necessarily relate to fear and betrayal variables that are based

on the occurrence of past events (e.g., the number of times caregiver abuse was perpetrated or the degree of injury).

In addition, the act of participating in the semi-structured interviews may have created changes in some participants' narrative accounts of their emotional experiences, but not resulted in changes in responses on self-report questionnaires. For example, given that the semi-structured nature of the interview required that people be asked more specific questions as the interview progressed, some participants may have endorsed certain themes based on their expectation that they should feel that theme because other trauma survivors did. A future study might examine the themes that participants spontaneously discuss, rather than using the semi-structured format in which all participants were asked about all themes. Anecdotally, several participants noted that it was easier to talk when they were asked specific structured questions rather when they were asked very general questions about their reactions; methodology that depends on spontaneous discussion of emotions will have its own set of problems.

Betrayal and Fear Findings

Measures of betrayal and fear (with the exception of the degree of resolution variables) were highly interrelated. This suggests that the experience of betrayal and fear, be it self-report or implicit, overlaps considerably in this sample. The strong relationship between betrayal and fear likely reflects the complicated trauma histories participants reported that contained components of both life-threat and social betrayal. In addition to

the strong inter-relations between betrayal and fear, the symptom measures were highly correlated, suggesting that dissociation and PTSD were highly related in the current sample.

Consistent with predictions, betrayal (as measured by the total number of self-reported instances of feeling betrayed) predicted dissociative and PTSD-withdrawal symptoms above and beyond fear (as measured by the total number of self-reported instances of feeling fear). The relationship between betrayal and dissociative symptoms was consistent across multiple measures of dissociation, including the TSC-Dissociation, DES, SDQ-5 and TAS. This is particularly interesting given that these measures each capture slightly different aspects of dissociative behavior, including cognitive dissociation (DES), emotional withdrawal (TAS) and somatic dissociation (SDQ-5). Contrary to predictions, fear did not predict PTSD-arousal and TSC-Anxiety beyond betrayal; rather, betrayal was a significant predictor above fear. While a priori predictions were not made for intrusive symptoms, betrayal was a significant predictor above and beyond the contribution of fear.

Consistent with a priori hypotheses, betrayal as measured by the number of times the participant reported caregiver abuse was a significant predictor above and beyond the presence of injury for DES, SDQ-5 and TSC-Dissociation. Models predicting PTSD-Withdrawal and TAS were not significant. Contrary to the hypothesis, the number of times caregiver abuse was reported was a significant predictor, whereas presence of injury was not a significant predictor for PTSD-Arousal and TSC-Anxiety.

Taken together, these findings suggest that betrayal, either for which the participant has explicit awareness in terms of self-reported emotion, or as an implicit variable gleaned from caregiver abuse, is a critically important predictor of dissociative experiences and PTSD. Further, time since the event and total number of events experienced did not account for the relationship between betrayal and posttraumatic symptoms.

To further examine the contribution of betrayal to posttraumatic symptoms, the total number of times that caregiver and noncaregiver abuse were perpetrated were entered into a series of regression equations. The number of times caregiver abuse occurred predicted DES and SDQ-5 scores above noncaregiver abuse. In the case of TSC-Dissociation, both caregiver and noncaregiver abuse contributed significantly to the model. The full model for TAS was not significant. These findings suggest that for some dissociative symptoms, the number of times that caregiver abuse occurs relates to higher levels of dissociation, though this is not true for all measures of dissociation. Alexithymia (as measured by the TAS) does not appear to be predicted by caregiver and noncaregiver abuse.

Group differences were found between those who reported at least one instance of currently feeling betrayed and those who reported no betrayal. The betrayal group scored higher on measures of dissociation (DES, TSC-Dissociation SDQ-5, and TAS), as well as higher on the measure of PTSD. Those who reported current feelings of betrayal also reported more instances of caregiver abuse than those who did not report current betrayal.

For those who reported at least one instance of currently feeling fear compared to those who reported no fear, the fear group scored significantly higher only on the PTSD measure. The groups did not differ on any variables assessing the context of the traumatic event (e.g., perpetrator relationship, age at onset of the trauma).

Examining the relation of PTSD to self-reported emotions more broadly, the participants were divided into two groups based on whether they met the symptom criteria for PTSD. Those who met criteria for PTSD reported significantly more fear, shame and anger at the time of the event than those who did not meet criteria for PTSD. Those who met PTSD criteria reported significantly more betrayal and anger now than those who did not meet criteria. While retrospective reports of emotions should be interpreted quite cautiously, it is interesting that those who met criteria for PTSD reported more fear at the time of the trauma, but more betrayal at present. Exploring this relationship in future studies would be important. Perhaps it is the case that fear at the time of the trauma is involved in the onset of PTSD, but feelings of betrayal in the long term contribute to the maintenance of the disorder. Further, it may be that betrayal is a very complex emotion and participants do not remember understanding the emotion as children. Shame may be a proxy for betrayal, given that it may be a less cognitively and emotionally complex construct. Future work should examine the relationships between fear, betrayal and shame at the time of the event and in the present. This is consistent with recent work in the literature suggesting that anger and shame at the time of trauma are predictive of later PTSD (e.g. Brewin, Andrews & Rose, 2000).

Self-reported feelings of fear and betrayal now were not related to any of the World Assumptions Scale subscales, with the exception of self-control. The relationship between controllability and betrayal/fear suggests that as the number of reports of fear or betrayal increases, so does people's likelihood of engaging in precautionary behaviors to control outcomes. Perhaps it is the case that the more fear and betrayal people experience, the more they depend on themselves (rather than depend on a benevolent world or a just world) to control their behaviors in a way that will reduce the likelihood of future negative.

Interpreting Results in the Context of Past Research

The current study highlights the complexity of interpreting studies where injury is predictive of PTSD. Past studies have assumed that the presence of injury or threat to life causes fear that, in turn, contributes to the cycle of anxiety in PTSD. In the current sample, degree of injury was very highly correlated with caregiver abuse ($r=.91$), as well as highly correlated to feelings of betrayal now and at the time of the event. This suggests that the literature may have a third variable problem in that betrayal has not been measured routinely. For interpersonal traumas, it may be the case that injury is highly related to betrayal and therefore it is not injury alone that drives findings of increased PTSD, but also the added betrayal dimension.

Returning to findings that the occurrence of rape and sexual assault are strong predictors of PTSD compared to other trauma types (e.g., Kilpatrick et al., 1989), it is

interesting to review those studies in light of the current data. In those studies, researchers do not report on the victim-perpetrator relationships. Statistics suggest that most rape and sexual assault is perpetrated by people known to the victims (e.g., Rennison, 2000). It may be that betrayal helps to account for the higher levels of PTSD seen following rape, compared to other traumatic events. The other traumatic events to which rape is compared may be lower in betrayal (e.g., robbery). In such a view, betrayal is likely as important to consider as fear in understanding rates of PTSD.

Examining the Relationship Between Dissociation and PTSD

Dissociation was found to contribute significantly to the prediction of PTSD arousal, withdrawal and intrusive symptoms. Anxiety contributed significantly only to the prediction of arousal and intrusive symptoms. This finding is in contrast to Tampke and Irwin's (1999) report that anxiety, and not dissociation, contributed significantly to the prediction of the three PTSD clusters. Tampke and Irwin (1999) suggested, based on their data, that dissociation might not be a core factor in the maintenance of PTSD; to the contrary, the current data suggests that dissociation is important to understanding PTSD. Tampke and Irwin's (1999) study was conducted with Australian Vietnam veterans. It may be the case that dissociation is less important in PTSD for combat-related trauma, whereas this sample includes participants who tended to report multiple interpersonal traumas outside of combat. Future research could be directed at the question of whether PTSD related to combat involves less dissociation compared to interpersonal and non-

interpersonal traumas beyond combat (only one participant in the current study reported combat experience). If future research supports this notion, this will have important implications for how we think about PTSD because the history of the diagnosis is rooted in combat-related traumas. However, the different pattern of findings between the current study and Tampke and Irwin (1999) may also reflect methodological differences (i.e., different symptoms measures); future research should address this.

Applying Findings to New Conceptualizations of Trauma and Posttraumatic Responses

The current study provides evidence that betrayal is a significant predictor of dissociative and PTSD responses even after controlling for the effects of fear. To date, models of PTSD have assumed that fear drives arousal and intrusive symptoms, which in turn, lead to withdrawal responses. Repeatedly engaging in withdrawal symptoms, in turn, leads to higher levels of arousal and intrusive symptoms. The findings from the current study challenge these assumptions and offer new alternative models to be examined. For example, social betrayal may lead victims to engage in cognitive, emotional or somatic withdrawal to maintain necessary attachments in the context of traumatic events. Within the betrayal paradigm, withdrawal may in fact be the primary response to social betrayal that, in turn, contributes to intrusion and arousal symptoms (see Figure 3; the fear paradigm is represented with white arrows and the betrayal paradigm with black arrows. The shaded arrows indicate points of primary intervention derived from the two models).

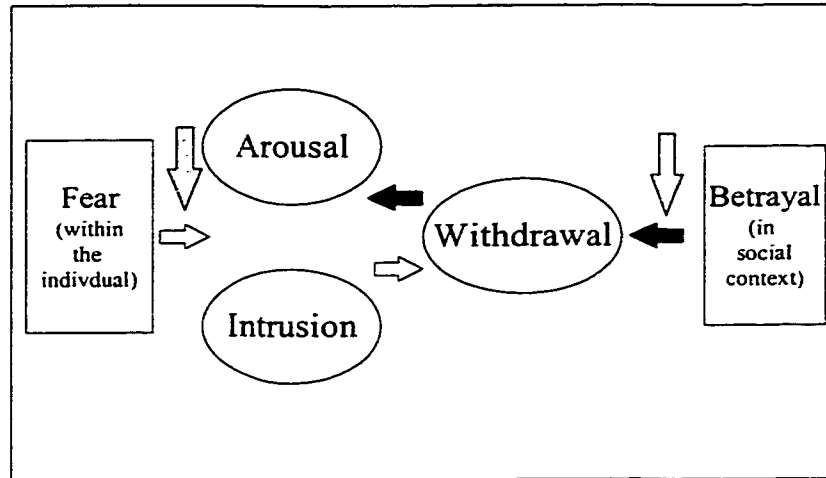


FIGURE 3. Models of PTSD Derived from Fear and Betrayal Paradigms

From a betrayal paradigm, alternate roles for arousal and intrusive symptoms can be proposed. In cases of social betrayal, the arousal symptoms may represent arousal or hypervigilance to relationship cues to which the victim must attend in order to maintain necessary attachments. From a betrayal paradigm, the intrusive symptoms may reflect dissociative processes, particularly the occurrence of flashback states that arise from betrayal rather than fear. Within this model, withdrawal responses arise from the betrayal, not necessarily from fear. Alternate explanations for symptoms suggests that intervention strategies would differ under the betrayal paradigm.

Differences in intervention strategies can be explored by comparing the fear and betrayal models. As these strategies are explored, it is important to recognize the source of the initial emotions (fear and betrayal) according to the underlying assumptions of the two models. Fear arises from the individual's response to traumatic stimuli under the fear

paradigm. Betrayal arises from the violation of a social contract under the betrayal paradigm; the traumatic event (when it involves interpersonal violence) occurs in the context of a social relationship.

Under the fear paradigm, interventions occur by addressing the fear-arousal/intrusion connections. Among the most supported interventions, cognitive-behavioral therapies focus on exposing the survivor to feared stimuli in order to provide corrective emotional information. The intervention with the fear-arousal/intrusion relationship assumes that the underlying problem (e.g., fear) is contained within the individual; therefore, interventions are focused at the individual.

Intervention in a betrayal paradigm would focus on withdrawal – be it cognitive, emotional or somatic – that occurs in response to a social betrayal. In examining withdrawal and the social context of trauma, the betrayal paradigm highlights the primacy of human relationships in therapeutic work to address past social betrayals. While many therapies acknowledge the role of the therapeutic relationship in the therapy process, the betrayal findings discussed in this study, as well as betrayal trauma theory more broadly, provide compelling evidence that human relationships should be a primary focus of intervention. Relational models may be important to examine in cases where people report distress related to betrayal traumas, though such models have not yet been empirically validated as have models derived from the fear paradigm (e.g., cognitive-behavioral). In the current sample, the majority of participants (45%) endorsed a fearful attachment style, which corresponds to feeling uncomfortable getting close to others

because of fear of getting hurt, though wanting emotionally close relationships. This finding offers additional support for the argument that interpersonal relatedness is an important factor to be integrated into trauma research and intervention.

The betrayal paradigm also identifies needs for interventions beyond the individual trauma victim. The social betrayal that leads to PTSD symptoms in this model necessarily includes other human beings, thereby drawing attention not only to individual survivors, but to perpetrators and the larger culture. In this context, working within the therapeutic relationship to address the victim's withdrawal and distress is only one part of the story. A betrayal paradigm calls for action at a cultural level to address the occurrence of and problems caused by interpersonal violence. Building the relational context of interpersonal violence into the model, the betrayal paradigm more urgently ties individual health and well-being to the social context of the particular individual, as well as the context of the culture. Specifically, the ways in which the culture addresses interpersonal violence or supports violence (either explicitly or implicitly) necessarily affect the level of distress and healing in victims of interpersonal violence.

The alternative betrayal paradigm depicted in Figure 3 likely over-simplifies the complex relationships between fear, betrayal and posttraumatic responses. Fear and betrayal, as shown in this study, are highly inter-related and future models will need to take this into account. For many participants, the traumatic events they reported involved both caregiver and noncaregiver perpetrators, as well as multiple types of traumatic events. For the majority of the sample, the reported trauma histories likely involved high

levels of both fear and betrayal. The complexity of the trauma histories suggests that teasing out the relative contributions of fear and betrayal in this sample is complicated. This study demonstrated the importance of betrayal in a sample of multiply traumatized individuals. Future work will be needed to examine whether the findings extend to specific types of trauma (e.g., natural disaster, single assault). It would be interesting in future studies to recruit two groups of participants: one group who has experienced traumas that involve primarily life-threat and one group who has experienced primarily social-betrayal. Such methodology would increase our theoretical understanding of the relative contributions of fear and betrayal to posttraumatic symptoms; however, such methodology would arguably have less ecological validity insofar as many traumatic events involve dimensions of both fear and betrayal.

Limitations and Future Directions

The current study depended on self-report measures of distress. Future work should include clinician-rated interviews as a second source of information on symptoms. Though the lack of clinician-rated interviews may be a limitation of the current study, this is balanced by the multiple measures of dissociation and anxiety that were included. The betrayal findings were replicated across measures of dissociation.

The current study treats all childhood abuse as one variable, rather than exploring the differential effects of physical, emotional and sexual abuse on each of the predictors. While the study addresses some limitations in the current literature by at least breaking

abuse down in terms of the perpetrator-relationship, the study still treats all abuse as somewhat equal. Future studies should examine how betrayal and fear related to particular types of abuse relate to posttraumatic responses. In addition, the study focuses on interpersonal violence. While participants did report non-interpersonal traumas, such as surviving earthquakes and car accidents, the vast majority also reported interpersonal traumas. Future work should recruit participants using methodology that would allow comparisons to be made regarding effects of interpersonal and non-interpersonal traumas on posttraumatic emotions and symptoms.

The modified TAMS used for coding resolution of betrayal and fear in narrative accounts of trauma resulted in variables that were not correlated with other measures of fear and betrayal. Future coding systems might include dimensions of intensity of the emotions, as well as physiological or behavioral coding during participants' discussion of the trauma. In addition, the transcripts from the interviews could be submitted to other types of analyses. For example, Pennebaker's Linguistic Inquiry and Word Count (LIWC) (Pennebaker & Francis, 1999) could be used to analyze word choice in the narratives. Future work might find that linguistic analyses are equally as or more informative than subjective ratings of narrative made by coders.

Data from the current study emphasize the need to expand the type of contextual information we gather in studies on trauma. While a betrayal trauma theory framework highlights the importance of betrayal variables (e.g., perpetrator-relationship, degree of dependency on perpetrator, age at time of trauma, type of trauma), this is simply an

alternative paradigm to the current fear paradigm. Examining betrayal will likely progress our understanding of factors in trauma that predict distress and inform clinical interventions, but it will be only one more piece of the puzzle. We must continue to expand our notions of traumatic context and posttraumatic responses. Research will inevitably be both limited and aided by the biases of the researchers, requiring researchers to continuously challenge our own notions of the definition and scope of trauma.

Future research should continue to explore ways to allow the survivors' voice to be heard amidst the researcher's inherent biases. Researchers, the current project included, will always pick measures that are somehow related to their paradigm. Likely, an aspect of some trauma survivors' experiences and reactions will be missed in this process. Future research requires methods that insure the survivors' voice is listened to in order to update theories beyond current assumptions in the field. The issue of introducing the survivors' voice into the research touches on the tension between qualitative and quantitative methods in psychology. Quantitative methods are often granted more authority to speak about reality in science, while qualitative methods are more easily rejected or ignored. Given that trauma itself inherently involves secrecy and a dismantling of the survivors' voice, it is important that trauma researchers struggle with the tension between quantitative methods that grant the field authority to speak on trauma and qualitative methods that grant the survivor the opportunity to speak about her/his own experiences. Both methods are arguably critical to gaining knowledge and intervening at a societal level, though the tension between them must be managed.

The current study demonstrates that betrayal is a significant predictor of posttraumatic distress; as research continues to examine this relationship, work is also needed to expand our understanding of betrayal as a construct. A first step in increasing our understanding of betrayal is to specify when betrayal is studied as an emotion versus when it is studied as an aspect of the context of the trauma. For example, the explicit betrayal variable in the current study likely tapped betrayal as an emotion (i.e., participants were consciously aware of feeling betrayed), while the implicit betrayal variable related to an aspect of the traumatic event (i.e., the perpetrator was a caregiver). Future research that examines betrayal as an emotion (and not as an aspect of the trauma context) should seek to develop our understanding of the cognitive and affective components of betrayal.

The significant relationship between betrayal and fear variables related to the trauma context (e.g., the implicit fear and betrayal variables) suggests that future work should also examine the similarities and differences between the two constructs. In the current sample, fear and betrayal likely overlapped because of the high rates of multiple traumas, many of which included both threat to life and betrayal by a caregiver. The strong relationship between betrayal and fear in this sample might reflect the context of the traumatic events (e.g., events that include dimensions of fear and social betrayal) and not necessarily similarities between fear and betrayal as constructs. Future research should address the question of whether less overlap between fear and betrayal might be observed in samples for which participants report single traumas.

Clarification of the relationship between fear and betrayal in future research will assist researchers in building models of posttraumatic responses. For example, Epstein (1972, as cited in Ohman, 1993) argued that fear is related to flight; in turn, when flight is blocked, fear becomes anxiety. Anxiety, then, can be defined as unresolved fear (Ohman, 1993). Considering cases of traumas high in social betrayal, such as childhood sexual abuse, betrayal may be related to fear in different ways and may, under some circumstances, be unrelated to fear. For example, unresolved fear may be subsumed under betrayal, as it is in the case of anxiety. That is, when a child cannot flee as a response to the experiences of fear, the child may be at risk for feeling betrayed. In order to avoid the feelings of betrayal, betrayal trauma theory predicts that the child will use dissociative and numbing responses to remain unaware of the betrayal information and thereby maintain attachments necessary for survival. In this example, fear and betrayal are related; however, betrayal may also function independently of fear. For example, in cases where the trauma is high on social betrayal, but low on fear (e.g., some forms of sexual molestation), the individual may use dissociative and numbing responses to avoid feelings of betrayal without any contribution of fear. Teasing out the relationship between betrayal and fear will require additional research.

Summary and Conclusions

Results from this investigation suggest that betrayal plays a critical role in predicting PTSD and dissociative experiences. The findings replicate the basic pattern

found in a pilot study of treatment-seeking participants (DePrince & Freyd, in preparation) in a community sample. Further, this study continues to extend betrayal trauma theory beyond investigations of knowledge isolation to examinations of the relationship between betrayal and more general posttraumatic symptoms. In addition, the current study demonstrated the relationship between both implicit (e.g., number of times caregiver abuse was reported) and people's explicit awareness (e.g., endorsement of betrayal) of betrayal to posttraumatic symptoms. The effect of explicit awareness of betrayal on posttraumatic symptoms extends betrayal trauma theory beyond its initial formulation. Initially, betrayal trauma theory assumed that people would be blind to betrayal and that dissociative processes would contribute to the betrayal blindness. The current study demonstrates that betrayal contributes to posttraumatic symptoms even under conditions where people are aware of their feelings of betrayal.

The current study provides strong evidence for the contribution of betrayal to dissociative and PTSD symptoms above and beyond the contribution of fear. The traumatic stress literature has been slow to ask questions about emotions beyond fear, perhaps because of the fear paradigm employed in the study of PTSD. While fear has been shown to be a powerful predictor of posttraumatic distress, the betrayal paradigm offers alternative views for understanding the onset and maintenance of distress, particularly withdrawal and dissociative symptoms. Alternative models of the onset and maintenance of distress, in turn, identify new models for intervention. By presenting an

alternative to the fear paradigm, this study demonstrates the need for investigations of emotions and contextual variables beyond fear.

The evidence presented in the current study on the importance of betrayal may provide the basis for a shift in where the blame for psychological distress in the aftermath of trauma lies. Under the current fear paradigm, the language of the models employed in mainstream psychology to discuss PTSD implies that the problem is within the individual victim (i.e., the individual has pathological elements in the fear structure that need to be corrected). A focus on social betrayal, though, draws attention to the social nature of interpersonal violence. The problem is not isolated within a particular victim, but rather is in the actions that one human perpetrates on another. At a societal level, the pragmatics of who is blamed for the aftermath of trauma is critical. The concept of social betrayal helps pull this issue into focus and stresses the role of the perpetrator over the attributes of any particular victim.

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