THE CATHOLIC UNIVERSITY OF AMERICA

Mindfulness and Acceptance as Predictors of Response To Trauma Memory Activation

A DISSERTATION

Submitted to the Faculty of the

Department of Psychology

School of Arts and Sciences

Of The Catholic University of America

In Partial Fulfillment of the Requirements

For the Degree

Doctor of Philosophy

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By

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Washington, D.C.

2011

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Script-driven imagery (SDI) is a research methodology that has been used to examine trauma survivors' responses to activation of trauma memories, but few studies have examined factors that predict participants' risk of experiencing psychological distress during SDI. The present study investigated the association between trait mindfulness, experiential avoidance, distress tolerance, and reactions to SDI among 18 women who had experienced interpersonal violence in adulthood. Participants who met eligibility criteria were scheduled for participation in the 2-day study and assigned to receive consent as usual or enhanced consent, which included procedures designed to increase understanding of the study. Participants completed baseline questionnaires assessing the three mindfulness and acceptance variables, as well as negative affect, state anger, depression, and dissociation. Afterwards, they were interviewed about their trauma history, as well as the subjective experience of and PTSD symptoms related to their index trauma. These interviews were used to develop a 2-minute individualized trauma script, which participants listened to repeatedly on Day 2 of the study. Following SDI, they completed the same psychological symptom measures administered at baseline, as well as assessments of emotional valence and arousal, PTSD symptom severity, and reactions to the research procedures. As predicted, analyses revealed that lower trait mindfulness and distress tolerance and greater experiential avoidance were associated with greater PTSD symptom severity at baseline. Additionally, after controlling for baseline

ratings on psychological symptom measures, greater trait mindfulness was associated with higher ratings of emotional arousal and lower ratings of trauma-related avoidance at post-SDI, while greater distress tolerance was associated with higher ratings of emotional arousal, less negative affect, and less depressive symptomatology. No significant associations were found between experiential avoidance and psychological symptoms at post-SDI. These findings indicate that assessing trait mindfulness and distress tolerance may help to identify those participants at risk of experiencing greater psychological distress during SDI. Furthermore, greater trait mindfulness predicted lower dissociation and lower PTSD symptom severity at post-SDI within the enhanced consent condition alone, suggesting that enhanced consent may have promoted a more open and nonjudgmental orientation to experience among women who were high in trait mindfulness.

This dissertation by Rachel W. Thompson fulfills the dissertation requirement for the doctoral degree in clinical psychology approved by Carol R. Glass, Ph.D., as Co-Director, Diane B. Arnkoff, Ph.D., as Co-Director, and Richard L. Amdur, Ph.D., as Reader.

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Dedication

I would like to dedicate this dissertation to my wonderful family and friends, who have never failed to support me throughout this endeavor. I particularly wish to thank my mother, father, sisters, and brothers, whose love, support, and humor have served as a constant source of joy and comfort in my life. To my terrific partner, Mark, I thank you for the patience you have shown in putting up with these years of research, and for helping me to keep life in perspective.

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Acknowledgements

I would like to thank all of the people who made this dissertation possible. I wish to thank my advisors, Dr. Carol Glass and Dr. Diane Arnkoff, for their support and guidance throughout my research endeavors. Your hard work, discipline, and collaboration have served as an excellent example for me throughout my graduate education. I also wish to thank Dr. Richard Amdur, who so kindly suggested and facilitated my collaboration with Georgetown University's Center for Trauma and the Community. I thank you for your insight, cooperation, and support throughout my dissertation research. I would also like to thank Dr. Mary Ann Dutton, who graciously allowed me to build my dissertation research from her study of ethics in trauma-focused research. Finally, thank you to all of the other individuals who made this dissertation possible, including Dr. Bonnie Green, Dr. John Van Meter, Dr. James Meyerhoff, Dr. Diana Bermudez, Kathleen Neill, Alexis Cooke, Susan Manis, Rebecca Green, and Dana Vessio.

Chapter 1

Conceptualizing Mindfulness and Acceptance as Components of Psychological Resilience to Trauma

Epidemiological studies such as the National Comorbidity Survey (NCS) report that more than 50% of adults experience at least one traumatic event during their lifetime (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Several different experiences qualified as traumatic events in the NCS, including direct exposure to combat, natural disasters, life-threatening accidents, rape, sexual molestation, childhood physical abuse, and childhood neglect. Participants were also considered to have experienced a trauma if they were physically attacked, threatened with a weapon, held captive, or kidnapped. Witnessing any of these events happen to another person also qualified as a traumatic experience in the NCS (Kessler et al., 1995). Despite the relatively high frequency of exposure to such events in the general population, the lifetime prevalence of posttraumatic stress disorder (PTSD) is estimated to be 6.8% (Kessler, Berglund, Demler, Jin, & Walters, 2005), suggesting that the vast majority of trauma-exposed individuals do not go on to develop PTSD.

The last decade has witnessed growing interest in factors that are associated with psychological resilience following exposure to trauma (Cooper, Feder, Southwick, & Charney, 2007; Morland, Butler, & Leskin, 2008). The empirical study of resilience has spanned the fields of psychology and neurobiology, and challenges the notion that exposure to severe trauma is sufficient for the development of PTSD (Yehuda & Flory, 2007). Instead, the resilience literature focuses on the environmental and individual difference factors that are associated with either resilience or vulnerability to PTSD (see reviews by Agaibi & Wilson, 2005; Bonanno, 2004; Hoge, Austin, & Pollack, 2007). A number of variables have

been found to be associated with resilient outcomes, including hardiness, internal locus of control, social support, cognitive flexibility, religious beliefs and altruism, and positive emotionality (e.g., Cooper et al., 2007; Hoge et al., 2007; D. W. King, King, Foy, Keane, & Fairbank, 1999; L.A. King, King, Fairbank, Keane, & Adams, 1998).

In addition, the past decade has been marked by expanding attention to mindfulness and acceptance-based approaches to the conceptualization and treatment of psychological disorders, often integrated with cognitive-behavior therapy (Baer, 2003; Hayes, 2004; Hayes, Masuda, Bissett, Lumoa, & Guerrero, 2004). Mindfulness and acceptance-based interventions have been successfully incorporated into the treatment of many different psychological disorders and medical conditions, including generalized anxiety disorder (Roemer & Orsillo, 2002), borderline personality disorder (Linehan, 1993), recurrent depression (Segal, Williams, & Teasdale, 2002), and chronic pain (e.g., Kabat-Zinn, 1982). Recently, mindfulness and acceptance-based approaches have also been increasingly applied to the treatment of PTSD. Although a number of published articles and book chapters describe case studies in which mindfulness and acceptance-based treatments such as Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999) have been provided to trauma survivors (e.g., Orsillo & Batten, 2005; Twohig, 2009), no controlled outcome studies have been published on the efficacy of such approaches with this population. However, one recent uncontrolled study reported that adult survivors of childhood sexual abuse who received mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1982) exhibited significant reductions in symptoms of depression and PTSD at posttreatment (Kimbrough, Magyari, Langenberg, Chesney, & Berman, 2010),

The rationale for the application of mindfulness and acceptance-based approaches to the treatment of PTSD rests on the notion that posttraumatic symptoms are developed and maintained by experiential avoidance (e.g., Orsillo & Batten, 2005, Walser & Hayes, 2006), defined as an unwillingness to experience unwanted internal events (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). This model posits that habitual attempts to avoid trauma-related thoughts, emotions, and memories lead to the core symptoms of PTSD, including avoidance of trauma-related stimuli and emotional numbing (Batten, Orsillo, & Walser, 2005; Follette, Palm, & Pearson, 2006). This chronic avoidance is conceptualized as the antithesis of mindful behavior (Follette et al., 2006), and is hypothesized to increase the frequency and saliency of the trauma-related experiences that the individual wishes to avoid (Batten et al., 2005).

If experiential avoidance and non-mindful behavior are involved in the etiology of PTSD, then it seems possible that mindful, accepting attitudes and behavior may improve psychological adjustment and reduce the risk of PTSD after a potentially traumatic event. The purpose of this review is to examine the theoretical and empirical evidence supporting mindfulness and acceptance as components of psychological resilience to trauma.

Defining Psychological Resilience to Trauma

At present, there is no consistent definition of resilience in the psychological literature (Agaibi & Wilson, 2005). Some authors conceptualize resilience as an outcome, while others view resilience as a process (Lepore & Revenson, 2006). Bonanno (2004) argues for a strict definition of resilience consisting of no more than fleeting psychological symptoms following exposure to trauma. Bonanno differentiates the stable trajectory of the

resilience construct from the construct of recovery, which he defines as psychological dysfunction that resolves itself no less than several months after the initial trauma.

Lepore and Revenson (2006) assert that recovery, resistance, and reconfiguration can all be subsumed under the resilience construct, with recovery defined as trauma-related psychological disruption that is eventually resolved. Similar to Bonanno's (2004) definition of resilience, the authors conceptualize resistance as normal functioning that is undisturbed by trauma exposure. Finally, reconfiguration is thought to occur when changes in behavior, thoughts, and emotions facilitate adaptation and adjustment to trauma. They compare reconfiguration to the phenomenon of posttraumatic growth (Lepore & Revenson, 2006).

For the purpose of the present chapter, psychological resilience will be defined as the tendency to overcome factors that place one at risk for psychological dysfunction and to adjust positively in the aftermath of a potentially traumatic event (Lepore & Revenson, 2006; Werner, 1995). This broad definition encompasses Bonanno's (2004) conceptualization of resilience and Lepore and Revenson's (2006) descriptions of recovery, resistance, and reconfiguration. Further research is needed to arrive at an empirically-based definition of resilience and to elucidate the connections between resilience, vulnerability, and psychopathology (Yehuda & Flory, 2007). Future research should also examine whether resilience reflects a trait- or state-like property of the individual (Lepore & Revenson, 2006; Yehuda & Flory, 2007), as well as whether resilience can be taught to populations at risk for exposure to trauma and adversity (Bonanno, 2004, 2005).

Mindfulness and Acceptance

Multiple pathways to resilience have been shown (Bonanno, 2004), with a variety of individual difference variables promoting positive functioning following exposure to trauma. This chapter examines evidence suggesting that trait mindfulness and acceptance may be an overlooked pathway to resilience. The following section will provide an initial introduction to the constructs of mindfulness and acceptance.

Mindfulness

Although mindfulness originated as a Buddhist meditation practice, it is the secular adaptations of mindfulness that have received attention in the Western psychological literature (Baer, 2003). Mindfulness is typically cultivated through meditation exercises that emphasize moment-to-moment awareness of bodily sensations, emotions, or activities (Baer, Smith, & Allen, 2004), while intentionally observing and letting go of any distracting thoughts that enter into awareness (Kabat-Zinn, 1990).

Despite increasing interest in mindfulness and its applications to psychological disorders, researchers have only recently attempted to develop an operational definition of mindfulness (Bishop et al., 2004). Kabat-Zinn (2003) initially proposed a working definition of mindfulness as an awareness that develops from intentional, nonjudgmental attention toward experience in the present moment. Bishop and colleagues (2004) presented an operational definition of mindfulness consisting of two components: self-regulation of attention and a curious, accepting orientation toward experience. The first component of this definition reflects the attentional processes involved in mindfulness meditation, including sustained attention to present experience and the switching of attention from distracting

thoughts and emotions. The second component of the definition emphasizes the importance of letting go of judgments of one's experience (Kabat-Zinn, 1990). Bishop and colleagues also hypothesize that mindfulness changes people's relationship to their thoughts, such that thoughts are viewed as subjective and short-lived, rather than accurate reflections of an unchanging reality. This change in relation to one's thoughts is also called decentering or defusion.

Acceptance

Mindfulness and acceptance appear to be overlapping constructs. Mindfulness meditation emphasizes a nonjudgmental, accepting attitude toward present experience (Bishop et al., 2004; Kabat-Zinn, 1990), and is believed to facilitate acceptance. Further, acceptance-based interventions emphasize the importance of being fully present with one's experience (Hayes et al, 1999). Although these constructs are highly interrelated, mindfulness originated as a spiritual practice, while the construct of acceptance is rooted in empiricism (Orsillo, Roemer, Lerner, & Tull, 2004).

Follette, Palm, and Hall (2004) conceptualize acceptance as involving three processes: the observation of psychological events, letting go of the desire to alter the form or frequency of these events, and differentiating actual events from the psychological experiences that are evoked by outside events. In other words, acceptance includes viewing psychological events as understandable and transient reactions to external events, rather than viewing private events as unbearable psychological states that must be avoided or fixed (Orsillo et al., 2004; Robins, Schmidt, & Linehan, 2004). Consequently, acceptance is thought to facilitate decentering (Orsillo et al., 2004). Other definitions of acceptance

include openly embracing experience in the here and now and acknowledging reality in a nonjudgmental manner (Hayes, 2004). The psychological construct of acceptance is different from everyday definitions of acceptance, which typically equate acceptance with positive evaluation (Robins et al., 2004). Similar to mindfulness, acceptance involves attending to and describing both internal and external events while deliberately withholding the tendency to positively or negatively evaluate these events.

Mindfulness, Acceptance, and Resilience to Trauma

The majority of the empirical literature on mindfulness and acceptance has focused on the theoretical and clinical application of these constructs to the treatment of psychological disorders. Practice and instruction in mindfulness and acceptance-based skills are integral components of several empirically-supported psychological interventions, including Mindfulness-Based Stress Reduction (Kabat-Zinn, 1990), Mindfulness-Based Cognitive Therapy (MBCT; Segal et al., 2002), Acceptance and Commitment Therapy (ACT; Hayes et al., 1999), and Dialectical Behavior Therapy (Linehan, 1993). If mindfulness and acceptance do indeed promote resilience to trauma, it is possible that existing mindfulness and acceptance-based interventions may reduce rates of PTSD and other negative psychological outcomes when provided to individuals who have recently experienced a traumatic event, as well as to those who have a high probability of experiencing a potentially traumatic event.

Although the study of mindfulness, acceptance, and resilience is in its infancy, researchers have recently begun to incorporate mindfulness and acceptance-based constructs in the study of posttraumatic functioning (e.g., Marx & Sloan, 2002; Thompson & Waltz,

2010). As described in detail below, current evidence suggests that trait mindfulness and acceptance are associated with fewer psychological symptoms and more positive outcomes after exposure to trauma.

Theories of Mindfulness and Acceptance and Implications for PTSD

Acceptance- and mindfulness-based theories of PTSD posit that experiential avoidance and other forms of non-mindful behavior lead to the core symptoms of PTSD. As a result, mindfulness and acceptance skills have been used to foster emotion regulation, the viewing of trauma-related thoughts and feelings from a nonjudgmental perspective, and acceptance that efforts to control internal experience are largely responsible for the individual's current distress (Follette et al., 2006; Orsillo & Batten, 2005; Walser & Hayes, 2006). Theories explaining the importance of mindfulness and acceptance in the treatment of PTSD and other psychological disorders may suggest a formulation of how mindfulness/ acceptance might confer resilience in the aftermath of trauma.

ACT and PTSD. Acceptance and Commitment Therapy (Hayes et al., 1999) is one of the most popular and well-researched acceptance-based interventions in the current psychological literature. (See Hayes, Barnes-Holmes, and Roche, 2001 for information on relational frame theory, the theory of language and cognition underlying ACT.) ACT suggests that verbal and cognitive processes are responsible for cognitive fusion, positive and negative judgments of oneself and the world, and avoidance (Hayes et al., 1999). Deliberate attempts to change unpleasant internal events (i.e., experiential avoidance) are hypothesized to contribute to the development of psychopathology (e.g., Hayes et al., 1999; Hayes, 2004; Hayes, Luoma, Bond, Masuda, & Lillis, 2006). ACT utilizes experiential exercises,

metaphors, and paradox to challenge the effectiveness of experiential avoidance, increase openness to present experience, and reorient people toward their values (Hayes et al., 1999). Specifically, trauma survivors are taught to increase their contact with the present moment, become willing to experience both internal and external events without judgment, recognize the subjective and transient nature of their thoughts, and commit to action in the service of their values. The ultimate goal of these interventions is to increase trauma survivors' psychological flexibility (Follette et al., 2006; Orsillo & Batten, 2005).

Implications for resilience to trauma. ACT conceptualizations of PTSD primarily focus on the development and treatment of the disorder, rather than on those factors that promote resilience to trauma. However, the theory states that experiential avoidance and non-mindful behavior produce posttraumatic symptoms, while mindfulness and acceptance promote healing. If mindfulness and acceptance skills are effective in the treatment of PTSD, it seems reasonable that individuals with high pre-trauma levels of mindfulness and acceptance would be less likely to exhibit posttraumatic symptoms following trauma exposure. Specifically, a mindful focus on the present may prevent trauma survivors from ruminating about the past and the future (Follette et al., 2006), both of which are likely to increase distress and estimations of threat. In addition, efforts to maintain contact with present experience and view trauma-related stimuli nonjudgmentally would likely help survivors to interpret any posttraumatic symptoms as transient, expectable reactions to an extremely stressful event. In turn, this attitude may protect survivors from engaging in the chronic emotional and behavioral avoidance that serves to exacerbate symptoms and worsen psychosocial impairment.

Theories of mindfulness and relapse prevention. Mindfulness has also been proposed to play an integral role in the prevention of relapse in two other psychological disorders that may develop after exposure to a traumatic event, and which are frequently comorbid with PTSD: substance use disorders (Witkiewitz, Marlatt, & Walker, 2005) and major depressive disorder (Segal et al., 2002). Substance use disorders may develop or worsen after a traumatic event as a result of individuals' attempts to reduce distressing re-experiencing symptoms and/or excessive physiological reactivity. Similarly, trauma survivors' frequent avoidance of activities and interpersonal interactions often contributes to the development of clinical depression.

Breslin, Zack, and McMain (2002) developed an information-processing model to explain how mindfulness might be effective in preventing relapse among individuals with substance use disorders. This theory suggests that mindfulness, through its emphasis on nonjudgmental attention to present experience, may help people become more aware of their automatic responses to symptom triggers. From a behavioral standpoint, mindfulness may serve to uncouple the stimulus-response associations that maintain maladaptive symptoms and behaviors.

Mindfulness has also been thought to play an important role in the prevention of recurrent major depression. In fact, Mindfulness-Based Cognitive Therapy (Segal et al., 2002) is rooted in the notion that the associations between negative, pessimistic thinking and major depressive episodes create a vulnerability to depressive relapse (Teasdale, Segal, & Williams, 1995; Teasdale et al., 2000). In individuals with previous episodes of major depression, the experience of even a temporary dysphoric mood state is thought to activate

thinking patterns similar to those present during past depressive episodes. The activation of these depressogenic thinking patterns frequently leads to the "depressive interlock," or a type of ruminative thinking that serves to further increase the risk of depressive relapse (Teasdale et al., 1995). In the MBCT model, mindfulness skills prevent depressive relapse by increasing awareness to present thoughts and feelings, thereby elevating the chances that people will recognize early signs of depressive relapse. In addition, mindfulness skills are used to adopt a decentered perspective toward depressogenic cognitions and an accepting attitude toward negative affect (Teasdale et al., 1995; Teasdale et al., 2000).

Implications for resilience to trauma. Although Breslin et al.'s (2002) information-processing model was developed to explain the usefulness of mindfulness in preventing drug and alcohol relapse, it also sheds light on how trait mindfulness might prevent the development of PTSD. It seems probable that individuals with pre-trauma tendencies toward mindfulness would exhibit increased awareness and acceptance of their responses to threatening stimuli in the aftermath of a trauma. This increased awareness and contact with the present moment may reduce the extent to which trauma-exposed individuals develop classically conditioned avoidance, reexperiencing, or hyperarousal reactions to trauma-relevant stimuli, thereby preventing the development of the core symptoms of PTSD. From a cognitive-behavioral viewpoint, the tendency to remain engaged in present-moment experience may promote exposure to feared, trauma-related stimuli shortly after the traumatic event, thereby facilitating emotional processing of the event and averting the development of pathological fear structures (e.g., Foa & Kozak, 1986). Similarly, a nonjudgmental approach toward experience may assist in habituation to heightened posttraumatic physiological

reactivity (Low, Stanton, & Bower, 2008), which is a core aspect of the PTSD diagnosis (American Psychiatric Association, 2000). A mindful and accepting orientation toward experience may help trauma survivors tolerate upsetting reexperiencing and arousal symptoms without resorting to avoidance, including substance abuse.

Although classified as an anxiety disorder, many of the associated features of PTSD overlap with common symptoms of depression. PTSD frequently co-occurs with major depressive disorder (APA, 2000), and the proposed DSM-5 includes negative mood symptoms among the diagnostic criteria for PTSD (APA, 2010). Just as high levels of pre-trauma trait mindfulness may help people maintain a decentered attitude toward symptoms of anxiety following trauma exposure, trait mindfulness may also help trauma survivors to view feelings of guilt, shame, or hopelessness as thoughts that pass through awareness, rather than accurate reflections of the self in the aftermath of trauma. Consequently, high levels of trait mindfulness may prevent the initiation of ruminative, depressogenic thinking, thereby preventing the development of a major depressive episode or the worsening of posttraumatic symptoms.

Avoidance and Posttraumatic Symptoms

Just as theories of mindfulness and relapse prevention have been influential in the conceptualization and treatment of substance use disorders and recurrent major depressive disorder, acceptance-based theories offer an important approach to understanding PTSD. Continued attempts to avoid both internal and external trauma-related experiences are thought to lead to clinically significant distress and dysfunction, and to contribute to the etiology of such comorbid disorders as major depression (Walser & Hayes, 2006). A number

of studies have investigated this hypothesis using the Acceptance and Action Questionnaire (AAQ; Hayes, Strosahl, et al., 2004), a self-report measure designed to assess experiential avoidance. The AAQ exhibits adequate internal consistency and good convergent validity (Hayes, Strosahl, et al., 2004), and has been used in a large number of studies of the experiential avoidance construct (Hayes et al., 2006).

Correlational studies using the AAQ (see Table 1) have demonstrated that greater experiential avoidance is associated with more severe distress and PTSD symptoms among civilian survivors of the Kosovo War (Morina, 2007; Morina, Stangier, & Risch, 2008) and gay male and lesbian survivors of sexual assault (Gold, Dickstein, Marx, & Lexington, 2009; Gold, Marx, & Lexington, 2007). One study found that individuals with current PTSD reported greater experiential avoidance than did individuals who recovered from PTSD or never received a diagnosis of PTSD, suggesting that experiential avoidance may play a central role in the maintenance of the disorder (Morina et al., 2008).

Numerous studies have found experiential avoidance, as measured by the AAQ, to be both a significant predictor and a significant mediator of psychological symptoms following exposure to trauma (see Table 1). In both undergraduate and combat-exposed samples, experiential avoidance was found to be a stronger predictor of current psychological distress than was the severity of the index trauma and previous psychological distress (Plumb, Orsillo, & Luterek, 2004). Similarly, Marx and Sloan (2005) reported that at the end of an 8-week follow-up interval, experiential avoidance predicted PTSD symptom severity over and above ratings of PTSD symptom severity obtained at baseline. Experiential avoidance has also been shown to partially mediate the relationship between PTSD and quality of life in

Table 1

Studies of Posttraumatic Outcomes Using Measures Grounded in the Mindfulness and Acceptance-Based Literature

Citation	*N*	Population Studied	Methodological Considerations	Findings
Chopko & Schwartz, 2009	183	Police officers exposed to work-related traumatic events	KIMS used as a predictor variable; predominantly White, Christian sample; average age of pts was 37.9; average time since traumatic event was 9.1 months	Observing and describing correlated with posttraumatic growth; acceptance without judgment correlated with less posttraumatic growth
Gold et al., 2007	74	Gay male sexual assault survivors	AAQ used as a predictor variable; sample included CSA and ASA survivors; ethnically diverse sample; average age of pts was 34.71	EA correlated highly with PTSD and depression; EA partially mediated the relation between internalized homophobia and PTSD
Gold et al., 2009	72	Lesbian sexual assault survivors	AAQ used as a predictor variable; sample included CSA and ASA survivors; ethnically diverse sample; average age of pts was 33.47	EA correlated with PTSD and depression; EA fully mediated the relation between internalized homophobia and PTSD

Citation	*N*	Population Studied	Methodological Considerations	Findings
Kashdan et al., 2009	74	Albanian civilian survivors of the Kosovo War	AAQ used as a predictor variable; average of 12 traumatic events per participant; average age of pts was 39.52; majority of pts were refugees or internally displaced during the war	EA correlated with PTSD; EA partially mediated the effects of PTSD on quality of life, but not the effects of PTSD on global distress
Marx & Sloan, 2002	99	Female undergraduates with and without a history of CSA	AAQ used as a predictor variable; ethnically diverse sample; average age at which abuse occurred was 8; average age of pts was 19.10	EA mediated the relationship between CSA history and psychological distress
Marx & Sloan, 2005	185	Undergraduates with a history of trauma	AAQ used as a predictor variable; ethnically diverse sample; majority of pts endorsed multiple traumas; time since trauma ranged from less than 1 month to greater than 5 years	EA predicted PTSD sx severity at baseline; EA predicted PTSD sx severity at time 3 over and above baseline PTSD sx severity
Morina, 2007	152	Kosovo civilians exposed to war-related trauma	AAQ used as a predictor variable; average age of pts was 39.3; average number of traumatic events was 9; snow-ball sampling utilized.	EA did not predict PTSD sxs over and above general psychiatric distress

Citation	*N*	Population Studied	Methodological Considerations	Findings
Morina et al., 2008	84	Kosovo civilians exposed to war-related trauma	AAQ used as a predictor variable; average age of pts was 38.4; average number of traumatic events was 5.3	Pts with PTSD had greater EA scores than pts who recovered from PTSD or did not have PTSD; no difference in EA between recovered PTSD and no-PTSD groups
Orcutt et al., 2005	229	Undergraduates with a history of interpersonal trauma	AAQ used as a predictor variable; pts were mostly White, female, and under age 24	EA partially mediated the effects of interpersonal trauma on PTSD sx
Plumb et al., 2004	118 (s1) 160 (s2) 37 (s3)	Undergraduates who experienced an "extremely negative" life event (s1), undergraduates with a history of trauma (s2); male veterans receiving inpatient PTSD treatment (s3)	AAQ used as a predictor variable; pts were mostly female and White (s1, s2); average age was 20.63 (s1) and 20.97 (s2); average age of pts not provided (s3)	Baseline EA predicted distress at 8-week follow-up over and above baseline distress (s1); EA predicted PTSD sx severity above and beyond trauma severity (s2); EA predicted PTSD sx severity over and above degree of combat exposure (s3)
Polusny et al., 2004	304	Female undergraduates	AAQ used as a predictor variable; pts were primarily White; average age was 19	EA partially mediated the relation between adolescent sexual assault and sxs of depression and distress

Citation	*N*	Population Studied	Methodological Considerations	Findings
Rosenthal et al., 2005	151	Female undergraduates	AAQ used as a predictor variable; pts were primarily White; average age was 24	EA fully mediated the relation between CSA severity and distress in adulthood
Thompson & Waltz, 2010	191	Undergraduates with a history of trauma	AAQ and FFMQ used as predictor variables; pts were primarily female; average age of pts was 19.56	Nonjudgment facet of FFMQ predicted PTSD avoidance sxs above and beyond EA alone
Tull et al., 2004	160	Women who experienced sexual assault and one other potentially traumatic event	AAQ used as a predictor variable; ethnically diverse sample; average age of pts was 26.40	EA did not predict PTSD sx severity over and above number of traumatic events and general psychiatric sx severity
Vujanovic et al., 2009	239	Individuals without an Axis I disorder who endorsed a history of trauma	KIMS used as a predictor variable; pts were primarily White; average age of pts was 23.0	Accepting Without Judgment subscale of KIMS was an incremental predictor of overall PTSD sxs and specific sx clusters

Note. AAQ = Acceptance and Action Questionnaire; CSA = childhood sexual abuse; ASA = adult sexual abuse; EA = experiential avoidance; pts = participants; sxs = symptoms; s1 = Study 1; s2 = Study 2; s3 = Study 3; FFMQ = Five Facet Mindfulness Questionnaire; KIMS = Kentucky Inventory of Mindfulness Skills.

civilian survivors of the Kosovo War (Kashdan, Morina, & Priebe, 2009), and to partially mediate the association between interpersonal trauma exposure and symptoms of PTSD (Orcutt, Pickett, & Pope, 2005). In addition, a number of investigations have found that experiential avoidance acts as a mediator between the experience of childhood and adolescent sexual abuse and psychological symptom variables in adulthood (Marx & Sloan, 2002; Polusny, Rosenthal, Aban, & Follette, 2004; Rosenthal, Hall, Palm, Batten, & Follette, 2005).

In sum, there is accumulating evidence to support the notion that experiential avoidance is elevated in individuals with PTSD, and may play a significant role in the onset and maintenance of the disorder. An examination of the studies using the AAQ suggests that there is a relationship between experiential avoidance, PTSD, and other psychological symptoms following trauma among people with varied ethnocultural backgrounds and trauma histories. Nonetheless, the majority of the studies utilizing the AAQ have used undergraduate, non-clinical samples to examine the connection between experiential avoidance and symptoms of PTSD. Future research should consider investigating the effects of experiential avoidance in older populations and individuals seeking treatment for posttraumatic symptomatology. Such studies would elucidate how experiential avoidance relates to psychopathology and quality of life in those with clinically significant symptoms of PTSD.

Despite converging evidence relating experiential avoidance to PTSD, it remains possible that the relationship between experiential avoidance and PTSD symptomatology may be better explained by their shared relationship with more global measures. One

investigation found that experiential avoidance did not add to the prediction of PTSD symptoms when taking into account general psychiatric symptom severity and the number of traumatic events the individual was exposed to. However, experiential avoidance uniquely predicted anxiety, depression, and somatization among individuals exposed to multiple traumas (Tull, Gratz, Salters, & Roemer, 2004). Similarly, Morina (2007) reported that experiential avoidance did not predict PTSD symptoms over and above general psychiatric distress in Kosovo war survivors. Further research is needed to determine if experiential avoidance is a unique predictor of PTSD symptomatology or a predictor of generalized psychological dysfunction among trauma survivors. In addition, it is essential for future research to clarify whether or not experiential avoidance predicts PTSD symptoms over and above the construct's shared content with the avoidant symptom cluster in the current PTSD diagnostic criteria (APA, 2000).

Other investigations of the relationship between avoidance and posttraumatic functioning have utilized measures of coping that assess forms of cognitive and behavioral avoidance and disengagement, including the COPE scale (Carver, Scheier, & Weintraub, 1989) and the Ways of Coping Questionnaire (Folkman & Lazarus, 1985). Many of these studies demonstrated a relationship between poor posttraumatic functioning and the use of coping strategies that involve emotional disengagement, including avoidance, distraction, and denial. The use of avoidant coping strategies has been found to be associated with greater PTSD symptoms in a variety of populations, including women who experienced interpersonal violence in adolescence or adulthood (Krause, Kaltman, Goodman, & Dutton, 2008; Ullman, Townsend, Filipas, & Starzynski, 2007; Valentiner, Foa, Riggs, & Gershuny,

1996), Gulf War veterans (Benotsch et al., 2000; Stein et al., 2005), individuals with a severe traumatic brain injury (Bryant, Marosszeky, Crooks, Baguley, & Gurka, 2000), inner-city youth exposed to community violence (Dempsey, Overstreet, & Moely, 2000), and survivors of Hurricane Katrina (Glass, Flory, Hankin, Kloos, & Turecki, 2009; Pina et al., 2008; Sprang & LaJoie, 2009). In the aftermath of the terrorist attacks on September 11, 2001, individuals who used emotion-focused disengagement strategies such as self-blame, self-distraction, and denial experienced a significantly greater number of PTSD symptoms and significantly greater distress than those who used coping strategies involving emotional engagement (Silver, Holman, McIntosh, Poulin, & Gil-Rivas, 2002).

Prospective studies of avoidance and PTSD. Many of the studies described thus far are limited by the use of correlational or cross-sectional research designs (e.g., Marx & Sloan, 2002; Tull et al., 2004). Such designs do not permit researchers to examine the temporal relationship between experiential avoidance, avoidant coping, and PTSD symptomatology. In contrast, prospective studies allow researchers to determine whether pre-trauma, trait-like tendencies toward experiential avoidance and the use of emotional disengagement strategies lead to the development of PTSD following trauma exposure, or whether exposure to trauma itself produces both emotional and behavioral disengagement (e.g., Silver et al., 2002; Tull et al., 2004). Gil (2005) shed light on this issue in a rare prospective study of students who were exposed to a terrorist attack on a bus near their university. This study found that avoidance coping 2 weeks before the attack significantly predicted a diagnosis of PTSD 6 months after the attack. In contrast, a recent study reported that greater avoidance coping before the terrorist attacks on 9/11 did not predict greater

PTSD symptoms at 1 and 3 months post-attacks in a sample of undergraduate students (Baschnagel, Gudmundsdottir, Hawk, & Beck, 2009). These conflicting findings are likely due in part to differences in methodology, including the use of different measures to assess coping style. In addition, the sample studied by Baschnagel and colleagues (2009) was indirectly exposed to the attacks on 9/11, while more than a third of Gil's (2005) sample was directly exposed to the terrorist attack. The conflicting results may also be due to differences in the samples' cultural backgrounds, as the sample studied by Gil (2005) was predominantly Israeli-born, and Baschnagel et al.'s (2009) sample appeared to be comprised of American citizens. These mixed findings demonstrate the importance of conducting further prospective studies in order clarify the direction of the relationship between avoidance and posttraumatic functioning.

Overall, there appears to be considerable support for the hypothesis that experiential avoidance, denial, and other forms of emotional disengagement are related to greater PTSD symptom severity and poorer functioning following trauma exposure. However, it is currently unclear whether or not trait-like, pre-trauma tendencies toward experiential avoidance predispose individuals to PTSD, or if the development of avoidant coping in the aftermath of trauma increases vulnerability to the disorder. Future research should address this issue by assessing experiential avoidance before individuals are exposed to trauma. This could be accomplished by studying people awaiting the results of life-changing medical tests, those who live in areas that are frequently exposed to natural disasters, or troops who are about to be deployed to combat zones. Finally, this line of research would benefit from utilizing reliable and valid measures of the experiential avoidance construct, including the

AAQ and the Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., in press). The AAQ-II has been shown to have greater internal consistency than the original AAQ, and has exhibited good criterion-related validity (Bond et al., in press).

The role of thought suppression. Thought suppression, involving conscious attempts to keep unwanted thoughts out of awareness (Wegner, 1994), can be viewed as one aspect of the experiential avoidance construct (Tull et al., 2004). Thought suppression may be particularly ineffective for individuals who have been exposed to a traumatic event because when a person is experiencing stress, efforts to suppress undesired thoughts may paradoxically increase awareness of the very thoughts the person wishes to avoid (Wegner, 1994).

Chronic thought suppression has been shown to predict PTSD symptom severity among individuals exposed to a terrorist attack (Vázquez, Hervás, & Pérez-Sales, 2008). Thought suppression has also been found to predict PTSD symptom severity when controlling for both general psychiatric symptom severity and the number of traumatic events the individual has been exposed to (Tull et al., 2004). Furthermore, several studies have reported that people with PTSD experience rebounds in trauma-related cognitions following thought suppression tasks (Aikins et al., 2009; Amstadter & Vernon, 2006; Shipherd & Beck, 1999, 2005). These studies add to a large body of literature supporting the role of thought suppression in the etiology and maintenance of PTSD (Purdon, 1999). Though this literature implicates chronic thought suppression in the maintenance of PTSD, further research is needed to investigate the relationship between pre-trauma tendencies toward thought suppression and symptoms of PTSD.

Dissociation and Posttraumatic Symptoms

Mindfulness has been operationalized as consisting of two primary components: sustained attention to the present moment and an accepting attitude toward experience (Bishop et al., 2004). Dissociation, constituting disturbances in consciousness, perception, memory, or identity (APA, 2000), may be conceptualized as the clinical antithesis of mindful attention to present experience (Michal et al., 2007). The relationship between dissociation and PTSD is currently a controversial topic in the psychological literature (Simeon, 2007), with many unresolved questions regarding the temporal relationship between these two clinical phenomena (Ginzburg, Solomon, Dekel, & Bleich, 2006).

The vast majority of the literature on the relationship between dissociation and PTSD has focused on the effects of peritraumatic dissociation, or dissociative phenomena that occur during or shortly after a potentially traumatic event. Peritraumatic dissociation has been shown to predict PTSD symptom severity in Vietnam theater veterans (Marmar et al., 1994) and survivors of violent assault and physical trauma (Birmes et al., 2003; Shalev, Peri, Canetti, & Schreiber, 1996). Recent meta-analyses (Breh & Seidler, 2007; Ozer, Best, Lipsey, & Weiss, 2003) have concluded that peritraumatic dissociation is one of the strongest predictors of PTSD in the psychological literature.

Although there appears to be a large body of evidence supporting the ability of peritraumatic dissociation to predict PTSD symptoms, many authors have indicated serious methodological flaws associated with this literature (e.g., Bryant, 2007). Specifically, Candel and Merkelbach (2004) point out that though certain studies have assessed peritraumatic dissociation shortly after the potentially traumatic event (e.g., Birmes et al.,

2003; Shalev et al., 1996), the majority of studies have relied on retrospective self-reports. The use of retrospective self-reports is particularly problematic in the assessment of peritraumatic dissociation, since changes in PTSD symptoms have been shown to be positively correlated with changes in recall of peritraumatic dissociation (Marshall & Schell, 2002). Moreover, studies continue to rely on self-report measures of peritraumatic dissociation despite evidence that investigations using interview-based assessments report weaker correlations between peritraumatic dissociation and PTSD than studies using self-report measures (Ozer et al., 2003). Finally, many studies have been criticized for neglecting to investigate the value of peritraumatic dissociation as an independent predictor of PTSD symptoms, thereby failing to control for the possibility that common shared risk factors may be producing a spurious relationship between these variables (van der Velden & Wittmann, 2008).

In accordance with critiques of the literature, a recent review of prospective studies on peritraumatic dissociation and PTSD found that peritraumatic dissociation is not a significant, independent predictor of the disorder (van der Velden & Wittmann, 2008). For example, peritraumatic dissociation did not emerge as a significant, independent predictor of PTSD among survivors of a fireworks disaster (van der Velden et al., 2006), victims of accidents or physical assault (Wittmann, Moergeli, & Schnyder, 2006), young adults injured as a result of community violence (Marshall & Schell, 2002), or undergraduate students exposed to a variety of potentially traumatic events (Marx & Sloan, 2005).

Emerging evidence suggests that trait or persistent dissociation may be a greater vulnerability marker for PTSD than is peritraumatic dissociation. Specifically, one

prospective study of urban police officers reported that trait dissociation predicted greater peritraumatic dissociation and PTSD symptoms after 12 months of active duty (McCaslin et al., 2008). Among children who were hospitalized with severe burns, the tendency to dissociate partially mediated the relationship between total burn area and PTSD at 3 months post-burn (Saxe et al., 2005). Similarly, a prospective study of children who had experienced sexual abuse found that the tendency to dissociate during the disclosure of abuse predicted PTSD symptoms in later months (Kaplow, Dodge, Amaya-Jackson, & Saxe, 2005). Finally, persistent dissociation has been found to be a strong predictor of both PTSD status (Briere, Scott, & Weathers, 2005) and symptomatology (Halligan, Michael, Clark, & Ehlers, 2003), with one study reporting that the relationship between PTSD and peritraumatic dissociation ceased to exist once persistent dissociation was taken into account (Briere et al., 2005).

Taken together, these findings suggest that trait dissociation and/or the tendency to persistently dissociate following exposure to trauma serve to maintain symptoms of PTSD. This body of evidence corresponds with existing clinical theory (Briere et al., 2005), which purports that dissociation promotes the development and maintenance of PTSD by impeding emotional processing of the traumatic event (Foa & Riggs, 1995). If the tendency to dissociate is associated with increased vulnerability to PTSD, then it seems possible that trait mindfulness may protect individuals from developing PTSD following a traumatic event. More research is needed on the relationship between dissociation, mindfulness, and PTSD. This line of research would benefit from prospective studies that examine the independent value of pre-trauma mindfulness and dissociation in the prediction of PTSD (e.g., McCaslin et al., 2008), and that utilize both self-report and interview-based assessment tools.

Acceptance and Resilience After Trauma

In addition to implicating experiential avoidance (including dissociation) in the development of pathological posttraumatic processes, acceptance-based theories of PTSD also posit that the practice of mindfulness and acceptance skills promotes recovery from the core symptoms of the disorder (e.g., Orsillo & Batten, 2005; Walser & Hayes, 2006). If this hypothesis is correct, then individuals who utilize such skills in the aftermath of trauma should demonstrate fewer PTSD symptoms and more positive psychological outcomes. Indeed, lack of emotional acceptance and difficulties with emotional clarity in the aftermath of trauma have been found to be associated with greater rates of PTSD (Tull, Barrett, McMillan, & Roemer, 2007). Conversely, the use of acceptance as a coping strategy was associated with fewer PTSD symptoms and lower levels of distress in the 6 months following the terrorist attacks on September 11, 2001 (Silver et al., 2002). Moreover, Major, Richards, Cooper, Cozzarelli, and Zubek (1998) reported that using acceptance to cope with abortion was positively associated with contentment with the decision and positive well-being, and negatively associated with distress.

Methodological considerations. Although preliminary evidence suggests that acceptance is related to positive psychological outcomes, the literature is limited by the same methodological issues that characterize the body of research on avoidance and posttraumatic functioning. Specifically, these studies are cross-sectional in nature, which limits the ability to identify if individuals with pre-trauma tendencies toward acceptance exhibit superior psychological outcomes. No studies were found that investigated the relationship between pre-trauma acceptance and posttraumatic symptoms following Criterion A traumatic events

(APA, 2000). Moreover, the vast majority of the literature on acceptance and posttraumatic coping uses assessment tools that are grounded in the literature on coping, rather than the mindfulness and acceptance tradition. Consequently, it is possible that the term "acceptance" may have been used to describe different constructs. Future research should attempt to use assessment tools that have developed out of the mindfulness and acceptance literature, including the AAQ-II (Bond et al., in press), the Philadelphia Mindfulness Scale (PHLMS; Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008), and the Five-Factor Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). The PHLMS exhibited good internal consistency and criterion-related validity in clinical and nonclinical samples (Cardaciotto et al., 2008), and the FFMQ demonstrated adequate to good internal consistency and good criterion-related validity in samples of meditators and non-meditators (Baer et al., 2006).

A small number of studies have attempted to investigate the relationship between acceptance and posttraumatic outcomes using measures grounded in the mindfulness and acceptance literature. One such study using the Kentucky Inventory of Mindfulness Skills (Baer et al., 2004) found that the ability to accept without judgment predicted fewer posttraumatic stress symptoms and that the ability to act with awareness predicted fewer re-experiencing symptoms among trauma-exposed individuals without an Axis I diagnosis (Vujanovic, Youngwirth, Johnson & Zvolensky, 2009; see Table 1). Similarly, a recent study using the FFMQ with a sample of individuals exposed to Criterion A traumatic events demonstrated that mindfulness, particularly nonjudgmental acceptance, explained additional variance in PTSD avoidance symptom severity over and above the contribution of

experiential avoidance (Thompson & Waltz, 2010; see Table 1). In contrast, in a study of police officers exposed to traumatic events while in the line of duty, though the ability to observe and describe internal and external stimuli was related to posttraumatic growth, the ability to accept without judgment was associated with lower ratings on a measure of posttraumatic growth (Chopko & Schwartz, 2009; see Table 1). These results raise the question of whether positive judgments or evaluations of one's experience following a traumatic event are necessary components of posttraumatic growth. Although these designs were cross-sectional in nature, the findings suggest the need for further research that examines whether trait mindfulness and acceptance assessed pre-trauma are associated with greater resilience following Criterion A traumatic events.

Conclusions

Methodological Considerations and Future Directions

There is considerable evidence to support the hypothesis that trait mindfulness and acceptance are associated with greater adjustment following trauma, while experiential avoidance, emotional disengagement strategies, and persistent dissociation are associated with increased vulnerability to PTSD and global psychological dysfunction. In particular, studies that have utilized assessment tools grounded in the mindfulness and acceptance-based literature (see Table 1) have demonstrated these associations in studies that investigated samples with diverse ethnocultural backgrounds, sexual orientations, trauma histories, and ages at which the traumatic event occurred. Nonetheless, many of these studies have examined the relationship between avoidance, acceptance, and psychological functioning in young undergraduate students exposed to a potentially traumatic event. Future studies would

benefit from examining the relationship between these constructs in older populations and those seeking treatment for PTSD. Moreover, future research should consider examining whether or not the relationship between mindfulness, experiential avoidance, and psychological symptoms following trauma depends on the type of traumatic event experienced and/or the length of time since the trauma occurred.

Although there is little direct evidence to suggest that mindfulness and acceptance confer resilience to trauma, the literature on posttraumatic outcomes indicates that there is much to be learned from research that examines mindfulness, acceptance, and experiential avoidance in individuals at risk for trauma, and evaluates how these constructs are related to resilience and vulnerability to PTSD over time. In order to demonstrate that experiential avoidance increases vulnerability to PTSD (and conversely, that mindfulness and acceptance promote resilience to PTSD), future studies will need to show that these traits predict PTSD over and above the variance that they share with the disorder's cardinal symptom clusters. Further research on this topic should also utilize reliable and valid measures of the mindfulness and acceptance constructs themselves, as opposed to more generalized measures of coping that may have different operational definitions of such constructs as avoidance.

Implications for Practice

The current literature on posttraumatic outcomes suggests that psychological treatments that focus on promoting mindfulness and acceptance and decreasing experiential avoidance may improve the core symptoms of PTSD (e.g., Follette et al., 2006; Kimbrough et al., 2010; Orsillo & Batten, 2005). The present review suggests that mindfulness and acceptance may also have a place in programs designed to prevent the development of PTSD

in individuals who have a high probability of exposure to a potentially traumatic event. Such a prevention program has already been proposed for social workers (Berceli & Napoli, 2006), as mental health professionals are at risk for vicarious traumatization. A recent study also investigated the protective effects of mindfulness training delivered to U.S. Marine Corps reservists prior to deployment to Iraq, and found that more mindfulness practice was related to lower negative affect and greater positive affect post-deployment (Jha, Stanley, Kiyonaga, Wong, & Gelfand, 2010). This exciting line of research suggests that similar prevention programs may be effective in promoting psychological resilience among other populations who are at high risk for trauma exposure, including children growing up in violent areas of the world.

This review also suggests that mindfulness and acceptance-based treatments may be promising early interventions for individuals who have recently experienced a traumatic event. The empirical literature largely supports the contention that experiential avoidance and avoidant coping in the aftermath of a traumatic event are associated with poor psychological outcomes, while early engagement with trauma-related emotions is associated with greater psychological adjustment (e.g., Gilboa-Schechtman & Foa, 2001). Mindfulness and acceptance-based interventions may be particularly well-suited for individuals who are experiencing psychological symptoms in the initial weeks following a traumatic event, as these interventions emphasize present moment contact with trauma-related emotions, memories, and associated physiological reactivity while simultaneously withholding the tendency to judge these experiences. Consequently, these interventions may facilitate early emotional engagement with trauma-relevant experiences and prevent the catastrophic

interpretations that often lead to persistent avoidance behaviors and chronic hyperarousal. Further research evaluating the efficacy of such early intervention programs would provide an important contribution to the resilience literature.

Chapter 2

Mindfulness and Acceptance as Predictors of Response to Trauma Memory Activation

The World Health Organization (WHO) estimates that between 10% and 34.4% of women throughout the world have experienced at least one incident of physical assault by an intimate partner (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002). Similarly, results from the U.S. National Comorbidity Study indicate that females are more likely than males to experience interpersonal trauma, including sexual molestation and rape (Hegadoren, Lasiuk, & Coupland, 2006). One of the most common psychological sequelae of interpersonal violence for women is posttraumatic stress disorder (PTSD), the core symptoms of which include reexperiencing of the traumatic event, symptoms of avoidance and/or emotional numbing, and increased arousal (APA, 2000).

The script-driven imagery (SDI) procedure is a promising research methodology that has been used to assess trauma survivors' psychophysiological, neurobiological, and emotional responses to activation of trauma memories (e.g., Hopper, Frewen, van der Kolk, & Lanius, 2007; Orr, Pitman, Lasko, & Herz, 1993). The SDI procedure involves conducting a detailed interview about one's most stressful or traumatic life experience, and subsequently developing and recording a brief script summarizing the individual's experience of and reaction to this trauma. The participant is later asked to listen to the script and imagine the content being described. Although the empirical treatment literature (e.g., Hassija & Gray, 2007; Rothbaum, Meadows, Resick, & Foy, 2000) and theories of PTSD indicate that *prolonged* imaginal exposure to traumatic memories leads to clinically significant improvements in PTSD symptomatology, brief exposure (such as SDI) is not

thought to facilitate emotional processing of traumatic events (Foa & Kozak, 1986; Foa & McNally, 1996), and thus may risk further sensitizing individuals with PTSD to trauma-related anxiety.

Surprisingly, despite fears that trauma survivors are at an elevated risk of experiencing psychological harm from trauma-focused research, ethical issues in trauma research have failed to receive sufficient empirical attention (Griffin, Resick, Waldrop, & Mechanic, 2003). Studies that have focused on this topic indicate that although trauma-focused interviews and questionnaires are well-tolerated by the majority of participants (e.g., Cromer, Freyd, Binder, DePrince, & Becker-Blease, 2006), a minority of participants may experience strong negative emotions in response to study procedures (Newman & Kaloupek, 2004, 2009).

Unfortunately, few studies have examined variables that may increase participants' risk of experiencing distress in response to SDI procedures. Fusé (2008) found that female survivors of sexual assault who were exposed to individualized trauma scripts during SDI experienced a reduced sense of control and greater guilt, shame, distress, and cognitive symptoms of panic when compared to controls who did not experience sexual assault but were exposed to identical assault scripts. Consistent with research on negative response to trauma-focused surveys and interviews, lifetime PTSD status, current PTSD status, and greater PTSD symptom severity have been found to be associated with the experience of greater negative affect during exposure to SDI trauma scripts (Britton, Phan, Taylor, Fig, & Liberzon, 2005; Lindauer et al., 2004; McDonagh-Coyle et al., 2001; Orr et al., 1998; Shin et al., 1999). Nonetheless, some studies have failed to find expected correlations between

mental health variables (including PTSD diagnostic status) and self-reported emotional response to SDI trauma script exposure (Orr et al., 1998; Orr et al., 1993; Rhudy, Davis, Williams, McCabe, & Byrd, 2008). To date, no published studies have examined how individual differences in the ability to accept and/or tolerate negative affective states may influence response to trauma script exposure. Given the particularly stressful nature of activation of traumatic memories, mindfulness and acceptance-based variables such as trait mindfulness, experiential avoidance, and distress tolerance may prove to be important predictors of response to SDI.

Mindfulness has been defined as awareness that results from fully paying attention to the present moment in a purposeful, nonjudgmental manner (Kabat-Zinn, 2003). In contrast, experiential avoidance is an unwillingness to experience certain private, internal events, and a tendency to cope with these events through attempts at control, avoidance, or escape (Follette et al., 2006; Hayes et al., 1996). It has been argued that PTSD is both developed and maintained by experiential avoidance (Batten et al., 2005; Orsillo & Batten, 2005). In addition, distress tolerance is defined as an individual's ability to tolerate unpleasant cognitive or emotional states (Simons & Gaher, 2005).

Mindfulness, experiential avoidance, and distress tolerance have been found to be associated with a variety of mental health outcomes. Studies have reported that trait mindfulness is negatively correlated with a number of psychological symptom variables, including dissociation, neuroticism, and difficulties in emotion regulation (Baer et al., 2004; Baer et al., 2006), and positively correlated with psychological well-being (Baer et al., 2008). A recent study found that the abilities to accept without judgment and act with awareness

(both facets of trait mindfulness) were associated with lower levels of posttraumatic stress symptoms in individuals without an Axis I diagnosis (Vujanovic et al., 2009). Moreover, female survivors of childhood sexual abuse report greater experiential avoidance than those without a history of abuse (Batten, Follette, & Aban, 2001; Marx & Sloan, 2002), with experiential avoidance mediating the relationship between childhood sexual abuse and psychological distress in adulthood (Marx & Sloan, 2002; Rosenthal et al., 2005). Furthermore, Plumb et al. (2004) reported that experiential avoidance predicts the experience of emotional distress over and above the severity of the trauma and the intensity of previous psychological distress. Finally, difficulties in emotion regulation and the ability to accept one's emotions have been found to be associated with greater severity of posttraumatic stress reactions (Tull et al., 2007). Consequently, low trait mindfulness and distress tolerance and high experiential avoidance may predict a more negative emotional response to trauma memory activation during SDI.

The present study was a part of a larger project investigating the ethics of trauma-focused research with female survivors of interpersonal violence, both with and without current PTSD. One goal of the larger study was to assess participants' awareness and understanding of their potential reactions to SDI. Participants were randomized to receive either standard informed consent or enhanced informed consent that included the administration of a structured interview that utilized the principles and techniques of motivational interviewing (MI). MI seeks to increase understanding of behavior and its consequences, resolve ambivalence toward behavior change, and solidify commitment toward behavior change (Miller & Rollnick, 2002; Slagle & Gray, 2007). Consequently, MI

may be useful for examining the underlying motivations of trauma survivors who have agreed to participate in SDI.

It was hypothesized in the present study that greater PTSD symptom severity would be correlated with lower scores on measures of trait mindfulness and distress tolerance and associated with greater experiential avoidance. Furthermore, greater experiential avoidance and lower trait mindfulness and distress tolerance were hypothesized to be associated with more negative reactions to research participation and greater psychological symptoms assessed at post-SDI, after controlling for baseline ratings of psychological symptoms. Finally, it was hypothesized that participants' consent condition would serve as a moderator for the relationship between psychological symptoms following SDI and baseline levels of trait mindfulness, experiential avoidance, and distress tolerance.

Method

Participants

One hundred eleven women who had experienced at least one incident of physical or sexual assault since the age of 18 were initially recruited from the Washington, DC metropolitan area. Exclusion criteria included current substance abuse or dependence, a lifetime or current diagnosis of bipolar disorder or a psychotic disorder, current suicidal intent, or the use of psychotropic medications or antihypertensive agents within the past 30 days. Participants' urine was also tested to confirm that they had not recently abused drugs or alcohol and were not pregnant. Thirty-nine women met inclusion criteria, 20 scheduled and attended their first appointment, and 18 were classified as study completers based on their participation in all phases of the 2-day study.

Study completers' ages ranged from 20 to 53 (M = 38.67, SD = 10.75), and the sample was primarily African-American (55.56%) or Caucasian (33.33%). Seven participants (38.89%) met criteria for a current diagnosis of PTSD, as assessed by the Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995), and six (33.33%) met criteria for PTSD in the past. The most frequent traumatic events reported included physical assault, death of a close family member or friend, rape, repeated ridicule, sexual assault, witnessing physical/sexual assault or death, and childhood sexual or physical abuse (see Table 1 in Appendix A for further demographic information).

Procedure

The present investigation was conducted as part of the Georgetown Center for Trauma and the Community's larger study of ethics in trauma-focused research. Potential participants were given a brief description of the study (see Appendix B) over the telephone and screened to determine their eligibility for participation (see Appendix C). This screen included a self-report measure of PTSD symptom severity. Psychiatric exclusion criteria were assessed using modules from the Structured Clinical Interview for DSM-IV (First, Spitzer, Gibbon, & Williams, 1994) and alcohol abuse was assessed using the CAGE questionnaire (Mayfield, McLeod, & Hall, 1994). Volunteers who met eligibility requirements were offered a more detailed description of the study (see Appendix D) and scheduled for a 2-day stay at the Georgetown University Medical Center General Clinical and Research Center (GCRC).

Participants were randomly assigned to one of two consent conditions: consent as usual (CAU; see Appendix E) or enhanced consent (EC; see Appendix F), which consisted of

a manualized package designed to enhance understanding of the study and a video of a mock subject undergoing study procedures. In addition, a structured interview was conducted in the EC condition using the principles and style of MI, in which participants had the opportunity to explore their reasons for participating in the study and to become more aware of their potential responses to study procedures and underlying assumptions regarding the study and the researchers (see Appendix G). Based on participants' responses to interview questions, study staff provided additional verbal descriptions of study procedures and gently corrected any misunderstandings that they had about the study. Following consent administration, all participants received a manipulation check to assess their comprehension and retention of the information provided during informed consent (MacArthur Competence Assessment Tool for Clinical Research; MAC-R, Applebaum & Grisso, 2001; see Appendix H).

After participants underwent the consent manipulation, they completed self-report baseline questionnaires assessing trait mindfulness, distress tolerance, experiential avoidance, negative affect, state anger, depression, and dissociation. Participants were then read items from the Stressful Live Events Screening Questionnaire – Revised (SLESQ; Goodman, Corcoran, Turner, Yuan, & Green, 1998; see Appendix I), a questionnaire that assesses lifetime exposure to multiple types of trauma, and were asked to respond to these questions verbally. After the interviewer verified that the participants' experiences met criteria for a traumatic event, the traumatic experience associated with the greatest amount of current distress was identified, which may or may not have been an assault. Participants were then asked to describe that traumatic event and their subjective experience during the trauma.

Following a 10-15 minute break designed to allow participants to relax and recover from any strong emotions, the interviewer administered the CAPS (Blake et al., 1995), a structured interview-based measure which assesses PTSD diagnostic classification and symptom severity. After each participant returned to the GCRC for the evening, the interviewer used the description of her trauma to develop a 2-minute, individualized trauma script. This trauma script was recorded by the interviewer in the second person, and related the participant's subjective experience of her most upsetting trauma.

On the second day of the study, participants arrived at the Neuroimaging Center and underwent SDI. They were given headphones and placed inside an fMRI scanner, where they listened to their 2-minute, individualized trauma scripts a total of four times, along with a neutral script that played between presentations of the trauma script. This neutral script was also 2 minutes long and depicted a relaxing scene from nature recorded by the same person who recorded the trauma script. Participants were asked to rate their emotional valence and arousal on visual analogue scales and to complete the measure of negative affect again upon immediately exiting the scanner. Shortly after the SDI procedure, participants completed many of the same self-report questionnaires that they filled out during the baseline assessment on Day 1, including measures of state anger, depression, and dissociation. Participants also completed a written version of the same self-report measure of PTSD symptom severity used during the screening and a questionnaire designed to assess reactions to trauma-focused research. The participants were then debriefed and given a $175 gift card.

Measures

PTSD Checklist - Specific (PCL-S). The PCL-S (Weathers, Litz, Herman, Huska, & Keane, 1993) is a 17-item self-report measure that assesses PTSD symptom severity using a scale from 1 (Not at all) to 5 (Extremely), and consists of 3 subscales: re-experiencing, avoidance, and hyperarousal (see Appendix J). During the phone screen, participants were asked about their PTSD symptoms related to interpersonal violence over the past month (see Appendix C); during the post-SDI assessment, they were asked about their PTSD symptoms related to their index trauma over the past 2 days.

Clinician-Administered PTSD Scale (CAPS). The CAPS (Blake et al., 1995) is an interview-based instrument that was designed to assess both the core and associated features of PTSD (see Appendix K), and was used in the present study to determine whether participants met diagnostic criteria for PTSD. The CAPS allows the interviewer to rate the frequency and intensity of each of 17 PTSD symptoms on a 5-point scale, and it yields both a continuous measure of PTSD symptom severity and a dichotomous measure of PTSD diagnostic classification.

Five-Facet Mindfulness Questionnaire (FFMQ). The FFMQ (Baer et al., 2006; see Appendix L) is a self-report questionnaire that assesses five facets of trait mindfulness: observing, describing, acting with awareness, nonjudging of inner experience, and nonreactivity to inner experience. The FFMQ contains 39 items, each rated from 1 (never or very rarely true) to 5 (very often or always true). The five-factor structure of the FFMQ has been replicated in samples of both experienced meditators and non-meditators (Baer et al., 2008).

Distress Tolerance Scale (DTS). The DTS (Simons & Gaher, 2005) contains 15 items, rated from 1 (Strongly agree) to 5 (Strongly disagree), that measure the ability to tolerate unpleasant psychological states (see Appendix M). In addition to an overall distress tolerance score, the DTS has four subscales that reflect dimensions of distress tolerance: tolerance, appraisal, absorption, and regulation (Simons & Gaher, 2005).

Acceptance and Action Questionnaire-II (AAQ-II). The AAQ-II (Bond et al., in press) is a 10-item revision of the original Acceptance and Action Questionnaire (Hayes et al., 2004), rated on a scale from 1 (never true) to 7 (always true) (see Appendix N). Both the AAQ and AAQ-II were designed to assess psychological flexibility, such that higher scores indicate greater psychological flexibility and lower scores indicate greater experiential avoidance. Psychometric data suggest that the two scales are in fact measuring the same construct (Bond et al., in press).

Positive and Negative Affect Schedule (PANAS). The PANAS (Watson, Clark, & Tellegen, 1988) is a self-report measure designed to assess the positive and negative dimensions of mood. The 10-item Negative Affect scale of the PANAS was used to measure subjective distress, where the extent of negative emotions are rated on a scale from 1 (Very slightly or not at all) to 5 (Extremely). When administered at baseline, the instructions asked participants to rate their mood during the past week; when administered at 1 minute post-SDI, the instructions asked participants to rate their current mood.

State-Trait Anger Expression Inventory (STAXI). The State-Trait Anger Expression Inventory (STAXI; Spielberger, 1988; see Appendix O) is a 44-item self-report questionnaire that measures the experience and expression of anger. The 10-item State

Anger subscale was used to assess the current magnitude of angry emotions, using a scale from 1 (not at all) to 4 (very much so). The State Anger subscale consists of two lower-order factors: feeling angry and feel like expressing anger (Forgays, Forgays, & Spielberger, 1997).

Center for Epidemiological Studies – Depression (CES-D). The CES-D (Radloff, 1977) is a self-report instrument that assesses the severity of depressive symptomatology over the past week (see Appendix P). It contains 20 items rated on a 4-point scale ranging from 1 (Rarely or none of the time) to 4 (Most or all of the time).

Dissociative Experiences Scale (DES). The DES (Bernstein & Putnam, 1986) is a self-report scale designed to assess the severity of dissociative symptoms in both normal and clinical populations (see Appendix Q). The DES contains 28 items that ask participants to rate, on an 11-point scale from 0% to 100%, the percentage of time a particular experience occurs.

Self-Assessment Manikin (SAM). The SAM (Lang, 1985) is a visual analogue scale that was designed to measure the intensity of emotional response (see Appendix R); the valence and arousal scales of the SAM were used in the present study. Both scales consist of graphic characters that are used as anchors for a 9-point scale (e.g., sad to smiling figures, sleepy to excited figures). The SAM was administered at baseline and at 1 minute post-SDI.

Reaction to Research Participation Questionnaire (RRPQ). The RRPQ (Newman, Willard, Sinclair, & Kaloupek, 2001) includes 20 items assessing participants' reactions to trauma-focused research (see Appendix S) on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire also contains two open-ended items that ask participants to provide additional reactions to research participation. The RRPQ consists of

five subscales: appraisal of participation, personal benefits, emotional reactions, drawbacks, and global reactions.

Results

Mindfulness and Acceptance-Based Variables and Baseline PTSD Symptom Severity

Pearson correlations were conducted in order to test the hypothesis that greater baseline PTSD symptom severity would be associated with lower overall trait mindfulness and distress tolerance and greater experiential avoidance (see Table 2). (See Table 2 in Appendix A for a summary of descriptive statistics for all study variables; see Table 3 in Appendix A for comparisons between childhood sexual abuse survivors and non-survivors on all study variables.) As predicted, greater PTSD symptom severity, as assessed by the CAPS, was significantly related to less ability to attend to the present moment (act with awareness, a facet of trait mindfulness), greater experiential avoidance, and less ability to accept distress and to perceive oneself as being able to cope with distress (appraisal, an aspect of distress tolerance). Near-significant, moderate-sized associations were found between greater baseline PTSD symptom severity and less nonjudging of internal experience (a facet of trait mindfulness), lower overall distress tolerance, a lower tendency to perceive stress as being bearable (tolerance, an aspect of distress tolerance), and a lower ability to detach from negative emotion (absorption, an aspect of distress tolerance).

Mindfulness and Acceptance-Based Variables and Reactions to SDI

A series of semi-partial correlations were conducted between ratings of psychological symptoms at post-SDI and trait mindfulness, experiential avoidance, and distress tolerance,

Table 2

Correlations Among Baseline PTSD Symptom Severity, Trait Mindfulness, Experiential Avoidance, and Distress Tolerance (N = 17)

	FFMQ							DTS				
Measure	Total	Observe	Describe	AWA	Nonjudge	Nonreact	AAQ-II	Total	Tolerate	Appraise	Absorb	Regulate
FFMQ	--	--	--	--	--	--	--	--	--	--	--	--
Observe	.40	--	--	--	--	--	--	--	--	--	--	--
Describe	.80**	.19	--	--	--	--	--	--	--	--	--	--
AWA	.66**	-.18	.53*	--	--	--	--	--	--	--	--	--
Nonjudge	.48*	-.19	.39	.20	--	--	--	--	--	--	--	--
Nonreact	.25	.32	-.16	.11	-.34	--	--	--	--	--	--	--
AAQ-II	.73**	-.03	.67*	.52*	.77**	-.17	--	--	--	--	--	--
DTS	.33	-.09	.28	.13	.42^{+}	.07	.62**	--	--	--	--	--
Tolerate	.30	.15	.25	-.06	.29	.19	.43^{+}	.80**	--	--	--	--
Appraise	.36	-.42^{+}	.39	.52*	.41	-.03	-.60*	.69**	.28	--	--	--
Absorb	.35	-.14	.12	.31	.36	.27	.54*	.87**	.54*	.73**	--	--
Regulate	.01	.03	.18	-.28	.30	-.29	.39	.75**	.58*	.27	.47^{+}	--
CAPS Total	-.39	.26	-.33	-.50*	-.42^{+}	.04	-.52*	-.47^{+}	-.41^{+}	-.52*	-.46^{+}	-.09

Note. FFMQ = Five Facet Mindfulness Questionnaire; AWA = Act With Awareness; AAQ-II = Acceptance and Action Questionnaire-II; DTS = Distress Tolerance Scale; CAPS = Clinician-Administered PTSD Scale.
$^{+}p < .10$. *$p < .05$. **$p < .01$.

controlling for the effects of respective baseline psychological symptom ratings (see Table 3). The semi-partial correlations with post-SDI PCL-S scores, however, were calculated controlling for baseline scores on the CAPS, rather than for PCL-S scores obtained during phone screen. The phone screens were frequently conducted months before the SDI procedure; thus, these scores did not represent a valid index of PTSD symptom severity shortly before SDI.

No significant relationships were found between overall trait mindfulness scores and any psychological symptom rating at post-SDI. However, a near-significant, moderate-sized association was observed between greater overall trait mindfulness and greater positive emotional valence on the SAM at post-SDI. With regard to facets of trait mindfulness, a greater tendency to withhold judgment of internal experience (nonjudging of internal experience) was significantly associated with lower ratings of avoidance on the PCL-S at post-SDI. In addition, more nonreactivity to inner experience was significantly related to greater ratings of emotional arousal on the SAM at post-SDI. A near-significant, small-sized association was also found between more nonreactivity to inner experience and lower depression scores on the CES-D at post-SDI.

No significant relationships were found between experiential avoidance scores on the AAQ-II and any psychological symptom rating at post-SDI. However, a non-significant, moderate-sized association was observed between greater experiential avoidance and greater ratings of avoidance on the PCL-S at post-SDI.

A significant relationship was found between greater overall distress tolerance scores

Table 3

Semi-partial Correlations Between Mindfulness and Acceptance-Based Variables and Post-SDI Symptom Ratings

	SAM		PANAS	STAXI - SA			PCL-S					
Trait Measure	Valence	Arousal	NA	Feel	Express	Total	RE	AV	HY	Total	CES-D	DES
FFMQ	.35^{+}	.10	.07	.09	-.01	.05	.06	-.24	.14	-.04	.00	-.09
Observe	.31	.16	.11	.20	.25	.18	.09	-.10	.04	.00	.01	-.03
Describe	.11	-.31	.04	.18	.07	.15	.25	-.10	.12	.09	.20	.04
AWA	.19	-.04	-.03	-.05	-.21	-.11	.16	.14	-.02	.11	-.05	-.06
Nonjudge	.01	-.07	.10	-.07	-.10	-.05	-.24	-.44*	.27	-.20	.08	-.09
Nonreact	.23	.59*	-.09	.00	-.01	-.01	-.09	-.09	-.10	-.11	-.27^{+}	-.09
AAQ-II	.31	.04	-.04	-.08	-.19	-.09	-.10	-.41^{+}	.27	-.13	-.06	-.08
DTS	.38^{+}	.48^{+}	-.53**	-.23	-.47^{+}	-.24	.10	-.12	.41^{+}	.12	-.24^{+}	-.08
Tolerate	.36^{+}	.68**	-.42*	-.27	-.44^{+}	-.33	.05	-.12	.33	.08	-.08	-.12
Appraise	.17	.03	-.24	-.19	-.39	-.19	.27	.12	.39^{+}	.29	-.18	-.04
Absorb	.39^{+}	.45	-.52**	-.17	-.37	-.16	-.08	-.13	.31	.02	-.41**	-.10
Regulate	.26	.23	-.39^{+}	-.08	-.09	.00	.13	-.17	.24	.05	-.09	.03

Note. Respective baseline scores were partialled out; for correlations with the PCL-S, baseline CAPS scores were partialled out. FFMQ = Five Facet Mindfulness Questionnaire; AWA = Act With Awareness; AAQ-II = Acceptance and Action Questionnaire-II; DTS = Distress Tolerance Scale; NA = Negative Affect; STAXI –SA = State-Trait Anger Expression Inventory – State Anger; Feel = Feel Angry; Express = Feel Like Expressing Anger; PCL-S = PTSD Checklist-Specific; RE = Re-experiencing; AV = Avoidance; HY = Hyperarousal; CES-D = Center for Epidemiological Studies – Depression; DES = Dissociative Experiences Scale.
$^{+}p < .10$. *$p < .05$. **$p < .01$.

on the DTS and lower ratings of negative affect on the PANAS at post-SDI. Near-significant, moderate-sized associations were found between greater overall distress tolerance and greater ratings of positive emotional valence and emotional arousal on the SAM, less of a tendency to feel like expressing anger on the STAXI, and greater hyperarousal ratings on the PCL-S at post-SDI. Furthermore, a near-significant, small association was observed between greater overall distress tolerance and lower ratings of depressive symptomatology on the CES-D at post-SDI.

With regard to subscales of the DTS, a greater tendency to view distress as bearable (tolerance) was significantly related to greater emotional arousal on the SAM and less negative affect on the PANAS at post-SDI. In addition, near-significant, moderate-sized associations were found between a greater tendency to view distress as bearable (tolerance) and higher ratings of positive emotional valence on the SAM, as well as a tendency to feel less like expressing anger on the STAXI at post-SDI. A near-significant, moderate-sized association was also observed between a greater tendency to accept distress (appraisal) and greater ratings of hyperarousal on the PCL-S at post-SDI. Moreover, significant relationships were found between a greater ability to detach from negative emotion (absorption) and lower ratings of negative affect on the PANAS, as well as lower ratings of depressive symptomatology on the CES-D at post-SDI. A non-significant, moderate-sized relationship was also observed between a greater tendency to detach from negative emotion (absorption) and higher ratings of positive emotional valence on the SAM at post-SDI. Finally, a non-significant, moderate-sized association was found between a greater ability to experience distress without resorting to avoidance (regulation) and lower ratings of negative

affect on the PANAS at post-SDI. (See Table 4 in Appendix A for summaries of zero-order correlations between trait variables and ratings of study variables at baseline. See Table 5 in Appendix A for summaries of hierarchical regressions for trait variables in the prediction of post-SDI symptom variables.)

Finally, Pearson correlations were also calculated between mindfulness and acceptance-based variables and participants' reactions to research participation. A near-significant, moderate-sized correlation was found between more nonjudging of internal experience on the FFMQ and less negative emotional reactions to the research procedures, r = -.42, p = .09. Near-significant, moderate-sized correlations were also exhibited between greater nonreactivity to inner experience on the FFMQ and greater positive appraisals of research participation, r = .44, p = .08, as well as stronger negative emotional reactions to research procedures, r = .48, p = .05. Moreover, a near-significant correlation of moderate size was found between more of a tendency to view distress as being bearable on the DTS (tolerance) and greater positive appraisals of research participation, r = .45, p = .07 (see Table 6 in Appendix A.)

Consent Condition as a Moderator

A series of multiple regression analyses were conducted in order to test the hypothesis that participants' assigned consent condition would moderate the relationship between trait variables and psychological symptoms assessed at post-SDI. Moderating effects were calculated by testing the significance of the interaction between trait variables and participants' consent condition in the prediction of psychological symptoms (Baron & Kenny, 1986). For each psychological symptom variable, each of the mindfulness and

acceptance-based variables was centered and entered into step one of the regression, along with the participants' consent condition. The interaction between the centered trait variable and the consent condition was then entered into step two of the regression equation. A total of 15 hierarchical regression analyses were conducted (see Table 7 in Appendix A).

A significant interaction was found between consent condition and total FFMQ scores in the prediction of post-SDI DES Total scores, $\Delta R^2 = .18$, $F(1, 13) = 5.13$, $p = .041$. In the CAU condition, there was a negligible positive relationship between trait mindfulness scores and ratings of dissociation at post-SDI. In the enhanced consent condition, however, greater trait mindfulness predicted lower post-SDI dissociation scores, $\beta = -1.35$, $t(13) = -2.27$, $p = .041$. With regard to post-SDI PCL-S Total scores, there was a near-significant interaction between consent condition and total scores on the FFMQ, $\Delta R^2 = .23$, $F(1, 13) = 4.47$, $p = .054$. In the CAU condition, greater trait mindfulness scores predicted greater PTSD symptom scores at post-SDI. In contrast, in the enhanced consent condition, greater mindfulness scores predicted lower PTSD symptom scores at post-SDI, $\beta = -.75$, $t(13) = -2.12$, $p = .054$. No significant interaction was shown to exist between consent condition and trait variables in the prediction of any other psychological symptom rating at post-SDI.

Discussion

The purpose of the present study was to examine the associations between trait mindfulness, experiential avoidance, distress tolerance, and reactions to a stressful procedure involving activation of trauma memories (SDI) in women with a history of exposure to interpersonal violence. As hypothesized, there was evidence that greater baseline PTSD symptom severity was significantly associated with less ability to act with awareness (a facet

of trait mindfulness), greater experiential avoidance, and less ability to accept distress and to perceive oneself as being able to cope with distress (an aspect of distress tolerance). These findings are consistent with conceptual models that posit that experiential avoidance, non-mindful behavior, and low distress tolerance are related to the development and maintenance of PTSD symptoms (Batten et al., 2005; Follette et al., 2006; Linehan, 1993). The present results also add to a growing body of empirical research linking these constructs to increased PTSD symptom severity among diverse study populations (Marshall-Berenz, Vujanovic, Bonn-Miller, Bernstein, & Zvolensky, 2010; Morina, 2007; Tull et al., 2007). Interestingly, the ability to act with awareness was the only facet of trait mindfulness to exhibit a significant relationship with PTSD symptom severity in this study, despite past findings that nonjudgmental acceptance is uniquely associated with symptoms of posttraumatic stress (Thompson & Waltz, 2010; Vujanovic et al., 2009). However, a near-significant, moderate-sized correlation was found between less PTSD symptom severity and greater nonjudgmental acceptance in the present study, suggesting that a significant finding may have been obtained with increased statistical power. In addition, a stronger negative relationship between PTSD symptom severity and nonjudgmental acceptance may have been found if the PTSD symptom measure used in this study had been based on the proposed DSM-5 criteria rather than on DSM-IV, since Criterion D of the proposed revision includes pervasive negative judgments about oneself, others, and the world (APA, 2010).

Partially consistent with hypotheses, facets of trait mindfulness and distress tolerance were associated with psychological symptoms rated after SDI, controlling for the effects of respective baseline psychological symptom ratings. In accordance with the findings of

Vujanovic and colleagues (2009) and Thompson and Waltz (2010), greater nonjudgmental acceptance was associated with lower ratings of avoidance on a self-report measure of PTSD following SDI. Furthermore, greater nonreactivity to internal experience was significantly associated with greater ratings of emotional arousal at post-SDI. This finding suggests that nonreactivity to cognitions and emotions is not necessarily associated with lower emotional arousal or physiological activation, but instead reflects the ability to notice emotional arousal without becoming overwhelmed by it (Baer et al., 2008).

In addition, several significant associations were found between lower ratings of negative affect on the PANAS at post-SDI and higher ratings of distress tolerance, including greater overall distress tolerance, a greater tendency to view distress as bearable, and a greater ability to detach from negative emotion. The strong relationship between negative affect and distress tolerance demonstrated in this study is consistent with the biosocial theory underlying dialectical behavior therapy, which suggests that low distress tolerance creates a vulnerability to emotion dysregulation and chronic negative affect (Linehan, 1993).

Interestingly, just as a significant relationship was observed between emotional arousal and nonreactivity to internal experience, a significant association was found between greater emotional arousal and a greater tendency to report distress as a manageable emotional experience. This further extends the contention that greater tolerance of distress and greater nonreactivity to internal experience may not always lead to decreases in emotional arousal, but instead may indicate willingness to report and manage one's internal experiences as they are (Bishop et al., 2004; Kabat-Zinn, 1990). Moreover, a significant relationship was also found between greater ratings of depression at post-SDI and a greater tendency to become

overwhelmed by the presence of negative emotions. Such a finding would be predicted by the theory underlying Mindfulness-Based Cognitive Therapy (Segal et al., 2002), which contends that among individuals with past episodes of depression, having one's attention absorbed by negative, ruminative cognitions and emotions increases vulnerability to depressive symptoms.

Results indicating a lack of significant associations between experiential avoidance and psychological symptoms at post-SDI are difficult to interpret. These findings are inconsistent with the empirical literature relating experiential avoidance to symptoms of PTSD, as well as other forms of psychopathology (e.g., Plumb et al., 2004; Tull et al., 2004). Currently, one of the main challenges for this body of literature is the need to demonstrate that experiential avoidance predicts PTSD symptoms over and above the construct's shared content with the avoidant symptom cluster in the current PTSD diagnostic criteria (APA, 2000). In the present study, a near-significant, moderate-sized correlation was found between greater experiential avoidance and greater ratings of avoidant symtomatology on the PCL-S, the self-report measure of PTSD symptoms used at post-SDI; however, no near-significant associations emerged between experiential avoidance and the re-experiencing and hyperarousal subscales of the PCL-S. These findings further highlight the possibility that experiential avoidance may no longer associated with posttraumatic stress symptoms after controlling for its overlap with PTSD's avoidant symptom cluster.

Contrary to expectations, no significant associations emerged between mindfulness and acceptance-based variables and reactions to participation in the present study, as assessed by the RRPQ. Nonetheless, moderate-sized, near-significant relationships were found

between greater positive appraisals of research participation and greater nonreactivity to inner experience, as well as more of a tendency to view distress as bearable. Furthermore, stronger negative emotional reactions to study participation exhibited near-significant, moderate-sized associations with less nonjudgmental acceptance and greater nonreactivity to inner experience. Findings of near-significant relationships between nonreactivity to inner experience and both positive appraisals of research participation and negative emotional reactions to research participation appear to be contradictory. However, as previously hypothesized, it may be the case that individuals who are nonreactive to internal experience are more willing to report their negative emotions and experience them without becoming overwhelmed by them (Baer et al., 2008). In turn, this nonreactivity to the distressing emotions provoked by study procedures may have led to increased positive appraisals of study participation. Nonreactivity to internal experience is a relatively new addition to self-report measures exploring facets of trait mindfulness (Baer et al., 2006); consequently, further research is needed to elucidate the relationship between nonreactivity to experience and psychological symptoms, as well as reactions to stressful research procedures.

Another primary study hypothesis was that participants' consent condition would serve as a moderator of the relationship between baseline levels of mindfulness and acceptance-based variables and psychological symptoms assessed at post-SDI. As compared to the consent as usual (CAU) condition, the enhanced consent (EC) condition provided participants with repeated, detailed explanations of study procedures, as well as the chance to explore their reasons for participating in the study, to examine their underlying assumptions regarding the study and the researchers, and to become more aware of their potential

responses to study procedures. It was postulated that the procedures comprising the EC condition would promote an open, curious attention toward internal experience, which is considered to be a central component of the operational definition of trait mindfulness (Bishop et al., 2004). Consequently, the EC condition was thought to encourage participants with high baseline levels of trait mindfulness, acceptance, and distress tolerance to attend to their internal experiences throughout the study in a mindful and nonjudgmental manner. As a result, it was hypothesized that the relationships between mindfulness and acceptance-based variables and psychological symptoms at post-SDI would have been stronger in the EC condition than in the CAU condition.

Partially consistent with this hypothesis, participants' consent condition was found to significantly moderate the relationship between trait mindfulness and ratings of dissociation at post-SDI. Specifically, a negligible relationship between greater trait mindfulness and greater dissociation was observed for women in the CAU condition, while greater trait mindfulness significantly predicted lower dissociation scores for women in the EC condition. The finding for the EC condition is consistent with current theories that view dissociation as the clinical antithesis of a mindful focus on present-moment experience (Michal et al., 2007).

Consent condition was not found to significantly moderate the relationship between mindfulness and acceptance-based variables and any other psychological symptom rating at post-SDI, although near-significant moderating effects were found for trait mindfulness and PTSD symptoms rated at post-SDI. Post hoc analyses indicated that the relationship between greater trait mindfulness and greater PTSD symptoms was non-significant for the CAU condition, while greater trait mindfulness was significantly related to lower ratings of PTSD

symptoms within the EC condition. Given that no differences were found between the two consent conditions in participants' baseline ratings of trait mindfulness, these results provide some evidence for the contention that the EC condition promoted a more open and nonjudgmental orientation to experience among those participants with high levels of trait mindfulness and acceptance.

Taken together, the results of this study add to the literature relating mindfulness and acceptance-based variables to PTSD symptom severity and provide preliminary evidence that mindfulness and acceptance-based variables are associated with psychological symptoms among women who have undergone SDI. Nonetheless, this study is not without its limitations, including small sample size and limited power to detect statistically significant findings. Furthermore, a large number of zero-order and semi-partial correlations were conducted in the present study, with only a small number of statistically significant findings. As a result, it remains possible that these findings were obtained by chance alone. Confidence in the present results is heightened, however, by the consistency between the current findings and conceptual models linking mindfulness and acceptance-based variables to PTSD and related psychopathology. In addition, a number of near-significant, moderate-sized associations were found in the present study, suggesting that a greater number of statistically significant findings would have been detected with increased statistical power. Finally, an additional limitation of the study was the inconsistent nature of the index traumas that were used during trauma script generation and SDI. Although all women who participated in the study had a history of physical or sexual assault in adulthood, not all women identified a physical or sexual assault as their worst traumatic event. Consequently,

it is possible that alternate findings would have been obtained if all participants had endorsed similar index traumas.

Future research should replicate and extend the present results with larger sample sizes and diverse populations of trauma-exposed adults. In particular, it will be important for future research to clarify the role of nonreactivity to internal experience and experiential avoidance in PTSD symptom severity and related psychological symptoms. The study of mindfulness, acceptance, distress tolerance, and PTSD would also be greatly advanced by research that investigates whether individuals who differ in baseline ratings of mindfulness and acceptance-based variables exhibit different patterns of brain activation during SDI. Such studies would have important implications for the understanding of vulnerability and resilience to symptoms of PTSD, as well as the role of mindfulness and acceptance-based variables in the treatment of trauma-related psychopathology. Finally, future research should continue to examine whether levels of mindfulness and acceptance-based variables reliably predict reactions to participation in trauma-focused research across a variety of populations. This line of study may hold promise for identifying the minority of individuals who experience strong negative responses to trauma-focused research, thereby upholding the principal of nonmalificence in psychological research.

Appendix A

Additional Tables

Table 1

Demographic Data for Study Completers

Demographic Information	N (%)
Ethnic background	
African-American	10 (55.56%)
Caucasian	6 (33.33%)
Hispanic	0 (0.00%)
Other	2 (11.11%)
Highest educational achievement	
12th grade	4 (22.22%)
Some college, trade's school, or Associate's Degree	7 (38.89%)
4-year college degree or beyond	7 (38.89%)
Traumatic events reported	
Physical assault in adulthood	14 (77.78%)
Death of close friend or family member	12 (66.67%)
Rape	12 (66.67%)
Repeated ridicule	12 (66.67%)
Sexual assault	9 (50.00%)
Witnessing physical/sexual assault or death	9 (50.00%)
Childhood sexual abuse	8 (44.44%)
Childhood physical abuse	8 (44.44%)
Physical force used during robbery	7 (38.89%)
Threatened with weapon	7 (38.89%)
Other	4 (22.22%)
Life-threatening illness	3 (16.67%)
Life-threatening accident	2 (11.11%)

Table 2

Means and Standard Deviations of all Predictor Variables and Post-SDI Measures for Study Completers (N = 18)

Measure	Grand Mean		CAU Condition		EC Condition	
	M	*SD*	*M*	*SD*	*M*	*SD*
FFMQ (*n* = 17)	141.65	18.42	143.57	19.31	140.30	18.69
Observing	25.65	7.31	21.71	8.48	25.60	6.87
Describing	32.12	6.79	32.43	7.96	31.90	6.30
Acting with Awareness	31.12	7.68	30.71	6.47	31.40	8.76
Nonjudging	30.88	7.90	32.14	5.76	30.00	9.31
Nonreactivity	21.88	5.19	22.87	5.83	21.40	4.97
AAQ-II (*n* = 17)	51.29	13.46	57.42	10.67	47.00	14.01
DTS (*n* = 17)	3.54	.84	3.88	.50	3.31	.97
Tolerance	3.59	1.23	3.95	.83	3.33	1.43
Appraisal	3.82	.82	4.05	.74	3.67	.87
Absorption	3.71	1.21	4.00	.90	3.50	1.39
Regulation	3.06	1.03	3.52	.54	2.73	1.18
MacCAT-CR	16.67	3.31	16.50	2.98	16.80	3.71
Understanding	8.89	2.49	8.38	2.72	9.30	2.36
Appreciation	2.22	.94	2.13	.83	2.30	1.06
Protection	3.83	1.20	4.00	1.31	3.70	1.16
Ability to Express a Choice	1.72	.46	2.00	.00	1.50	.53
PANAS (Baseline)						
Negative Affect	20.33	9.52	20.38	10.85	20.30	8.93
STAXI – SA[1] (Baseline)	12.06	4.58	12.00	3.82	12.10	5.32
Feeling Angry	6.39	3.11	6.63	2.83	6.20	3.46
Feel like Expressing Anger	5.67	1.64	5.38	1.06	5.90	2.02

Measure	Grand Mean		CAU Condition		EC Condition	
	M	*SD*	*M*	*SD*	*M*	*SD*
PCL-S (Phone Screen)	43.50	15.02	43.00	19.69	43.90	11.15
Re-experiencing	12.39	5.38	11.88	5.49	12.80	5.55
Avoidance	17.56	6.52	17.38	8.38	17.70	5.06
Hyperarousal	13.56	5.94	13.75	6.98	13.40	5.36
DES (Baseline) (*n* = 17)	34.24	35.43	22.83	15.73	38.00	36.75
CES-D (Baseline) (*n* = 17)	33.59	10.97	32.00	12.84	34.75	10.83
CAPS Total Score	39.78	16.13	39.83	13.04	39.25	21.33
SAM (Baseline)						
Valence (*n* = 17)	5.94	1.89	5.29	2.43	6.00	1.22
Arousal (*n* = 15)	5.07	1.67	5.14	2.27	5.00	1.07
SAM Post-SDI						
Valence (*n* = 17)	4.76	2.02	5.83	2.14	3.88	1.96
Arousal (*n* = 15)	3.80	2.37	5.00	2.76	3.00	1.93
PANAS (Post-SDI)						
Negative Affect (*n* = 17)	15.94	8.24	12.17	3.25	17.63	9.23
STAXI (Post-SDI)	13.06	6.80	12.75	7.01	13.30	7.00
Feeling Angry	7.44	5.35	7.00	4.90	7.80	5.92
Feel like Expressing Anger	5.61	1.79	5.75	2.12	5.50	1.58
PCL-S (Post-SDI)	36.67	13.99	39.13	15.74	34.70	12.93
Re-experiencing	11.72	5.26	12.63	6.23	11.00	4.55
Avoidance	13.50	6.23	13.25	7.05	12.70	5.89
Hyperarousal	11.44	4.79	13.25	5.55	10.00	3.77
DES (Post-SDI)	28.72	27.93	21.00	13.03	34.90	35.30
CES-D (Post-SDI)	36.50	9.87	36.00	11.19	36.90	9.28

Measure	Grand Mean		CAU Condition		EC Condition	
	M	*SD*	*M*	*SD*	*M*	*SD*
RRPQ						
Appraisal of Participation	14.44	1.10	15.00	.00	14.00	1.33
Personal Benefits	17.78	2.80	18.50	1.85	17.20	3.36
Emotional Reactions	14.22	4.48	13.50	5.45	13.80	3.74
Drawbacks	7.28	4.00	7.63	5.45	7.00	2.62
Global Reactions	19.33	1.37	19.28	1.77	19.30	1.06

[1]SA = State Anger

Table 3

Comparison of Childhood Sexual Abuse (CSA) Survivors vs. Non-CSA Survivors on All Predictor Variables and Outcome Measures

	CSA Survivors		Non-CSA Survivors		
Measure	*M*	*SD*	*M*	*SD*	*t*
FFMQ (*n* = 17)	140.00	20.38	143.11	17.60	.34
Observing	25.75	8.07	25.56	7.07	-.05
Describing	31.38	5.71	32.78	7.92	.41
Acting with Awareness	30.13	9.25	32.78	6.42	.49
Nonjudging	29.00	9.04	32.56	6.82	.92
Nonreactivity	23.75	5.63	20.22	4.44	-.14
AAQ-II (*n* = 17)	49.75	15.94	52.67	11.63	.44
DTS (*n* = 17)	3.68	.76	3.42	.94	-.63
Tolerance	3.63	1.33	3.56	1.21	-.11
Appraisal	4.17	1.07	3.30	1.23	-1.55
Absorption	3.85	.79	3.80	.90	-.14
Regulation	3.08	.92	3.04	1.17	-.09
MacCAT-CR (*n* = 18)	17.63	3.89	15.90	2.73	-1.11
Understanding	9.38	2.92	8.50	2.17	-.73
Appreciation	2.50	.93	2.00	.94	-1.13
Protection	3.88	1.25	3.80	1.23	-.13
Ability to Express Alternatives	1.88	.35	1.60	.52	-1.34
PANAS (Baseline) (*n* = 18)					
Negative Affect	16.50	6.00	23.40	10.45	1.60
STAXI – SA (Baseline) (*n* = 18)	10.13	.35	13.60	5.80	1.89^{+}
Feeling Angry	5.13	.35	7.40	3.95	1.81
Feel like Expressing Anger	5.00	.00	6.20	2.10	1.81
PCL-S (Phone screen) (*n* = 18)	37.25	14.73	48.50	13.96	1.66
Re-experiencing	9.75	4.50	14.50	5.28	2.02^{+}
Avoidance	15.50	6.35	19.20	6.49	1.21
Hyperarousal	12.00	6.07	14.80	5.85	.99

	CSA Survivors		Non-CSA Survivors		
Measure	*M*	*SD*	*M*	*SD*	*t*
DES (Baseline) (*n* = 17)	47.50	47.34	22.44	14.71	-1.44
CES-D (Baseline) (*n* = 17)	34.00	12.44	33.22	10.23	-.14
CAPS Total Score (*n* = 18)	40.00	19.94	39.60	14.49	-.05
SAM (Baseline)					
Valence (*n* = 17)	6.75	1.58	5.22	1.92	-1.78^{+}
Arousal (*n* = 15)	5.33	1.75	4.89	1.69	-.49
PANAS (Post-SDI) (*n* = 17)					
Negative Affect	13.38	3.02	18.22	10.74	1.30
STAXI - SA (Post-SDI) (*n* = 18)	12.25	6.36	13.70	7.39	.44
Feeling Angry	6.63	4.60	8.10	6.05	.57
Feel like Expressing Anger	5.63	1.77	5.60	1.90	-.03
PCL-S (Post-SDI) (*n* = 18)	31.13	12.79	41.10	13.90	1.57
Re-experiencing	9.63	4.84	13.40	5.19	1.58
Avoidance	11.63	5.58	15.00	6.60	1.15
Hyperarousal	9.88	4.67	12.70	4.74	1.26
DES (Post-SDI) (*n* = 18)	38.38	38.39	21.00	13.35	-1.22
CES-D (Post-SDI) (*n* = 18)	33.25	10.10	39.10	9.36	1.27
RRPQ (*n* = 18)					
Appraisal of Participation	14.00	1.51	14.80	.42	1.45
Perceived Benefits	17.00	3.59	18.40	1.96	1.06
Emotional Reactions	16.25	3.81	12.60	4.48	-1.83^{+}
Perceived Drawbacks	9.25	5.15	5.70	1.83	-2.04^{+}
Global Reactions	18.75	1.83	19.80	.63	1.55

$^{+}p < .10$.

Table 4

Correlations Between Mindfulness and Acceptance-Based Variables and Ratings of Study Variables at Baseline

	Baseline Ratings												
	MacCAT-CR					PANAS	STAXI-SA					SAM	
Trait/Symptom Measure	UND	APP	PROT	ALT	Total	NA	FA	FEA	Total	CES-D	DES	VAL	ARO
FFMQ	-.28	.14	-.30	-.20	-.31	-.51*	-.24	-.13	-.21	-.70**	-.47^{+}	.49^{+}	.56*
Observing	.12	.06	.06	-.01	.12	-.24	-.29	-.10	-.23	-.10	.24	.26	.48^{+}
Describing	-.06	.27	-.58*	-.05	-.19	-.25	-.06	-.01	-.05	-.50*	-.29	.25	.60*
Acting with Awareness	-.24	-.08	-.37	-.41	-.39	-.26	-.09	-.01	-.06	-.55*	-.78**	.16	.27
Nonjudging	-.54*	.22	.00	-.03	-.35	-.45^{+}	.03	-.07	-.01	-.62**	-.32	.49^{+}	.13
Nonreactivity	.09	-.18	.17	.01	.09	-.09	-.27	-.20	-.25	.06	.02	.06	.05
AAQ-II	-.58*	.18	-.28	.13	-.47^{+}	-.64**	-.21	-.27	-.24	-.75**	-.53*	.43^{+}	.43
DTS	-.35	.13	-.21	.42^{+}	-.25	-.49*	-.50*	-.67**	-.58*	-.09	-.00	.25	.39
Tolerance	-.30	-.07	-.33	.25	-.33	-.38	-.59*	-.52*	-.59*	-.01	.18	.14	.35
Appraisal	-.47^{+}	.14	-.32	.05	-.43^{+}	-.22	.02	-.19	-.06	-.26	-.28	.17	.31
Absorption	-.35	.16	-.05	.32	-.19	-.59*	-.50*	-.67**	-.59*	-.21	-.16	.44^{+}	.34
Regulation	.00	.20	.01	.69**	.16	-.27	-.35	-.63**	-.47^{+}	.17	.17	.02	.27

Note. UND = Understanding, APP = Appreciation of risks and benefits, PROT = Knowledge of procedures that provide protection, ALT = Ability to express alternatives, NA = Negative Affect, FA = Feeling Angry, FEA = Feel Like Expressing Anger, VAL = Valence, ARO = Arousal.

$^{+}p < .10$. $*p < .05$. $**p < .01$.

Table 5

Summary of Hierarchical Regression Analyses for Mindfulness and Acceptance-Based Variables in the Prediction of Post-SDI Outcome Variables (n = 17)

	ΔR^2	*t* (each predictor)	*β*	*p*-value
DV = PANAS (Post-SDI) NA (*n* = 16)				
Step 1	.37			.01*
PANAS (Baseline) NA		2.88	.61	.01*
Step 2	.33			.03*
FFMQ		-.05	-.01	.96
AAQ-II		1.15	.36	.28
DTS		-3.45	-.75	<.01**
DV = STAXI – SA (Post-SDI)				
Step 1	.38			<.01**
STAXI - SA (Baseline)		3.04	.62	<.01**
Step 2	.07			.68
FFMQ		.46	.15	.65
AAQ-II		-.12	-.05	.91
DTS		-.88	-.30	.40
DV = PCL-S (Post-SDI)				
Step 1	.35			.01*
CAPS Total (Baseline)		2.84	.59	.01*
Step 2	.08			.68
FFMQ		.56	.19	.59
AAQ-II		-1.09	-.44	.30
DTS		1.06	.31	.31

	ΔR^2	*t* (each predictor)	β	*p*-value
DV = DES (Post-SDI)				
Step 1	.90			<.00**
DES (Baseline)		11.79	.95	<.00**
Step 2	.01			.72
FFMQ		-.56	-.07	.59
AAQ-II		-.02	-.00	.98
DTS		-.43	-.05	.68
DV = CES-D (Post-SDI)				
Step 1	.66			<.00**
CES-D (Baseline)		5.64	.82	<.00**
Step 2	.13			.10
FFMQ		.22	.04	.83
AAQ-II		1.94	.69	.08^{+}
DTS		-2.77	-.64	.02*

$^{+}p < .10$, $*p < .05$. $**p < .01$.

Table 6

Correlations Between Mindfulness and Acceptance-Based Variables and Reactions to Research Participation at Post-SDI

	RRPQ				
Trait Variable	Appraisal of Participation	Perceived Benefits	Emotional Reactions	Drawbacks	Global Reactions
FFMQ	.27	.08	-.01	.16	.04
Observing	.06	-.04	.27	.38	.31
Describing	.06	-.03	-.05	.13	-.06
Acting with Awareness	.12	.08	-.13	-.11	-.22
Nonjudging	.13	.01	-.42^{+}	-.15	.02
Nonreactivity	.44^{+}	.25	.48^{+}	.24	.07
AAQ-II	.22	.05	-.25	.08	-.21
DTS	.32	.20	.16	-.03	.05
Tolerance	.45^{+}	.26	.17	-.05	.04
Appraisal	.31	.30	.01	-.08	-.06
Absorption	.22	.15	.15	.00	-.04
Regulation	.00	-.06	.13	.01	.20

$^{+}p < .10$. $*p < .05$. $**p < .01$.

Table 7

Summary of Hierarchical Regression Analyses for the Interaction Between Consent Condition and Mindfulness and Acceptance-Based Variables in the Prediction of Post-SDI Symptom Variables

	ΔR^2	*t* (each predictor)	*β*	*p*-value
DV = PANAS (Post-SDI) NA (*n* = 16)				
Step 1	.15			.36
FFMQ		-.92	-.24	.38
Consent Condition		1.11	.29	.29
Step 2	.00			.87
FFMQ x Consent		-.16	-.07	.87
DV = PANAS (Post-SDI) NA (*n* = 16)				
Step 1	.20			.24
AAQ-II		-1.31	-.36	.22
Consent Condition		.56	.15	.58
Step 2	.00			.90
AAQ-II x Consent		-.13	-.07	.90
DV = PANAS (Post-SDI) NA (*n* = 16)				
Step 1	.57			<.00**
DTS		-3.83	-.77	<.00**
Consent Condition		-.10	-.02	.92
Step 2	.00			.84
DTS x Consent		-.21	-.16	.84
DV = STAXI - SA (Post-SDI) (*n* = 17)				
Step 1	.08			.56
FFMQ		-.19	-.05	.85
Consent Condition		1.07	.27	.30

	ΔR^2	*t* (each predictor)	*β*	*p*-value
Step 2	.00			.93
FFMQ x Consent		-.08	-.04	.93
DV = STAXI - SA (Post-SDI) (*n* = 17)				
Step 1	.10			.49
AAQ-II		-.53	-.15	.61
Consent Condition		.80	.22	.44
Step 2	.00			.93
AAQ-II x Consent		-.09	-.05	.93
DV = STAXI - SA (Post-SDI) (*n* = 17)				
Step 1	.31			.07^{+}
DTS		-2.19	-.52	.05*
Consent Condition		.43	.10	.68
Step 2	.05			.35
DTS x Consent		-.97	-.57	.35
DV = PCL-S (Post-SDI) (*n* = 17)				
Step 1	.09			.53
FFMQ		-1.08	-.28	.30
Consent Condition		-.49	-.12	.64
Step 2	.23			.05^{+}
FFMQ x Consent		-2.12	-.75	.05^{+}
DV = PCL-S (Post-SDI) (*n* = 17)				
Step 1	.25			.13
AAQ-II		-2.13	-.54	.05^{+}
Consent Condition		-1.23	-.31	.24
Step 2	.01			.75
AAQ-II x Consent		-.32	-.15	.75

	ΔR^2	*t* (each predictor)	*β*	*p*-value
DV = PCL-S (Post-SDI) (*n* = 17)				
Step 1	.06			.66
DTS		-.85	-.24	.41
Consent Condition		-.65	-.18	.53
Step 2	.05			.42
DTS x Consent		-.84	-.58	.42
DV = DES (Post-SDI) (*n* = 17)				
Step 1	.35			.05+
FFMQ		-2.30	-.50	.04*
Consent Condition		1.27	.28	.22
Step 2	.18			.04*
FFMQ x Consent		-2.27	-.67	.04*
DV = DES (Post-SDI) (*n* = 17)				
Step 1	.34			$.05^{+}$
AAQ-II		-2.25	-.53	.04
Consent Condition		.48	.11	.64
Step 2	.13			.10
AAQ-II x Consent		-1.80	-.70	.10
DV = DES (Post-SDI) (*n* = 17)				
Step 1	.10			.47
DTS		.11	.03	.91
Consent Condition		1.23	.33	.24
Step 2	.00			1.00
DTS x Consent		.00	.00	1.00

	ΔR^2	*t* (each predictor)	*β*	*p*-value
DV = CES-D (Post-SDI) (*n* = 17)				
Step 1	.38			.04*
FFMQ		-2.65	-.56	.02*
Consent Condition		.96	.20	.35
Step 2	.02			.50
FFMQ x Consent		-.69	-.23	.50
DV = CES-D (Post-SDI) (*n* = 17)				
Step 1	.43			.02
AAQ-II		-3.02	-.66	.01**
Consent Condition		-.03	-.01	.98
Step 2	.03			.42
AAQ-II x Consent		.84	.33	.42
DV = CES-D (Post-SDI) (*n* = 17)				
Step 1	.12			.40
DTS		-.98	-.26	.35
Consent Condition		.62	.16	.55
Step 2	.02			.62
DTS x Consent		.51	.34	.62

$^{+}p < .10$, $*p < .05$. $**p < .01$.

Appendix B

Brief Description of Study (Phone Screen)

Hi, my name is _____ and I am from the "Telling Your Story" study at Georgetown University.

 How did you hear about us? _____
(If from brochure, flyer or advertisement, ask participant where she got the brochure or saw the flyer/ad; If she got it from a Dr. or clinic ask which clinic or Dr. referred her to the study)

 We are interested in talking to women who are between the ages of 18 and 55.

 Before we talk any further, I'd just like to tell you a little about the project. We're trying to talk with women who have encountered violence or abuse in an interpersonal relationship and are experiencing some emotional reactions to this violence. The reason we're interested in this is because there is currently limited information about the physical and emotional effects of recalling trauma. The aim of our project is to improve research about trauma and to test a new method of informing participants about studies.

 Would you be willing to answer a few questions that would help us find out if you might qualify for this project? If it turns out that you do not meet our criteria for the study. I can offer you contact information for resources that might be helpful to you. Before we start is there a number I can call you back on in case we get disconnected?

_____
participant phone number

 These questions will probably take between 10-15 minutes. Is it ok to go ahead?

Date: _____
Recruiter/Researcher: _____
Participant ID number: _____

Appendix C

SCREEN FOR PARTICIPATION IN ETHICS STUDY

Screening Questions

We would like to ask you a number of questions to help us to determine if you may be eligible to participate in a research study.

1. How old are you? Between 18 and 55 years old OTHER

If participant is younger than 18 and older than 55), 

(See: **Ineligible due to Age)**

2. Can you stay over night at Georgetown University Hospital in our research unit?

3. Are you claustrophobic? (Do you get panicky in tight spaces? Are you afraid of being in tight/ closed places?)

4. Do you smoke? If yes, how much do you smoke a day? (*Currently we do not accept smokers into the study however, if and/or when we do, we'll call you back*)

5. Do you drink coffee, tea, or caffeinated soda? If you do, are you able to not drink this for half a day?

6. Do you have any metal in your body,
   implants (can't be removed) that are electronically or magnetically activated,
   surgical pins or clips,
   pacemaker
   other

7. Non-removable body piercing
   IF NO - AFTER INQUIRY TO CLARIFY THAT PERSON UNDERSTANDS

8. Can you lie still for an extended period of time (30-45 minutes)

9. Do you have a pacemakers, aneurysm clips, or electronic (e.g. implanted drug infusion pump) or magnetically activated implants?

10. Do you have permanent makeup or tattoos on the head?

11. Do you have any implants? If yes what kind_____?

12. Do you have non-removable body piercing from the neck?

13. Do you have an IUD or diaphragm?

3

This group of questions is about violence you may or may not have experienced during your lifetime.

		YES	NO
1.	When you were a child – did someone hit you or attack you repeatedly, enough that it left a mark or you were badly injured?	☐	☐
2.	As a teenager or adult, were you physically attacked, like being hit, kicked, or beaten up? This could be by a romantic partner, family member, acquaintance, or even a stranger.	☐	☐
3.	Did someone touch private parts of your body or make you touch their private parts against your wishes or when you were asleep, high, or helpless in some other way?	☐	☐
4.	Did someone force you to have oral or anal sex, or intercourse, against your will, or when you were high, drugged, or helpless?	☐	☐
5.	Were you present when another person was killed, seriously injured, or sexually or physically assaulted?	☐	☐

6. In the past 6 months have you used, or are you currently using: marijuana, cocaine, crack, heroin, opium, prescription painkillers or sedatives, downers or other barbiturates, speed, meth, or other amphetamine, benzodiazepines?

If Yes, what have you used? _____

If illegal drug , 

If prescription painkiller ask the following questions for clarification:

a) What is the name of the medication?
b) What is the medication for?
c) Was the medication prescribed by a doctor?

If not prescription drug, or on drug exclusion list), 

PCL-S

Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each one carefully, then circle one of the numbers to the right to indicate how much you have been bothered by that problem <u>in the past month</u>.

The event you experienced was _____ on _____.
(event) (date)

TIME FRAME?	***Not at all***	***A little bit***	***Moderately***	***Quite a bit***	***Extremely***
1. Repeated, disturbing *memories, thoughts, or images* of the stressful experience?	1	2	3	4	5
2. Repeated, disturbing *dreams* of the stressful experience?	1	2	3	4	5
3. Suddenly *acting or feeling* as if the stressful experience *were happening again* (as if you were reliving it)?	1	2	3	4	5
4. Feeling *very upset* when *something reminded you* of the stressful experience?	1	2	3	4	5
5. Having *physical reactions* (e.g., heart pounding, trouble breathing, sweating) when *something reminded you* of the stressful experience?	1	2	3	4	5
6. Avoiding *thinking about or talking about* the stressful experience or avoiding *having feelings* related to it?	1	2	3	4	5
7. Avoiding *activities or situations* because *they reminded you* of the stressful experience?	1	2	3	4	5
8. Trouble *remembering important parts* of the stressful experience?	1	2	3	4	5
9. *Loss of interest* in activities that you used to enjoy?	1	2	3	4	5
10. Feeling *distant or cut off* from other people?	1	2	3	4	5
11. Feeling *emotionally numb* or being unable to have loving feelings for those close to you?	1	2	3	4	5
12. Feeling as if your *future* somehow will be *cut short*?	1	2	3	4	5
13. Trouble *falling or staying asleep*?	1	2	3	4	5
14. Feeling *irritable* or having *angry outbursts*?	1	2	3	4	5
15. Having *difficulty concentrating*?	1	2	3	4	5
16. Being "*super alert*" or watchful or on guard?	1	2	3	4	5

17. Feeling *jumpy* or easily startled?	1	2	3	4	5

PHQ-9

Over the last 2 weeks, how often have you been bothered any of the following problems?	**Not at all**	**Several days**	**More than half the days**	**Nearly every day**
1. Little interest or pleasure in doing things.....	☐	☐	☐	☐
2. Feeling down, depressed, or hopeless.....	☐	☐	☐	☐
3. Trouble falling or staying asleep, or sleeping too much.....	☐	☐	☐	☐
4. Feeling tired or having little energy.....	☐	☐	☐	☐
5. Poor appetite or overeating.....	☐	☐	☐	☐
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down.....	☐	☐	☐	☐
7. Trouble concentrating on things, such as reading the newspaper or watching television.....	☐	☐	☐	☐
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual.....	☐	☐	☐	☐
9. Thoughts that you would be better off dead or of hurting yourself in some way.....	☐	☐	☐	☐

This next group of questions will help us further to determine if you are eligible to participate in the study.

1. Do you have a have anything metal in or on your body that would interfere with an MRI?

YES NO *if yes,* 

2. Are you currently pregnant?	YES	NO
3. Are you trying to get pregnant?	YES	NO
4. Are you breastfeeding?	YES	NO

If participant answered YES to above questions 1-4, 

5. During the past month or so have you met with a counselor to work on emotional problems?

YES NO *if yes,* 

If YES, what kind of things do you talk about?

6. During the past month or so have you taken medications for emotional problems? YES NO

6

If yes ask the following questions for clarification: *(Circle one)*

a) What is the name of the medication?
b) What is/was the medication for?
c) Was the medication prescribed by a doctor?

* Exclude if the medication is on the list of psychotropic drugs.

7. Do you take any pills or any other kind of medication? *(Circle one)* YES NO

If Yes, what medicine? _____

- Exclude if the medication is on the exclusion list..

8. Have you ever been treated with psychotherapy for emotional or mental health problems? *(Circle one)*

YES NO

If Yes, for what problem? _____

9. Have you ever had a period of time when you were feeling so good, "high," or hyper that other people thought you were not your normal self or you were so hyper that you got into trouble?

Follow-up questions include:

a) Was that more than just feeling good?
b) Did anyone say you were manic?
c) Did it last as long as one week?
d) Did you ever feel that way when you weren't using drugs or alcohol?

** We are looking for a "distinct period of abnormally and persistently elevated, expansive, or irritable mood."*

YES NO *If yes,* 

10. Have things been so bad that you have been thinking a lot about death or that you would be better off dead? (pause this is a separate question) What about thinking of hurting yourself? (SI protocol)
To clarify intent vs. ideology ask the following questions:

- Is this something you are thinking about currently? (when)
- Have you thought about actually doing something to kill (and/or hurt) yourself?
- Do you have a plan?

** If self mutilation intent **and/or** suicide intent is shown stop* YES NO *if yes,* 

11. Do you ever hear things that other people don't hear OR see things that other people don't see?

YES NO *if yes,* 

Next, I'll be asking about your use of alcohol and drugs in the past six months. You can answer these questions with a yes or no. When you answer yes to any of the questions, I'll ask you how many times in the past six months you've used what I'm asking about.

- Have you ever felt that you ought to **C**ut down on your drinking?
- Do you get **A**nnoyed by criticism of your drinking?
- Do you ever feel **G**uilty about your drinking?
- Do you ever take an **E**arly-morning drink (eye-opener) to get the day started or to get rid of a hangover ("a little hair of the dog that bit you")?

Administer REALM if question about literacy level of potential participant.

Administer Orientation-Memory-Concentration Test Short Blessed Test if question about cognitive functioning of potential participant.

Disposition

___ Did not qualify

___ Qualified, refused

___ Qualified, completed baseline

___ Qualified, started baseline but scheduled later appt to finish

___ Qualified, consented, scheduled appointment for baseline

___ Qualified, scheduled appointment for consent and baseline

Appendix D

If participant is eligible for study

- Great! Looks like you are eligible to participate in our study. Did you have any questions before I go over what your participation will include?
- We will be conducting questionnaires about stress and trauma history, social connection, cognitive impairment, subjective distress, psychological symptoms, the consent process and research participation.
- We will be taking samples of blood and saliva for hormonal and genetic testing. Heart rate and blood pressure will be measured.
- You will also undergo a functional magnetic resonance imaging (fMRI) of your brain, while listening to repeated recording of a traumatic event you will have described to the research staff, as well as a neutral script.
- The first day of your participation will include completing several assessments that will be administered by a nurse. You will have the option to fill some of these assessments out yourself
- The majority of the first day will be dedicated to these assessments, but there will be breaks and we will provide you with meals.
- The study involves several interviews that include a detailed discussion of your trauma history that will be used to develop a description of the event. This process will last 2-3 hours, you will be asked about various traumas you have experienced in your life with a member of our research team.
- You and the member of our research team will select one traumatic event to focus on, and this information will be used to develop a script of the event that will be recorded by this same person and played back to you during the MRI – while you are in the scanner where only you can hear the script.
- The fMRI measures the changes in blood flow related to brain activity using magnetic waves. There are no needles or anything invasive involved but during the procedure you must not wear anything that could attract magnetic wave such as jewelry, eyeglasses, watches, hair pins, and hearing aids.
- During your time spent at the MRI lab we will be monitoring your pulse, blood pressure and heart rate and collect saliva for an hour before and after your scan.
- If you do wear eyeglasses we recommend that you wear contacts, but if you do not have or wear contacts there are MRI safe glasses that can be provided.
- A member of the research staff will go over this with you before the MRI is done to make sure you do not have any metal on you.
- Overall the interviews, questionnaires, measurements, fMRI and script development will take place during two consecutive days and involve a single night stay in the Georgetown University General Clinical Research Center.
- After your stay you will be asked to complete two telephone calls one week and three months after your participation. These calls will last for about an hour or and hour and a half.
- There are no costs to you
- You will be paid $175 for the two-day participation involving an overnight stay and $25 for a one-week follow up telephone call for a total of $200.
- We pay participants using gift cards which can come from Target, Giant or Safeway. How would you like your $175? _____
- Would you like for me to send you a tentative schedule of the two days?

Appendix E

Study number: 2008-154 Principal Investigator: Mary Ann Dutton, PhD
Title: Psychobiological Trauma Research: Risks and Outcomes of Enhanced Consent

Informed Consent for Clinical Research

INSTITUTION: Georgetown University

INTRODUCTION

You are invited to consider participating in this study. The study is called *"Psychobiological Trauma Research: Risks and Outcomes of Enhanced Consent."* Please take your time to make your decision. Discuss it with your family and friends. It is important that you read and understand several general principles that apply to all who take part in our studies:

(a) Taking part in the study is entirely voluntary;

(b) Personal benefit to you may or may not result from taking part in the study, but knowledge may be gained from your participation that will benefit others;

(c) You may withdraw from the study at any time without any of the benefits you would have received normally being limited or taken away.

The purpose and nature of the study, possible benefits, risks, and discomforts, other options, your rights as a participant, and other information about the study are discussed below. Any new information discovered, at any time during the research, which might affect your decision to participate or remain in the study will be provided to you. You are urged to ask any questions you have about this study with the staff members who explain it to you. You are urged to take whatever time you need to discuss the study with your physician, hospital personnel and your family and friends. The decision to participate or not is yours. If you decide to participate, please sign and date where indicated at the end of this form.

WHY IS THE STUDY BEING DONE?

This research is being done to find a way to improve the research consent process for participants in trauma studies. The ultimate goal is to insure the protection and safety of human subjects who have been previously exposed to interpersonal traumatic events and who are participating in symptom provocation research.

You are being asked to participate in this study because you have experienced at least one occurrence of an incident of physical or sexual assault when you were 18 years old or older.

You may not participate in this study if any of the following apply to you: you have a *current* substance abuse or dependence, lifetime or current psychosis, bipolar disorder, and current suicidal intentions. You may not participate if you suffer from claustrophobia, breathing problems or motion disorders, or are pregnant. Participants who report taking the following prescription medications are also not eligible to be in this study: antipsychotic medications, benzodiazepines, mood stabilizers such as lithium or valproate, clonidine, propranolol, and certain antidepressants such as selective serotonin reuptake inhibitors (SSRIs) or serotonin norepipephrine reuptake inhibitors (SNRIs).

You may not participate in the study if you have an implant, metal fragments, or devices in your body such as bone plates or screws.

The purpose of this study is to examine predictors of participants' unfavorable reactions to participation in research involving trauma-related script-driven imagery. The study also compares the usual process of consent to an enhanced consent condition intended to minimize those unfavorable effects. We also will examine the effects of enhanced consent and consent as usual on the psychobiological stress response.

HOW MANY PEOPLE WILL TAKE PART IN THE STUDY?

Participants in the study are referred to as subjects. About 30 subjects will take part in this study; all subjects will be recruited at this site.

WHAT IS INVOLVED IN THE STUDY?

The study involves several interviews that include a detailed discussion of trauma history that will be used to develop a narrative description (script) of the event. In addition, questionnaires about stress and trauma history, social connection, cognitive impairment, subjective distress, psychological symptoms, the consent process, and research participation appraisal will also be measured. Samples of blood and saliva will be collected for hormonal and genetic testing, and heart rate and blood pressure will be measured. In addition, a functional magnetic resonance imaging (fMRI) of your brain while you are listening to the script of your trauma will be performed. During the MRI you will listen to a two-minute recording of the traumatic event that you described to the research staff the day before. The recording will contain the description you gave us of how you felt, how you reacted, and what took place during the trauma. You will also hear another story that is not about trauma, and you will also watch a brief nature video.

The genetic testing will analyze potential genetic markers which have been associated with posttraumatic stress disorder (PTSD), or with brain activation in response to trauma-related stimuli, or with increased depressive symptoms in subjects with childhood trauma and acute life stressors. PTSD is an anxiety disorder that develops in 25% of people exposed to a traumatic (or extremely stressful) event. The symptoms of PTSD fall into three categories: intrusive symptoms (e.g., unwanted thoughts, nightmares), avoidance symptoms (e.g., avoiding reminders of violence), and hyperarousal symptoms (e.g., being irritable, having difficulty sleeping).We will examine whether the genetic markers predict subjects' response during study participation, and distress following participation.

The interviews, questionnaires, measurements, fMRI, and script development will take place during two consecutive days and involve a single overnight stay in the Georgetown University General Clinical Research Center. In addition, two telephone calls that may last approximately 60-90 minutes at one week and three months after your two days of participation are included.

An fMRI is a specialized imaging technique of the brain. The fMRI measures the changes in blood flow related to brain activity. You will be asked to lie still for approximately 15 minutes to 1 1/2 hours. You must not wear anything that could attract magnetic waves such as hearing aids, dentures, partial plates, keys, beeper, cell phone, watches, eyeglasses, hair pins, barrettes, jewelry, body piercing jewelry, safety pins, paperclips, money clip, credit cards, bank cards, magnetic strip cards, coins, pens, pocket

knife, nail clipper, tools, clothing with metal fasteners, and clothing with metallic threads, pacemakers, bone plates and screws, in the scanner or scanning environment.

An enhanced informed consent procedure is also being tested in this study. The enhanced consent procedure consists of extensive discussion of the study, photographs and videotapes of measurement procedures and a brief example of the script development and administration procedures.

You will be "randomized" into one of the study groups: one group that receives a standard consent form and process, and one that receives an enhanced consent form and process. Randomization means that you are put into a group by chance. It is like flipping a coin. Which group you are put in is done by a computer. Neither you nor the researchers will choose what group you will be in. You will have a one in two chance of being placed in either group.

Please advise the researchers of any medications you are taking. In addition, if you are taking any over-the-counter drugs or herbal supplements which you have obtained from the drug store, grocery store, etc., you should advise the researchers.

HOW LONG WILL I BE IN THE STUDY?

You will be in the study for two days with telephone follow up calls at one week and at three months after your participation.

The researcher may decide to take you off this study if it is in your best interest, funding is stopped, or new information becomes available.

You can stop participating at any time. There are no serious consequences of sudden withdrawal from the study.

WHAT ARE THE RISKS OF THE STUDY?

Most studies of participants' reactions to participation in trauma research report participants report more benefits than costs. However, studies of participants' reactions to trauma research involving script-driven imagery have not yet been conducted. Potential risks and side effects related to the development of script-driven imagery of traumatic events include: increased heart rate, increased blood pressure, negative emotions such as anger, fear, anxiety, and acute subjective distress, dissociation, nervousness and re-experiencing symptoms. Reports of other researchers have indicated these risks are considered to be likely but short in duration.

You may feel uncomfortable lying still in the fMRI scanner. There is a likely risk of anxiety, noise, claustrophobia, or dizziness from the fMRI.

If someone who abused you finds out about your participation in this study, you could be at increased risk of intimidation or retaliation.

A debriefing interview at the end of both days of participation will serve to support you while you relax and lessen any negative emotions.

Risks associated with the genetic information:

Risks of being in genetic testing include the misuse of personal, genetic information. This research will not be identifying any genetic diseases. You will not receive results of this genetic marker testing, and the information will not be put in your medical records. All personnel who will have access to genetic information about you are ethically and legally obligated to maintain the confidence of that information. Further, the Genetic Information Nondiscrimination Act (GINA), signed into law in May 2008, now protects Americans against improper use of their genetic information when it comes to health insurance and employment. This law provides considerable additional protection against these risks however, there can be no absolute guarantees. Although rare, prior to GINA law being passed, misuse of such information has caused problems for persons related to their employment and/or their life and/or health insurance and other benefits or entitlements. There is also a risk that being in a genetics study can cause psychological distress or experience tension with other family members.

For more information about risks and side effects, ask the researcher or contact Dr. Mary Anne Dutton at 202-687-1997.

ARE THERE ANY BENEFITS TO TAKING PART IN THE STUDY?

We cannot promise that you will experience medical benefits from participating in this study. We hope the information learned from this study will benefit others in the future.

WHAT OTHER OPTIONS ARE THERE?

This study is not a treatment study. You are free to decline participation in this study at any time.

WHAT ABOUT CONFIDENTIALITY?

Efforts will be made to protect your medical records and other personal information to the extent allowed by law. However, we cannot guarantee absolute confidentiality. Medical records of research study participants are stored and kept according to legal requirements. You will not be identified in any reports or publications resulting from this study. Organizations that may request to inspect and/or copy your research and medical records for quality assurance and data analysis include groups such as: Georgetown University, Georgetown University Institutional Review Board (IRB), and federal research oversight agencies.

Please note that administrative personnel involved in processing your payment for participation will be aware of your identity.

If (a) you are highly vulnerable to abuse, neglect, or exploitation **because of a physical or mental impairment**, and (b) you have recently been abused, neglected, or exploited by another person because no one is willing and able to provide adequate protection; we may be required by law to make a report to adult protective services. Every effort will be made to include you in the reporting process in order to maximize your safety.

If you tell us about a **child who is currently or was previously abused or neglected**, we are required by law to make a report to child protection services. Finally, if you tell us about your intent to harm yourself or someone else, we may be required by law to file a report with the appropriate authorities.

CERTIFICATE OF CONFIDENTIALITY

A Certificate of Confidentiality can be granted by the Department of Health and Human Services (DHHS). This Certificate will protect the investigators (project staff) from being forced to release any research data in which the subject is identified even under a court order or subpoena. This protection is not absolute. It does not, for instance, apply to any state requirement to report child abuse to the appropriate authorities.

DATA SECURITY

We will take the following precautions to protect your information from unauthorized disclosure, tampering, or damage:

Your identity is kept in a separate password-protected computer in a locked room that is only accessible to the principal investigator. Your study information is identified only by a code number in a separate database that is also protected by a password on a computer in the Department of Psychiatry at Georgetown University and is accessible only to the research team.

WHAT ARE THE COSTS?

Study subjects will not pay for study participation, You or your insurance company will be charged for continuing medical care and/or hospitalization that are not a part of the study.

POLICY/PROCEDURES FOR RESEARCH RELATED INJURY

The Policy and Procedure for Georgetown University:

We will make every effort to prevent study-related injuries and illnesses. If you are injured or become ill while you are in the study and the illness or injury is due to your participation in this study, you will receive necessary medical care at the usual charge. The costs of this care will be charged to you or to your health insurer. No funds are available from Georgetown University, Georgetown University Hospital, MedStar Research Institute, or their affiliates, the District of Columbia government or the federal government to repay you or compensate you for a study related injury or illness.

PAYMENT FOR PARTICIPATION

You will be paid $200 to reimburse your time and expenses for participating in this study. You will be paid $150 for the two-day participation involving an overnight stay at the Georgetown Clinical Research Center, $25 for a two follow up telephone calls for a total of $200.

You should not expect anyone to pay you for pain, worry, lost income, or non-medical care costs that occur from taking part in this research study.

WHAT ARE MY RIGHTS AS A PARTICIPANT?

Taking part in this study is voluntary. You may choose not to take part in or leave the study at any time. If you choose to not take part in or to leave the study, your regular care will not be affected nor will your relations with your physicians, other personnel and the hospital or university. In addition, you will not lose any of the benefits to which you are entitled.

We will tell you about new information that may affect your health, welfare, or participation in this study.

A Data Safety and Monitoring Board, an independent group of experts, will be reviewing the data from this research throughout the study. We will tell you about the new information from this or other studies that may affect your health, welfare, or willingness to stay in this study.

By signing this form you do not lose any of your legal rights.

NEW FINDINGS

Throughout the study, we will tell you about new information that may affect your interest in remaining in the study.

The investigators for this project are not trained to perform radiological diagnosis, and the functional magnetic resonance imaging (fMRI) scans performed are not optimized to find abnormalities. The investigators are not responsible for failure to find existing abnormalities in your MRI scans. However, on occasion the investigator may notice a finding on a MRI scan that seems abnormal. When this occurs, a neurologist will be consulted as to whether the finding merits further investigation, in which case the investigator or the consulting neurologist would contact you and your primary care physician to inform you of the finding. The decision as to whether to proceed with further examination lies with you and your physician. The investigators, the consulting neuroradiologist or neurologist, and Georgetown are not responsible for any examination or treatment that you undertake based upon these findings. **Because images in this study do not comprise a proper clinical fMRI series, these images will not be made available for diagnostic purposes.**

WHOM DO I CALL IF I HAVE QUESTIONS OR PROBLEMS?

For questions about the study or a research-related injury, any problems, unexpected physical or psychological discomforts, or if you think that something unusual or unexpected is happening, call Dr. Dutton at 202-687-1997 or talk with the research nurse on duty in the GCRC who can help or and also who can request additional assistance, if needed.

If you are a participant at Georgetown University and have questions about your rights as a research participant, contact the Georgetown University IRB Office. Direct your questions to:

Institutional Review Board at:

Address: Georgetown University Medical Center
3900 Reservoir Road, N.W.
SW104 Med-Dent
Washington, D.C. 20057

Telephone: (202) 687-1506

Withdrawal by investigator, physician, or sponsor

The investigators, physicians or sponsors may stop the study or take you out of the study at any time should they judge that it is in your best interest to do so, if you experience a study-related injury, or if you do not comply with the study plan. They may remove you from the study for various other administrative and medical reasons. They can do this without your consent.

RESEARCHER'S STATEMENT

I have fully explained this study to the subject. As a representative of this study, I have explained the purpose, the procedures, the benefits and risks that are involved in this research study. Any questions that have been raised have been answered to the individual's satisfaction.

Signature of person obtaining the consent | Print Name of Person | Date

I, the undersigned, have been informed about this study's purpose, procedures, possible benefits and risks, and I have received a copy of this consent. I have been given the opportunity to ask questions before I sign, and I have been told that I can ask other questions at any time. I voluntarily agree to participate in this study. I am free to withdraw from the study at any time without need to justify my decision. This withdrawal will not in any way effect my future treatment or medical management and you will not lose any benefits to which you are otherwise entitled. I agree to cooperate with Mary Ann Dutton, PhD and the research staff and to inform them immediately if *(I / the patient name)* experience any unexpected or unusual symptoms.

Signature of Subject | Print Name of Subject | Date

Appendix F

Enhanced Consent Procedure

Good Morning. My name is _____. I am a member of the research team for the "Telling your Story" study, also known as, "Psychobiological Trauma Research: Risks and Outcomes of Enhanced Consent."

My job is to be certain that you get all your questions about the study answered and fully understand the study before you decide to participate.

In the next few minutes we will review the informed consent form and if you have all your questions answered to your satisfaction, you will then sign this form and begin the next part of the study.

The next part of the study is designed to be even more specific about the study procedures. You will be asked to view a videotape about the study activities.

After the videotape I will talk to you again about the study and why you decided to be a part of it.

Once our meeting is finished, the initial consent process is finished, but you are free to ask questions at any time.

The staff of the General Clinical Research Center will follow our session with a questionnaire of their own about the consent process.

Any questions at this time?

Appendix G

Structured Interview for Research Participants **Subject: _____**

Date: _____

1) Introductions (if not done already)

Interviewer: _____

2) Review subject's understanding of the study.
a) Ask S to tell you what they understand will happen (e.g., "*Tell me exactly what will happen during the study"*) & record their verbatim response.

S's Verbatim study description:

b) For each research element, code S's initial knowledge (column A). c) For each research element, prompt S for items she has missed or explained incorrectly. For example, if she doesn't mention that a tape will be made, you might say "*Let's go back to the script generation part. Remind me why that is being done*?" d) Correct any misinformation and fill in any blanks S seems to have forgotten. List or check off the topics you prompted/corrected/filled in (column B). Remember that for some subjects, forgetting the details may be a way to cope with anxiety about that element, so be gentle in the way you present information. If you notice signs of anxiety about a particular topic, make a note of that by checking off or listing those topics that appear to have generated anxiety (column C).

Research Element	**A) Code Initial Knowledge**	**B) List Topics Presented by E**	**C) Topics w/ anxiety signs**
Assessment procedures		□ Physical history □ One blood draw □ One urine sample □ Interview □ Questionnaires	□ Physical history □ One blood draw □ One urine sample □ Interview □ Questionnaires
Script Generation			
Physiological recording		□ Blood pressure □ Heart rate □ Skin response □ Breathing rate?	□ Blood pressure □ Heart rate □ Skin response □ Breathing rate?

Salivary collection (before & after scan)			
SDI procedure			
Brain scan			
Exit interview		□ Exit interview □ Questionnaires □ 1 week follow-up phone call □ 3-month follow-up phone call □ Payment	□ Exit interview □ Questionnaires □ 1 week follow-up phone call □ 3-month follow-up phone call □ Payment

Score:	0	1	2	3	4
Knowledge	No recall of any relevant info	Very low. Recalls a few minor points	Low. Some recall of major points but many large gaps	Moderate. Some important gaps	High. Only minor gaps, if any.

e) Ask S how she expects to react to each element & record her verbatim response (column D). Remind her of the various procedures that will occur during each research element; then, ask S, "*What do you think (the research element) will be like for you?*" After S gives you her response, you may provide a nonspecific prompt such as, "*Are there any other reactions that you think you might have?*" or follow-up on anything that is unclear. Do NOT prompt for specific reactions, such as "*Do you think that talking about your trauma will make you feel anxious or fearful?*" Next, code S's predicted response to each research element (column E). Inquire about S's anticipated coping methods (e.g., *"What choices would you have if you reacted that way*?" or "*How would you handle this*?"). Record her verbatim response and code her anticipated coping methods (column F).

Research Element	**D) S's Predicted Response to Each Element**	**E) Code Prediction**	**F) Code Coping Methods**
Assessment procedures			
Script Generation			
Physiological recording			
Salivary collection			

SDI procedure			
Brain scan			
Exit interview			

Coding

Score:	0	1	2	3	4
Predict ion	Poor. Seems to have no awareness of her own likely reactions.	Very limited. Some awareness but many large gaps in predictions.	Low. Many important gaps in predictions.	Moderate Misses some important potential reactions.	High Sees various possible responses.
Coping	Poor. No plans for how to cope with responses	Very limited. Some ideas but not likely to be effective.	Low. Important gaps in coping responses.	Moderate. Has some plans likely to be effective but lacks strategies to cope with some important likely responses.	High Makes adequate plans to cope with various responses if they arise

3) Discussion of subject's reasons for choosing to participate in the study.

a) Ask about previous research participation:

b) Ask: "*How did you decide to participate in this study? Did you have any reservations when you were deciding to participate*?"

Verbatim response:

---

4) Discuss subject's expectations regarding her interactions with the researcher(s).

a) Ask: "*Tell me what you think your relationship with the researchers will be like*." (If participants need further explanation, ask "*What type of interaction are you expecting to have with people conducting the study*?")

b) Verbatim response:

5) Discuss the subject's beliefs about the researchers' reasons for conducting the study (goals of the study).

a) Ask: "*Why do you think the researchers decided to conduct this study?*"

b) Verbatim response:

6) Thank the subject & let them know how you'll be interacting with her during the rest of the study.

Appendix H

Assessment of Volunteer's Understanding of Study Participation
MAC-R

Begin 10-15 minutes after completion of consent

Instructions: The interviewer may say, "Is there anything else?" to prompt for more answers until the participant says, "No." Please note participant's response in narration. Check all responses given.

Required Element 1:

a) ***What is the purpose of the project?***
   Answer:
   I. To study my reactions to trauma.
   II. To improve consent process for research.

b) ***How long will you be in the research project?***
   Answer:
   I. I will be in it for a total of 3 months.
   II. 2 days in research unit
   III. Follow up by phone calls (one a week later and another 3 months later)

c) ***What sort of things will be done with people who agree to be in the study?***
   Answer:
   I. Questionnaires
   II. Pregnancy test
   III. Drug screening
   IV. Blood sample
   V. Genetic testing
   VI. Saliva sample
   VII. Blood pressure and heart rate measurements
   VIII. MRI (or pictures of my brain)
   IX. Brief physical examination (as part of nursing assessment)
   X. Development of Script-driven Imagery audiotape
   XI. Debriefing interview

d) ***Does this project involve treatment or research or both?***
   Answer:
   I. It is research not treatment.

Required Element 2:

a) What are the risks and/or discomforts of being in this study?

Answer:

I. Becoming upset by describing or listening to a description of my trauma.

II. Discomfort (from needle sticks for blood samples, giving saliva samples, or having an MRI).

III. Genetic testing may be revealed.

Required Element 3:

a) What are the benefits from this study?

Answer:

I. There are no direct benefits to me.

II. Knowledge may benefit others in the future

Required Element 4:

a) What are the alternatives to being in this study?

Answer:

I. Not being in the study.

Required Element 5:

a) How is your privacy protected?

Answer:

I. Data is kept confidential and my name is not linked to the data but accessed only by the research team.

b) Are there any exceptions to keeping your information confidential?

Answer:

I. If a child or someone with a physical or mental impairment is revealed to be suffering from abuse, then adult or child protective services may be notified by law.

II. If I report that I am a danger to myself or someone else.

Required Element 6:

a) Compensation for injuries if more than minimal risk.

Answer:

I. There is no compensation from Georgetown University for any injury from this study.

II. A medical physician and a psychiatric physician are available for any unforeseen event.

Required Element 7:

a) Who can you contact if you have any questions about this study?

Answer:

I. Dr. Dutton.

II. Georgetown University IRB.

Required Element 8:

a) What will happen if a person refuses to be in the research project, or decides to stop once it begins?

Answer:

I. Nothing will happen, my participation is voluntary

Appendix I

ID #:_____
Date:_____

Stressful Live Events Screening Questionnaire

I am going to ask you some questions about events that may have taken place at any point in your life, including early childhood **(Interviewer-record all pertinent information about additional events on the last page of this questionnaire**

1. Have you ever had a life-threatening illness? (Interviewer should asses *nature* of illness indicated as life threatening)

No _____ Yes ____

If yes, at what age? _____

Duration of Illness _____

Describe specific illness _____

2. Were you ever in a life-threatening accident? (Interviewer should asses *nature* of accident indicated as life threatening*)*

No _____ Yes _____

yes, at what age? _____

Describe accident_____

Did anyone die? ____ Who? (Relationship to you)_____

What physical injuries did you receive? _____

Were you hospitalized overnight? No_____ Yes _____

3. Was physical force or a weapon ever used against you in a robbery or mugging?

No _____ Yes _____

If yes, at what age? _____

How many perpetrators?_____

Describe physical force (e.g., restrained, shoved) or weapon used against you.

_____

Did anyone die? _____

Who?_____

What injuries did you receive? _____

Was your life in danger? _____

4. Has an immediate family member, romantic partner, or <u>very close</u> friend died because of accident, homicide, or suicide?

No _____ Yes _____ If yes, how old were you? _____

How did this person die? _____

Relationship to person lost _____

In the year before this person died, how often did you see/have contact with him/her? _____

Have you had a miscarriage? No _____ Yes _____ If yes, at what age?_____

5. At any time, has anyone (parent, other family member, romantic partner, stranger or someone else) ever <u>physically forced</u> you to have intercourse, or to have oral or anal sex against your wishes, or when you were helpless, such as being asleep or intoxicated?

No _____ Yes _____

If yes, how many times? 1 _____, 2-4 _____, 5-10 _____, more than 10_____

If repeated, over what period? 6 mo. or less _____, 7 mos.-2 yrs. _____, more than 2 yrs. but less than 5 yrs. _____, 5 yrs. or more _____.

Who did this? (Specify stranger, parent, etc.) _____

Has anyone **else** ever done this to you? No_____ Yes_____

6. Other than experiences mentioned in earlier questions, has anyone ever touched private parts of your body, made you touch their body, or tried to make you to have sex against your wishes?

No _____ Yes _____

If yes, how many times? 1 _____, 2-4 _____, 5-10 _____, more than 10_____

If repeated, over what period? 6 mo. or less _____, 7 mos.-2 yrs. _____, more

than 2 yrs. but less than 5 yrs. _____, 5 yrs. or more _____.

Who did this? (Specify sibling, date, etc.) _____

What age was this person? _____

Has anyone **else** ever done this to you? No_____ Yes_____

7. When you were a child, did a parent, caregiver or other person ever slap you repeatedly, beat you, or otherwise attack or harm you?

No _____ Yes_____

If yes, how many times? 1 _____, 2-4 _____, 5-10 _____, more than 10 _____

If repeated, over what period? 6 mo. or less _____ , 7 mos.- 2 yrs. _____, more

than 2 yrs. but less than 5 yrs _____, 5 yrs. or more _____.

Describe force used against you (e.g., fist, belt)_____

Were you ever injured? _____ If yes, describe _____

Who did this? (Relationship to you) _____

Has anyone **else** ever done this to you? No _____ Yes _____

8. As an adult, have you ever been kicked, beaten, slapped around or otherwise physically harmed by a romantic partner, date, family member, stranger, or someone else?

No _____ Yes _____ If yes, at what age?

_____

If yes, how many times? 1 _____, 2-4 _____, 5-10 _____, more than 10_____

If repeated, over what period? 6 mo. or less _____, 7 mos.- 2 yrs. _____, more

than 2 yrs. but less than 5 yrs. _____ , 5 yrs. or more _____.

Describe force used against you (e.g., fist, belt) _____

Were you ever injured?_____ If yes, describe_____

Who did this? (Relationship to you) _____

If sibling, what age was he/she_____

Has anyone **else** ever done this to you? No_____ Yes _____

9. Has a parent, romantic partner, or family member repeatedly ridiculed you, put you down, ignored you, or told you were no good?

No _____ Yes _____ If yes, at what age? _____

If yes, how many times? 1 _____, 2-4 _____, 5-10 _____, more than 10_____

If repeated, over what period? 6 mo. or less _____, 7 mos.- 2 yrs. _____, more

than 2 yrs. but less than 5 yrs. _____ , 5 yrs. or more _____.

Who did this? (Relationship to you) _____

If sibling, what age was he/she_____

Has anyone **else** ever done this to you? No_____ Yes _____

10. Other than the experiences already covered, has anyone ever <u>threatened</u> you with a weapon like a knife or gun?

No _____ Yes _____ If yes, at what age? _____

If yes, how many times? 1 _____ , 2-4 _____ , 5-10 _____, more than 10_____

If repeated, over what period? 6 mo. or less _____, 7 mos.- 2 yrs. _____, more

than 2 yrs. but less than 5 yrs. _____, 5 yrs. or more _____.

Describe nature of threat _____

Who did this? (Relationship to you) _____

Has anyone **else** ever done this to you? No_____ Yes _____

11. Have you ever been present when another person was killed? Seriously injured? Sexually or physically assaulted?

No _____ Yes _____ If yes, at what age? _____

Please describe what you witnessed _____

Was your own life in danger? _____

12. Have you ever been in any other situation where you were seriously injured or your life was in danger (e.g., involved in military combat or living in a war zone)?

No_____ Yes_____

If yes, at what age? _____ Please describe. _____

_____

13. Have you ever been in any other situation that was extremely frightening or horrifying, or one in which you felt extremely helpless, that you haven't reported?

No_____ Yes_____

If yes, at what age? _____ Please describe. _____

_____

The interviewer should determine if the respondent is reporting the same incident in multiple questions, and should record it in the most appropriate category.

Appendix J

Participant ID:
Date:

PCL-S

Instructions: Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each one carefully, then circle one of the numbers to the right to indicate how much you have been bothered by that problem since your visit to GCRC.

	Not at all	*A little bit*	*Moderately*	*Quite a bit*	*Extremely*
1. Repeated, disturbing *memories, thoughts, or images* of the stressful experience?	1	2	3	4	5
2. Repeated, disturbing *dreams* of the stressful experience?	1	2	3	4	5
3. Suddenly *acting or feeling* as if the stressful experience *were happening again* (as if you were reliving it)?	1	2	3	4	5
4. Feeling *very upset* when *something reminded you* of the stressful experience?	1	2	3	4	5
5. Having *physical reactions* (e.g., heart pounding, trouble breathing, sweating) when *something reminded you* of the stressful experience?	1	2	3	4	5
6. Avoiding *thinking about or talking about* the stressful experience or avoiding *having feelings* related to it?	1	2	3	4	5
7. Avoiding *activities or situations* because *they reminded you* of the stressful experience?	1	2	3	4	5
8. Trouble *remembering important parts* of the stressful experience?	1	2	3	4	5
9. *Loss of interest* in activities that you used to enjoy?	1	2	3	4	5
10. Feeling *distant or cut off* from other people?	1	2	3	4	5
11. Feeling *emotionally numb* or being unable to have loving feelings for those close to you?	1	2	3	4	5
12. Feeling as if your *future* somehow will be *cut short*?	1	2	3	4	5
13. Trouble *falling or staying asleep*?	1	2	3	4	5
14. Feeling *irritable* or having *angry outbursts*?	1	2	3	4	5
15. Having *difficulty concentrating*?	1	2	3	4	5
16. Being "*superalert*" or watchful or on guard?	1	2	3	4	5
17. Feeling *jumpy* or easily startled?	1	2	3	4	5

PCL-S for DSM-IV (11/1/94) Weathers, Litz, Huska, & Keane National Center for PTSD - Behavioral Science Division

Appendix K

Clinician-Administered PTSD Scale

In this section I am going to be asking you some questions about the different ways that violence and abuse may have affected.

Criterion B. The traumatic event is persistently reexperienced in one (or more) of the following ways:

1. (B-1) recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. Note: In young children, repetitive play may occur in which themes or aspects of the trauma are expressed.

Frequency

Have you ever had unwanted memories of the violence and abuse you experienced? What were they like? *(What did you remember?)* [IF NOT CLEAR:] *(Did they ever occur while you were awake, or only in dreams?)* [EXCLUDE IF MEMORIES OCCURRED ONLY DURING DREAMS] **How often have you had these memories in the past month?**

0 Never
1 Once or twice
2 Once or twice a week
3 Several times a week
4 Daily or almost every day

Description/Examples

Intensity

How much distress or discomfort did these memories cause you? Were you able to put them out of your mind and think about something else? *(How hard did you have to try?)* **How much did they interfere with your life?**

0 None
1 Mild, minimal distress or disruption of activities
2 Moderate, distress clearly present but still manageable, some disruption of activities
3 Severe, considerable distress, difficulty dismissing memories, marked disruption of activities
4 Extreme, incapacitating distress, cannot dismiss memories, unable to continue activities

QV (specify) _____

2. (B-2) recurrent distressing dreams of the event. **Note:** In children, there may be frightening dreams without recognizable content.

Frequency

Have you ever had unpleasant dreams about the violence and abuse you experienced? Describe a typical dream. *(What happens in them?)* **How often have you had these dreams in the past month?**

0 Never
1 Once or twice
2 Once or twice a week
3 Several times a week
4 Daily or almost every day

Description/Examples

Intensity

How much distress or discomfort did these dreams cause you? Did they ever wake you up? [IF YES:] *(What happened when you woke up? How long did it take you to get back to sleep?)* [LISTEN FOR REPORT OF ANXIOUS AROUSAL, YELLING, ACTING OUT THE NIGHTMARE] *(Did your dreams ever affect anyone else? How so?)*

0 None
1 Mild, minimal distress, may not have awoken
2 Moderate, awoke in distress but readily returned to sleep
3 Severe, considerable distress, difficulty returning to sleep
4 Extreme, incapacitating distress, did not return to sleep

QV (specify) _____

3. (B-3) acting or feeling as if the traumatic even were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes. Including those that occur on awakening or when intoxicated) **Note:** In young children, trauma-specific reenactment may occur.

Frequency

Have you ever suddenly acted or felt as if the violence and abuse were happening again? *(Have you ever had flashbacks about the violence and abuse?)* [IF NOT CLEAR:]

(Did this ever occur while you were awake, or only in dreams?) [EXCLUDE IF OCCURRED ONLY DURING DREAMS] **Tell me more about that. How often has that happened in the past month?**

0 Never
1 Once or twice
2 Once or twice a week
3 Several times a week
4 Daily or almost every day

Description/Examples

Intensity

How much did it seem as if the violence and abuse were happening again? *(Were you confused about where you actually were or what you were doing at the time?)* **How long did it last? What did you do while this was happening?** *(Did other people notice your behavior? What did they say?)*

0 No reliving
1 Mild, somewhat more realistic than just thinking about event
2 Moderate, definite but transient dissociative quality, still very aware of surroundings, daydreaming quality
3 Severe, strongly dissociative (reports images, sounds, or smells) but retained some awareness of surroundings
4 Extreme, complete dissociation (flashback), not awareness of surroundings, may be unresponsive, possible amnesia for the episode (blackout)

QV (specify) _____

4. (B-4) intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

Frequency

Have you ever gotten emotionally upset when something reminded you of the violence and abuse? *(Has anything ever triggered bad feelings related to the violence and abuse?)* **What kinds of reminders made you upset? How often in the past month?**

0 Never
1 Once or twice
2 Once or twice a week
3 Several times a week

4 Daily or almost every day

Description/Examples

Intensity

How much distress or discomfort did (REMINDERS) cause you? How long did it last? How much did it interfere with your life?

0 None
1 Mild, minimal distress or disruption of activities
2 Moderate, distress clearly present but still manageable, some disruption of activities
3 Severe, considerable distress, marked disruption of activities
4 Extreme, incapacitating distress, unable to continue activities

QV (specify) _____

5. (B-5) physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

Frequency

Have you ever had any physical reactions when something reminded you of the violence and abuse? *(Did your body ever react in some way when something reminded you of the violence and abuse?)* **Can you give me some examples?** *(Did your heart race or did your breathing change? What about sweating or feeling really tense or shake?)* **What kinds of reminders triggered these reactions? How often in the past month?**

0 Never
1 Once or twice
2 Once or twice a week
3 Several times a week
4 Daily or almost every day

Description/Examples

Intensity

How strong were (PHYSICAL REACTIONS)? How long did they last? *(Did they last even after you were out of the situation?)*

0 No physical reactivity

1 Mild, minimal reactivity
2 Moderate, physical reactivity clearly present
3 Severe, marked physical reactivity, sustained throughout exposure
4 Extreme, dramatic physical reactivity, sustained arousal even after exposure has ended

QV (specify) _____

Criterion C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:

6. (C-1) efforts to avoid thoughts, feelings, or conversations associated with the trauma

Frequency

Have you ever tried to avoid thoughts or feelings about the violence and abuse? *(What kinds of thoughts or feelings did you try to avoid?)* **What about trying to avoid talking with other people about it?** *(Why is that?)* **How often in the past month?**

IV. Never
V. Once or twice
VI. Once or twice a week
VII. Several times a week
VIII. Daily or almost every day

Description/Examples

Intensity

How much effort did you make to avoid (THOUGHTS/FEELINGS/CONVERSATIONS)? *(What kinds of things did you do? What about drinking or using medication or street drugs?)* [CONSIDER ALL ATTEMPTS AT AVOIDANCE, INCLUDING DISTRACTION, SUPPRESSION, AND USE OF ALCOHOL/DRUGS] **How much did that interfere with your life?**

1. None
2. Mild, minimal effort, little or no disruption of activities
3. Moderate, some effort, avoidance definitely present, some disruption of activities
4. Severe, considerable effort, marked avoidance, marked disruption of activities, or involvement in certain activities as avoidant strategy

5. Extreme, drastic attempts at avoidance, unable to continue activities, or excessive involvement in certain activities as avoidant strategy

QV (specify) _____

7. (C-2) efforts to avoid activities, places or people that arouse recollections of the trauma

Frequency

Have you ever tried to avoid certain activities, places, or people that reminded you of the violence and abuse? *(What kinds of things did you avoid? Why is that?)* **How often in the past month?**

0 Never
1 Once or twice
2 Once or twice a week
3 Several times a week
4 Daily or almost every day

Descriptions/Examples

Intensity

How much effort did you make to avoid (activities/places/people)? *(What did you do instead?)* **How much did that interfere with your life?**

c) None
d) Mild, minimal effort, little or no disruption of activities
e) Moderate, some effort, avoidance definitely present, some disruption of activities
f) Severe, considerable effort, marked avoidance, marked disruption of activities, or involvement in certain activities as avoidant strategy
g) Extreme, drastic attempts at avoidance, unable to continue activities, or excessive involvement in certain activities as avoidant strategy

QV (specify) _____

8. (C-3) inability to recall an important aspect of the trauma

Frequency

Have you had difficulty in remembering some important parts of the violence and abuse? Tell me more about that. *(Do you feel you should be able to remember these things? Why do you think you can't?)* **In the past month, how much of the important parts of the violence an abuse have you had difficulty remembering?** *(What parts do you still remember?)*

0 None, clear memory
1 Few aspects not remembered (less than 10%)
2 Some aspects not remembered (approx 20-30%)
3 Many aspects not remembered (approx 50-60%)
4 Most or all aspects not remembered (more than 80%)

Descriptions/Examples

Intensity

How much difficulty did you have recalling important parts of the violence and abuse? *(Were you able to recall more if you tried?)*

0 None
1 Mild, minimal difficulty
2 Moderate, some difficulty, could recall with effort
3 Severe, considerable difficulty, even with effort
4 Extreme, completely unable to recall important aspects of event

QV (specify) _____

9. (C-4) markedly diminished interest or participation in significant activities

Frequency

Have you been less interested in activities that you used to enjoy? *(What kinds of things have you lost interest in? Are there some things you don't do at all anymore? Why is that?)* [EXCLUDE IF NO OPPORTUNITY, IF PHYSICALLY UNABLE, OR IF DEVELOPMENTALLY APPROPRIATE CHANGE IN PREFERRED ACTIVITIES] **In the past month, how many activities have you been less interested in?** *(What kinds of things do you still enjoy doing?)* **When did you first start to feel that way?** *(After the violence and abuse?)*

1. None
2. Few activities (less than 10%)
3. Some activities (approx 20-30%)

4. Many activities (approx 50-60%)
5. Most or all activities (more than 80%)

Description/Examples

Intensity

How strong was your loss of interest? *(Would you enjoy [ACTIVITIES] once you got started?)*

b) No loss of interest
c) Mild, slight loss of interest, probably would enjoy after starting activities
d) Moderate, definite loss of interest, but still has some enjoyment of activities
e) Severe, marked loss of interest in activities
f) Extreme, complete loss of interest in activities, no longer participates in any activities

QV (specify) _____

Trauma-related? 1 definite 2 probable 3 unlikely

Current_____ Lifetime_____

10. (C-5) feeling of detachment or estrangement from others

Frequency

Have you felt distant or cut off from other people? What was that like? How much of the time in the past month have you felt that way? When did you first start to feel that way? *(After the VIOLENCE AND ABUSE?)*

0 None of the time
1 Very little of the time (less than 10%)
2 Some of the time (approx 20-30%)
3 Much of the time (approx 50-60%)
4 Most of all of the time (more than 80%)

Descriptions/Examples

Intensity

How strong were your feelings of being distant or cut off from others? *(Who do you feel closet to? How many people do you feel comfortable talking with about personal things?)*

0 No feelings of detachment or estrangement
1 Mild, may feel "out of synch" with others
2 Moderate, feelings of detachment clearly present, but still feels some interpersonal connection
3 Severe, marked feelings of detachment or estrangement from most people, may feel close to only one or two people
4 Extreme, feels completely detached or estranged from others, not close with anyone

QV (specify) _____

Trauma-related? 1 definite 2 probable 3 unlikely

Current_____ Lifetime_____

11 (C-6) restricted range of affect (e.g., unable to have loving feelings)

Frequency

Have there been times when you felt emotionally numb or had trouble experiencing feelings like love or happiness? What was that like? *(What feelings did you have trouble experiencing?)* **How much of the time in the past month have you felt that way? When did you first start having trouble experiencing (EMOTIONS)**? *(After the VIOLENCE AND ABUSE?)*

1. None of the time
2. Very little of the time (less than 10%)
3. Some of the time (approx 20-30%)
4. Much of the time (approx50-60%)
5. Most or all of the time (more than 80%)

Description/Examples

Intensity

How much trouble did you have experiencing (EMOTIONS)? (*What kinds of feelings were you still able to experience?)* [INCLUDE OBSERVATIONS OF RANGE OF AFFECT DURING INTERVIEW]

0 No reduction of emotional experience
1 Mild, slight reduction of emotional experience
2 Moderate, definite reduction of emotional experience, but still able to experience most emotions
3 Severe, marked reduction of experience of at least two primary emotions (e.g., love, happiness)
4 Extreme, completely lacking emotional experience

QV (specify) _____

Trauma-related? 1 definite 2 probable 3 unlikely

Current_____ Lifetime_____

12 (C-7) sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal lifespan)

Frequency

Have there been times when you felt that there was no need to plan for the future, that somehow your future will be cut short? Why is that? [RULE OUT REALISTIC RISKS SUCH AS LIFE THREATENING MEDICAL CONDITIONS] **How much of the time in the past month have you felt that way? When did you first start to feel that way?** *(After the VIOLENCE AND ABUSE?)*

II. None of the time
III. Very little of the time (less than 10%)
IV. Some of the time (approx 20-30%)
V. Much of the time (approx50-60%)
VI. Most or all of the time (more than 80%)

Description/Examples

Intensity

How strong was this feeling that your life will be cut short? (*How long do you think you will live? How convinced are you that you will die prematurely?)*

0 No sense of a foreshortened future
1 Mild, slight sense of a foreshortened future

2 Moderate, sense of a foreshortened future definitely present, but no specific prediction about longevity
3 Sever, marked sense of a foreshortened future, may make specific prediction about longevity
4 Extreme, overwhelming sense of a foreshortened future, completely convinced of a premature death

QV (specify) _____

Trauma-related? 1 definite 2 probable 3 unlikely

Current_____ Lifetime_____

Criterion D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:

13. (D-1) difficulty falling or staying asleep

Frequency

Have you had any problems falling or staying asleep? How often in the past month? When did you first start having problems sleeping? *(After the violence and abuse?)*

0 Never
1 Once or twice
2 Once or twice a week
3 Several times a week
4 Daily or almost every day

Sleep onset problems? Y N

Mid-sleep awakening? Y N

Early A.M. awakening Y N

Total # hrs sleep/night _____

Desired # hrs sleep/night _____

Intensity

How much of a problem did you have with your sleep? *(How long did it take you to fall asleep? How often did you wake up in the night? Did you often wake up earlier than you wanted to? How many total hours did you sleep each night?)*

b) No sleep problems
c) Mild, slightly longer latency, or minimal difficulty staying asleep (up to 30 minutes loss of sleep)
d) Moderate, definite sleep disturbance, clearly longer latency, or clear difficulty staying asleep (30-90 minutes loss of sleep)
e) Severe, much longer latency, or marked difficult staying asleep (90 minutes to 3 hours loss of sleep)
f) Extreme, very long latency, or profound difficulty staying asleep (>3 hours loss of sleep)

QV (specify) _____

Trauma-related? 1 definite 2 probable 3 unlikely

Current_____ Lifetime_____

14. (D-2) irritability or outbursts of anger

Frequency

Have there been times when you felt especially irritable or showed strong feelings of anger? Can you give me some examples? How often in the past month? When did you first start feeling that way? *(After the violence and abuse?)*

0 Never
1 Once or twice
2 Once or twice a week
3 Several times a week
4 Daily or almost every day

Descriptions/Examples

Intensity

How strong was your anger? (How did you show it?) [If reports suppression:] (How hard was it to keep from showing your anger?) **How long did it take you calm down? Did you anger cause you any problems?**

0 No irritability or anger
1 Mild, minimal irritability, may raise voice when angry
2 Moderate, definite irritability, may raise voice when angry
3 Severe, marked irritability or marked attempts to suppress anger, may become verbally or physically aggressive when angry
4 Extreme, pervasive anger or drastic attempts to suppress anger, may have episodes of physical violence

QV (specify) _____

Trauma-related? 1 definite 2 probable 3 unlikely

Current_____ Lifetime_____

15. (D-3) difficulty concentrating

Frequency

Have you found it difficult to concentrate on what you were doing or on things going on around you? What was that like? How much of the time in the past month? When did you first start having trouble concentrating? *(After the violence and abuse?)*

III. None of the time
IV. Very little of the time (less than 10%)
V. Some of the time (approx 20-30%)
VI. Much of the time (approx 50-60%)
VII. Most or all of the time (more than 80%)

Description/Examples

Intensity

How difficult was it for you to concentrate? [INCLUDE OBSERVATIONS OF CONCENTRATION AND ATTENTION IN INTERVIEW] **How much did that interfere with your life?**

b) No difficulty with concentration
c) Mild, only slight effort needed to concentrate, little or no disruption of activities
d) Moderate, definite loss of concentration but could concentrate with effort , some disruption of activities
e) Severe, marked loss of concentration even with effort, marked disruption of activities

f) Extreme, complete inability to concentrate, unable to engage in activities

QV (specify) _____

Trauma-related? 1 definite 2 probable 3 unlikely

Current _____ Lifetime _____

16. (D-4) hypervigilance

Frequency

Have you been especially alert or watchful, even when there was no real need to be? *(Have you felt as if you were constantly on guard?)* **Why is that? How much of the time in the past month? When did you first start acting that way?** *(After the violence and abuse?)*

0 None of the time
1 Very little of the time (less than 10%)
2 Some of the time (approx 20-30%)
3 Much of the time (approx 50-60%)
4 Most or all of the time (more than 80%)

Description/Examples

Intensity

How hard did you try to be watchful of things going on around you? [INCLUDE OBSERVATIONS OF HYPERVIGILANCE IN INTERVIEW] **Did your (HYPERVIGILANCE) cause you any problems?**

III. No hypervigilance
IV. Mild, minimal hypervigilance, slight heightening of awareness
V. Moderate, hypervigilance clearly present, watchful in public (e.g., chooses safe place to sit in a restaurant or movie theater)
VI. Severe, marked hypervigilance, very alert, scans environment for danger, exaggerated concern for safety of self/family/home
VII. Extreme, excessive hypervigilance efforts to ensure safety consume significant time and energy and may involve extensive safety/checking behaviors, marked watchfulness during interview

QV (specify) _____

Trauma-related? 1 definite 2 probable 3 unlikely

Current _____ Lifetime _____

17. (D-5) exaggerated startle response

Frequency

Have you had any strong startle reactions? When did that happen? *(What kinds of things made you startle?)* **How often in the past month? When did you first have these reactions?** *(After the violence and abuse?)*

0 Never
1 Once or twice
2 Once or twice a week
3 Several times a week
4 Daily or almost every day

Descriptions/Examples

Intensity

How strong were these startle reactions? *(How strong were they compared to how most people would respond?)* **How long did they last?**

III. No startle reaction
IV. Mild, minimal reaction
V. Moderate, definite startle reaction, feels "jumpy"
VI. Severe, marked startle reaction, sustained arousal following initial reaction
VII. Extreme, excessive startle reaction, overt coping behavior (e.g., combat veteran who "hits the dirt")

QV (specify) _____

Trauma-related? 1 definite 2 probable 3 unlikely

Current _____ Lifetime _____

Criterion E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than one month.

Total # months delay in onset

With delayed onset (≥ 6 months)? **No** **Yes**

[CURRENT] **How long have these (PTSD SYMPTOMS) lasted altogether?**

Duration more than 1 month? **No** **Yes**

Total # months duration? _____

Acute (< 3 months) or chronic (≥ 3 months)? **Acute** **Chronic**

Criterion F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

20. subjective distress

[CURRENT] **Overall, how much have you been bothered by these (PTSD SYMPTOMS) you've told me about?** [CONSIDER DISTRESS REPORTED ON EARLIER ITEMS]

0 None
1 Mild, minimal distress
2 Moderate, distress clearly present but still manageable
3 Severe, considerable distress
4 Extreme, incapacitating distress

21. impairment in social functioning

[CURRENT] **Have these (PTSD SYMPOTMS) affected your relationships with other people? How so?** [CONSIDER IMPAIRMENT IN SOCIAL FUNCTIONING REPORTED ON EARLIER ITEMS]

0 No adverse impact
1 Mild impact, minimal impairment in social functioning
2 Moderate impact, definite impairment, but many aspects of social functioning still intact
3 Severe impact, marked impairment, few aspects of social functioning intact

4 Extreme impact, little or not social functioning

22. impairment in occupational or other important area of functioning

[CURRENT-IF NOT ALEADY CLEAR] **Are you working now?**

IF YES: Have these (PTSD SYMPTOMS) affected your work or your ability to work? How so? [CONSIDER REPORTED WORK HISTORY, INCLUDING NUMBER AND DURATION OF JOBS, AS WELL AS THE QUALITY OF WORK RELATIONSHIPS. IF PREMORBID FUNCTIONING IS UNCLEAR, INQUIRE ABOUT WORK EXPERIENCES BEFORE THE TRAUMA. FOR CHILD/ADOLESCENT TRAUMAS, ASSESS PRETRAUMA SCHOOL PERFORMANCE AND POSSIBLE PRESENCE OF BEHAVIOR PROBLEMS]

IF NO: **Have these (PTSD SYMPTOMS) affected any other important part of your life?** [AS APPROPRIATE, SUGGEST EXAMPLES SUCH AS PARENTING, HOUSEWORK, SCHOOLWORK, VOLUNTEER WORK, ETC.] **How so?**

0 No adverse impact
1 Mild impact, minimal impairment in occupational/other important functioning
2 Moderate impact, definite impairment, but many aspects of occupational/other important functioning still intact
3 Severe impact, marked impairment, few aspects of occupational/other important functioning still intact
4 Extreme impact, little or no occupational/other important functioning

Global Ratings

23. global validity

ESTIMATE THE OVERALL VALIDITY OF RESPONSES. CONSIDER FACTORS SUCH AS COMPLIANCE WITH THE INTERVIEW, MENTAL STATUS (E.G., PROBLEMS WITH CONCENTRATION, COMPREHENSION OF ITEMS, DISSOCIATION), AND EVIDENCE OF EFFORTS TO EXAGGERATE OR MINIMIZE SYMPTOMS.

0 Excellent, no reason to suspect invalid responses
1 Good, factors present that may adversely affect validity
2 Fair, factors present that definitely reduce validity
3 Poor, substantially reduced validity
4 Invalid responses, severely impaired mental status or possible deliberate “faking bad” or “faking good”

24. global severity

ESTIMATE THE OVERALL SEVERITY OF PTSD SYMPTOMS. CONSIDER DEGREE OF SUBJECTIVE DISTRESS, DEGREE OF FUNCTIONAL IMPAIRMENT, OBSERVATIONS OF BEHAVIORS IN INTERVIEW, AND JUDGMENT REGARDING REPORTING STYLE.

0 No clinically significant symptoms, not distress and no functional impairment
1 Mild, minimal distress or functional impairment
2 Moderate, definite distress or functional impairment but functions satisfactorily with effort
3 Severe, considerable distress or functional impairment, limited functioning even with effort
4 Extreme, marked distress or marked impairment in two or more major areas of functioning

Current PTSD Symptoms

Criterion A met (traumatic event)?	NO	YES
_____# Criterion B sx ($\geq$1)?	NO	YES
_____# Criterion C sx ($\geq$3)?	NO	YES
_____# Criterion D sx ($\geq$2)?	NO	YES
Criterion E met (duration $\geq$ 1 month)?	NO	YES
Criterion F met (distress/impairment)?	NO	YES
Current PTSD (Criteria A-F met)?	NO	YES

Appendix L

Subject number_____ **Date_____**

Five-Facet Mindfulness Questionnaire

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes <u>your own opinion</u> of what is <u>generally true for you</u>.

1	2	3	4	5
never or very rarely true	**rarely true**	**sometimes true**	**often true**	**very often or always true**

_____ 1. When I'm walking, I deliberately notice the sensations of my body moving.
_____ 2. I'm good at finding words to describe my feelings.
_____ 3. I criticize myself for having irrational or inappropriate emotions.
_____ 4. I perceive my feelings and emotions without having to react to them.
_____ 5. When I do things, my mind wanders off and I'm easily distracted.
_____ 6. When I take a shower or bath, I stay alert to the sensations of water on my body.
_____ 7. I can easily put my beliefs, opinions, and expectations into words.
_____ 8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.
_____ 9. I watch my feelings without getting lost in them.
_____ 10. I tell myself I shouldn't be feeling the way I'm feeling.
_____ 11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
_____ 12. It's hard for me to find the words to describe what I'm thinking.
_____ 13. I am easily distracted.
_____ 14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.
_____ 15. I pay attention to sensations, such as the wind in my hair or sun on my face.
_____ 16. I have trouble thinking of the right words to express how I feel about things
_____ 17. I make judgments about whether my thoughts are good or bad.
_____ 18. I find it difficult to stay focused on what's happening in the present.
_____ 19. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.
_____ 20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.

1	2	3	4	5
never or very rarely true	**rarely true**	**sometimes true**	**often true**	**very often or always true**

_____ 21. In difficult situations, I can pause without immediately reacting.

_____ 22. When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words.

_____ 23. It seems I am "running on automatic" without much awareness of what I'm doing.

_____24. When I have distressing thoughts or images, I feel calm soon after.

_____ 25. I tell myself that I shouldn't be thinking the way I'm thinking.

_____ 26. I notice the smells and aromas of things.

_____ 27. Even when I'm feeling terribly upset, I can find a way to put it into words.

_____ 28. I rush through activities without being really attentive to them.

_____ 29. When I have distressing thoughts or images I am able just to notice them without reacting.

_____ 30. I think some of my emotions are bad or inappropriate and I shouldn't feel them.

_____ 31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.

_____ 32. My natural tendency is to put my experiences into words.

_____ 33. When I have distressing thoughts or images, I just notice them and let them go.

_____ 34. I do jobs or tasks automatically without being aware of what I'm doing.

_____ 35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.

_____ 36. I pay attention to how my emotions affect my thoughts and behavior.

_____ 37. I can usually describe how I feel at the moment in considerable detail.

_____ 38. I find myself doing things without paying attention.

_____ 39. I disapprove of myself when I have irrational ideas.

Appendix M

Distress Tolerance Scale

Directions: Think of times that you feel distressed or upset. Select the item from the menu that best describes your beliefs about feeling distressed or upset.

1. Strongly agree
2. Mildly agree
3. Agree and disagree equally
4. Mildly disagree
5. Strongly disagree

_____ 1. Feeling distressed or upset is unbearable to me.
_____ 2. When I feel depressed or upset, all I can think about is how bad I feel.
_____ 3. I can't handle feeling distressed or upset.
_____ 4. My feelings of distress are so intense that they completely take over.
_____ 5. There's nothing worse than feeling distressed or upset.
_____ 6. I can tolerate being distressed or upset as well as most people.
_____ 7. My feelings of distress or being upset are not acceptable.
_____ 8. I'll do anything to avoid feeling distressed or upset.
_____ 9. Other people seem to be able to tolerate feeling distressed or upset better than I can.
_____ 10. Being distressed or upset is always a major ordeal for me.
_____ 11. I am ashamed of myself when I feel distressed or upset.
_____ 12. My feelings of distress or being upset scare me.
_____ 13. I'll do anything to stop feeling distressed or upset.
_____ 14. When I feel distressed or upset, I must do something about it immediately.
_____ 15. When I feel distressed or upset, I cannot help but concentrate on how bad the distress actually feels.

Appendix N

Acceptance and Action Questionnaire-II

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true

1. It's OK if I remember something unpleasant.	1	2	3	4	5	6	7
2. My painful experiences and memories make it difficult for me to live a life that I would value.	1	2	3	4	5	6	7
3. I'm afraid of my feelings.	1	2	3	4	5	6	7
4. I worry about not being able to control my worries and feelings.	1	2	3	4	5	6	7
5. My painful memories prevent me from having a fulfilling life.	1	2	3	4	5	6	7
6. I am in control of my life.	1	2	3	4	5	6	7
7. Emotions cause problems in my life.	1	2	3	4	5	6	7
8. It seems like most people are handling their lives better than I am.	1	2	3	4	5	6	7
9. Worries get in the way of my success.	1	2	3	4	5	6	7
10. My thoughts and feelings do not get in the way of how I want to live my life.	1	2	3	4	5	6	7

Appendix O

State-Trait Anger Expression Inventory

Part 1

I am going to read to you a number of statements that people use to describe themselves. Using a scale from 1 to 4, where 1 is "not at all," 4 is "very much so," and 2 and 3 are in between please indicate how you **feel right now, at this very moment**. Remember that there are no right or wrong answers. Do not spend too much time on any one statement, but give the answer which seems to best describe your present feelings.

6. I am furious…….	1	2	3	4
7. I feel irritated……..	1	2	3	4
8. I feel angry…….	1	2	3	4
9. I feel like yelling at somebody……..	1	2	3	4
10. I feel like breaking things……	1	2	3	4
11. I am mad……..	1	2	3	4
12. I feel like banging on the table……	1	2	3	4
13. I feel like hitting someone……...	1	2	3	4
14. I am burned up……	1	2	3	4
15. I feel like swearing……..	1	2	3	4

Part 2

I am going to read to you a number of statements that people use to describe themselves. Using a scale from 1 to 4, where 1 is "almost never," 4 is "almost always," and 2 and 3 are in between please indicate how you **generally feel, that is how you feel most of the time**. Remember that there are no right or wrong answers. Do not spend too much time on any one statement, but give the answer which seems to best describe how you generally feel.

16. I am quick tempered……..	1	2	3	4
17. I have a fiery temper…….	1	2	3	4
18. I am a hotheaded person……	1	2	3	4
19. I get angry when I'm slowed down by other' mistakes…	1	2	3	4
20. I feel annoyed when I am not given recognition for doing good work…….	1	2	3	4
21. I fly off the handle……	1	2	3	4
22. When I get mad, I say nasty things……..	1	2	3	4
23. It makes me furious when I am criticized in front of others……	1	2	3	4
24. When I get frustrated, I feel like hitting someone……	1	2	3	4
25. I feel infuriated when I do a good job and get a poor				

evaluation……. 1 2 3 4

Part 3

Everyone feels angry or furious from time to time, but people differ in the ways that they react when they are angry. I'm going to read to you a number of statements that people use to describe their reactions when they feel angry or furious. Using a scale from 1 to 4, where 1 is "almost never," 4 is "almost always," and 2 and 3 are in between please indicate **how often you generally react or behave when you are feeling angry or furious**. Remember that there are no right or wrong answers and remember that we are interested in **how you actually react or behave**, even if it is different than how you think you should react or behave. Do not spend too much time on any one statement.

26. I control my temper……. 1 2 3 4
27. I express my anger……... 1 2 3 4
28. I keep things in…… 1 2 3 4
29. I am patient with others…….. 1 2 3 4
30. I pout or sulk…… 1 2 3 4
31. I withdraw from people…… 1 2 3 4
32. I make sarcastic remarks to others……... 1 2 3 4
33. I keep my cool…….. 1 2 3 4
34. I do things like slam doors…… 1 2 3 4
35. I boil inside, but don't show it……. 1 2 3 4
36. I control my behavior…… 1 2 3 4
37. I argue with others…… 1 2 3 4
38. I tend to harbor grudges that I don't tell anyone about…… 1 2 3 4
39. I strike out at whatever infuriates me…… 1 2 3 4
40. I can stop myself from losing my temper…… 1 2 3 4
41. I am secretly quite critical of others……. 1 2 3 4
42. I am angrier than I am willing to admit…… 1 2 3 4
43. I calm down faster than most other people…….. 1 2 3 4
44. I say nasty things……. 1 2 3 4
45. I try to be tolerant and understanding…….. 1 2 3 4
46. I'm irritated a great deal more than people are aware of…. 1 2 3 4
47. I lose my temper…….. 1 2 3 4
48. If someone annoys me, I'm apt to tell him or her how I feel. 1 2 3 4
49. I control my angry feelings……... 1 2 3 4

Appendix P

CES-D

ID#:_____
Date:_____

Please think about how you've felt during the last week. You can tell me how often you have felt this way using a scale from 1 to 4.

Question: In the last week how often have you…	Rarely or none of the time	Some or a little of the time	Occasionally or a moderate amount of time	Most or all of the time
1. Been bothered by things that usually don't bother you?	1	2	3	4
2. Did not feel like eating your appetite was poor?	1	2	3	4
3. Felt that you could not shake off the blues even with help from your family or friends?	1	2	3	4
4. Felt that you were just as good as other people?	1	2	3	4
5. Had trouble keeping your mind on what you were doing?	1	2	3	4
6. Felt depressed?	1	2	3	4
7. Felt that everything you did was an effort?	1	2	3	4
8. Felt hopeful about the future?	1	2	3	4
9. Thought your life had been a failure?	1	2	3	4
10. Felt fearful	1	2	3	4
11. Your sleep was restless	1	2	3	4
12. Were you happy?	1	2	3	4
13. Did you talk less than usual?	1	2	3	4
14. Feel lonely?	1	2	3	4
15. Were people unfriendly?	1	2	3	4
16. Enjoy life?	1	2	3	4
17. Have crying spells?	1	2	3	4
18. Felt sad?	1	2	3	4
19. Felt that people dislike you?	1	2	3	4
20. Could you not get going?	1	2	3	4

Appendix Q

Dissociative Experiences Scale

Name:_____ Date:_____ Age: _____ Sex: ____

Directions: This questionnaire consists of 28 questions about experiences that you may have in your daily life. We are interested in how often you have these experiences. It is important, however, that your answers show how often these experiences happen to you when you **<u>are not</u>** under the influence of alcohol or drugs.

To answer the questions, please determine to what degree the experience described in the question applies to you and indicate the percentage of the time you have the experience:

(Never) 0%----10----20----30----40----50----60----70----80----90----100% (Always)

1. Some people have the experience of driving or riding in a car or bus or subway and suddenly
realizing that they don't remember Indicate what has happened during all or part of the trip. Circle a number to show what percentage of the time this happens to you.

   0%----10----20----30----40----50----60----70----80----90----100%

2. Some people find that sometimes they are listening to someone talk and they suddenly realize that they did not hear part or all of what was said. Circle a number to show what percentage of the time this happens to you.

   0%----10----20----30----40----50----60----70----80----90----100%

3. Some people have the experience of finding themselves in a place and having no idea how they got there. Circle a number to show what percentage of the time this happens to you.

   0%----10----20----30----40----50----60----70----80----90----100%

4. Some people have the experience of finding themselves dressed in clothes that they don't remember buying. Circle a number to show what percentage of the time this happens to you.

   0%----10----20----30----40----50----60----70----80----90----100%

5. Some people have the experience of finding new things among their belongings that they do not remember buying. Circle a number to show what percentage of the time this happens to you.

   0%----10----20----30----40----50----60----70----80----90----100%

6. Some people sometimes find that they are approached by people that they do not know who call them by another name or insist that they have met them before. Circle a number to show what percentage of the time this happens to you.

   0%----10----20----30----40----50----60----70----80----90----100%

7. Some people sometimes have the experience of feeling as though they are standing next to themselves or watching themselves do something and they actually see themselves as if they were looking at another person. Circle a number to show what percentage of the time this happens to you.

0%----10----20----30----40----50----60----70----80----90----100%

8. Some people are told that they sometimes do not recognize friends or family members. Circle a number to show what percentage of the time this happens to you.

0%----10----20----30----40----50----60----70----80----90----100%

9. Some people find that they have no memory for some important events in their lives (for example, a wedding or graduation). Circle a number to show what percentage of the time this happens to you.

0%----10----20----30----40----50----60----70----80----90----100%

10. Some people have the experience of being accused of lying when they do not think that they have lied. Circle a number to show what percentage of the time this happens to you.

0%----10----20----30----40----50----60----70----80----90----100%

11. Some people have the experience of looking in a mirror and not recognizing themselves. Circle a number to show what percentage of the time this happens to you.

0%----10----20----30----40----50----60----70----80----90----100%

12. Some people have the experience of feeling that other people, objects, and the world around them are not real. Circle a number to show what percentage of the time this happens to you.

0%----10----20----30----40----50----60----70----80----90----100%

13. Some people sometimes have the experience of feeling that their body does not seem to belong to them. Circle a number to show what percentage of the time this happens to you.

0%----10----20----30----40----50----60----70----80----90----100%

14. Some people have the experience of sometimes remembering a past event so vividly that they feel as if they were reliving that event. Circle a number to show what percentage of the time this happens to you.

0%----10----20----30----40----50----60----70----80----90----100%

15. Some people have the experience of not being sure whether things that they remember happening really did happen or whether they just dreamed them. Circle a number to show what percentage of the time this happens to you.

0%----10----20----30----40----50----60----70----80----90----100%

16. Some people have the experience of being in a familiar place but finding it strange and unfamiliar. Circle a number to show what percentage of the time this happens to you.

0%----10----20----30----40----50----60----70----80----90----100%

17. Some people find that when they are watching television or a movie they become so absorbed in the story that they are unaware of other events happening around them. Circle a number to show what percentage of the time this happens to you.

    0%----10----20----30----40----50----60----70----80----90----100%

18. Some people sometimes find that they become so involved in a fantasy or daydream that it feels as though it were really happening to them. Circle a number to show what percentage of the time this happens to you.

    0%----10----20----30----40----50----60----70----80----90----100%

19. Some people find that they sometimes are able to ignore pain. Circle a number to show what percentage of the time this happens to you.

    0%----10----20----30----40----50----60----70----80----90----100%

20. Some people find that they sometimes sit staring off into space, thinking of nothing, and are not aware of the passage of time. Circle a number to show what percentage of the time this happens to you.

    0%----10----20----30----40----50----60----70----80----90----100%

21. Some people sometimes find that when they are alone they talk out loud to themselves. Circle a number to show what percentage of the time this happens to you.

    0%----10----20----30----40----50----60----70----80----90----100%

22. Some people find that in one situation they may act so differently compared with another situation that they feel almost as if they were two different people. Circle a number to show what percentage of the time this happens to you.

    0%----10----20----30----40----50----60----70----80----90----100%

23. Some people sometimes find that in certain situations they are able to do things with amazing ease and spontaneity that would usually be difficult for them (for example, sports, work, social situations, etc.). Circle a number to show what percentage of the time this happens to you.

    0%----10----20----30----40----50----60----70----80----90----100%

24. Some people sometimes find that they cannot remember whether they have done something or have just thought about doing that thing (for example, not knowing whether they have just mailed a letter or have just thought about mailing it). Circle a number to show what percentage of the time this happens to you.

    0%----10----20----30----40----50----60----70----80----90----100%

25. Some people find evidence that they have done things that they do not remember doing. Circle a number to show what percentage of the time this happens to you.

    0%----10----20----30----40----50----60----70----80----90----100%

26. Some people sometimes find writings, drawings, or notes among their belongings that they must have done but cannot remember doing. Circle a number to show what percentage of the time this happens to you.

    0%----10----20----30----40----50----60----70----80----90----100%

27. Some people sometimes find that they hear voices inside their head that tell them to do things or comment on things that they are doing. Circle a number to show what percentage of the time this happens to you.

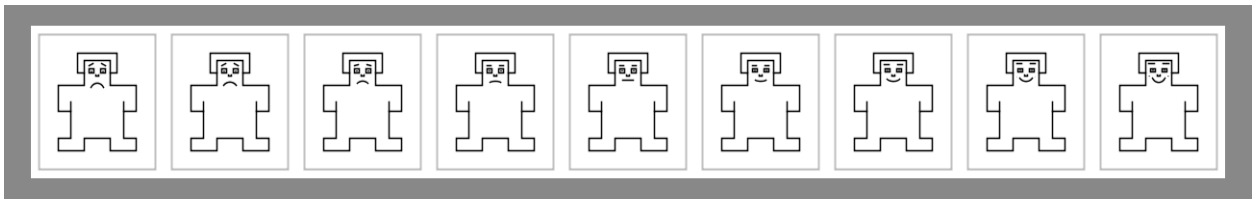
    0%----10----20----30----40----50----60----70----80----90----100%

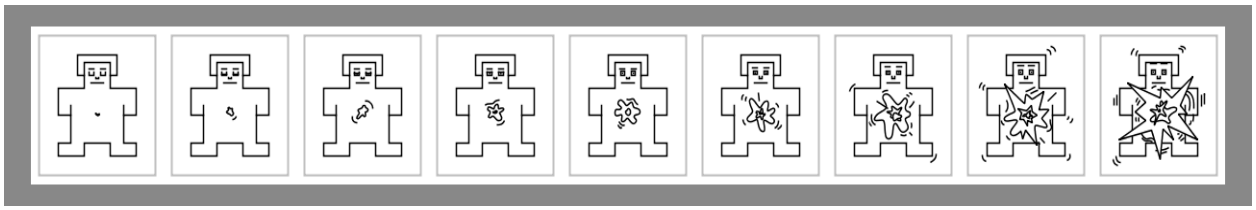
28. Some people sometimes feel as if they are looking at the world through a fog so that people and objects appear far away or unclear. Circle a number to show what percentage of the time this happens to you.

    0%----10----20----30----40----50----60----70----80----90----100%

Appendix R

Self-Assessment Manikin





Appendix S

Reaction to Research Participation Questionnaire

Question: ***From 1 to 5, if 1 is strongly disagree and 5 is strongly agree, and 2,3, and 4 are in-between, how much do you agree with the following statements about your participation in this research project…***	**Circle One:** **Strongly Disagree** ◄——————————► **Strongly Agree**
1 I like the idea that I contributed to science.	1----------2----------3----------4----------5
2 I was glad I was asked to participate.	1----------2----------3----------4----------5
3 I am proud that I participated.	1----------2----------3----------4----------5
4 Participation was a choice I freely made.	1----------2----------3----------4----------5
5 I gained insight about my experiences through research participation.	1----------2----------3----------4----------5
6 I gained something positive from participating.	1----------2----------3----------4----------5
7 I found participating beneficial to me.	1----------2----------3----------4----------5

8 I found participating in this study personally meaningful.	1----------2----------3----------4----------5
9 The research raised emotional issues for me that I had not expected.	1----------2----------3----------4----------5
10 I experienced intense emotions during the research session.	1----------2----------3----------4----------5
11 I was emotional during some of the research interviews.	1----------2----------3----------4----------5
12 The research made me think about things I didn't want to think about.	1----------2----------3----------4----------5

Question: ***From 1 to 5, if 1 is strongly disagree and 5 is strongly agree, and 2,3, and 4 are in-between, how much do you agree with the following statements…***	**Circle One:** **Strongly Disagree** ⟷ **Strongly Agree**
13 The interviews took too long.	1----------2----------3----------4----------5
14 Participating in this study was inconvenient for me.	1----------2----------3----------4----------5
15 I found participating boring.	1----------2----------3----------4----------5
16 I found the questions too personal.	1----------2----------3----------4----------5

17 I think this research is for a good cause.	1----------2----------3----------4----------5
18 I believe this study's results will be useful to others.	1----------2----------3----------4----------5
19 I was treated with respect and dignity.	1----------2----------3----------4----------5
20 I trust that my replies will be kept private.	1----------2----------3----------4----------5

21. ***Are there any other reasons why participating in this study was difficult for you?***

22. ***Are there any other reasons why you are glad that you participated in this study?***

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Letters of Permission

Simons, Jeffrey S <Jeffrey.Simons@usd.edu> **Mon, Feb 28, 2011 at 11:01 AM**

To: Rachel Thompson <rachelwthompson@gmail.com>

As long as it is only a measure included in the context of the dissertation with many other measures that is fine. If the scale is the main feature of the published document then and would become the source of the scale, I'd be concerned about it.

On 2/28/11 8:47 AM, "Rachel Thompson" <rachelwthompson@gmail.com> wrote:

Dear Dr. Simons,

Thank you so much for your response. To clarify, do I also have your permission to include the Distress Tolerance Scale in the version of my dissertation published by ProQuest? ProQuest may produce and sell copies of my dissertation on demand and may make my dissertation available for free internet download at my request. These rights will in no way restrict republication of the material in any other form by you or others authorized by you.

Thank you again,
Rachel Thompson
On Fri, Feb 25, 2011 at 3:16 PM, Simons, Jeffrey S <Jeffrey.Simons@usd.edu> wrote:
Yes, that would be fine and good luck with your research.

On 2/25/11 1:11 PM, "Rachel Thompson" <rachelwthompson@gmail.com <http://rachelwthompson@gmail.com/> > wrote:

Dear Dr. Simons,

My name is Rachel Thompson, and I am a fifth-year doctoral student in clinical psychology at The Catholic University of America. I'm writing to request your permission to use the Distress Tolerance Scale in my dissertation research and to include a copy of the measure in the full dissertation that I deposit to the university. My dissertation is investigating whether several constructs, including distress tolerance, predict psychological response to a stressful procedure involving activation of trauma memories.

Thank you so much for your time,
Rachel Thompson
--
Jeffrey S. Simons, Ph.D.
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CSEAMedia <media@cseamedia.org> **Tue, Mar 1, 2011 at 12:12 PM**
To: rachelwthompson@gmail.com

Dear Colleague:

Thank you for your interest in the SAM. Please find attached:

- Three SAM scales in .jpg format
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- A manuscript discussing the SAM measurement

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Margaret M. Bradley, Ph.D.
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Newman, Elana <elana-newman@utulsa.edu> **Sun, Feb 27, 2011 at 2:04 PM**
To: Rachel Thompson <rachelwthompson@gmail.com>, "Elana-Newman@utulsa.edu" <Elana-Newman@utulsa.edu>

Please do. Good luck with your dissertation – it sounds fascinating- can't wait to see the published results.

Elana Newman, Ph.D.

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Please note that I am on sabbatical 2010-2011 academic year.

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Sent: Sunday, February 27, 2011 12:01 PM
To: Elana-Newman@utulsa.edu
Subject: RRPQ permission