

THE ROLE OF COGNITIVE PROCESSING THERAPY IN TREATING POST TRAUMATIC
COGNITIONS AND SYMPTOMS ASSOCIATED WITH
MILITARY SEXUAL TRAUMA

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DEDICATION

I would like to thank Dr. Alina Suris and the members of my Graduate Committee for guiding me through the thesis process and sharing so much of their time and wisdom with me. I would also like to thank my mother, father, stepfather, and husband for being an unfailing source of support and encouragement. This project is dedicated to all the veterans and their families affected by MST and PTSD.

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COGNITIONS AND SYMPTOMS ASSOCIATED WITH
MILITARY SEXUAL TRAUMA

by

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Abstract

BACKGROUND: Military Sexual Trauma (MST) is psychological trauma that results from sexual assault while in the military service. One common anxiety disorder following MST is Posttraumatic Stress Disorder (PTSD). Negative cognitions about the event, the self, and the world are hypothesized to be associated with the onset and persistence of PTSD.

SUBJECTS: The participant data for this study was taken from a larger study that examined the effectiveness of Cognitive Processing Therapy (CPT) for treating Military Sexual Trauma-related (MST) Post Traumatic Stress Disorder (PTSD). The sample consisted of 76 participants, 63 female veterans and 13 male veterans.

METHOD: Participants were randomized into two groups who received either CPT or PCT. The participants were assessed at baseline using the CAPS, PCL, BDI-II and PTCI. They participated in 12 therapy sessions and were assessed using the same measures at post-treatment, 2, 4, and 6-month follow-ups.

RESULTS: The current study provides preliminary evidence that the number of negative cognitions is decreased over time in both CPT and PCT interventions for veterans with PTSD related to MST. Also, that the decrease in number of negative cognitions is positively related with decreased PTSD and depression symptoms.

DISCUSSION: These findings are important because they support the idea that negative cognitions contribute to PTSD and depression symptoms, while also providing evidence that CPT and PCT are effective in reducing negative cognitions.

Keywords: Military Sexual Trauma, negative post trauma cognitions, Post Traumatic Stress Disorder, depression

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LIST OF ABBREVIATIONS

MST – Military Sexual Trauma

PTSD – Post Traumatic Stress Disorder

CAPS – Clinician Administered PTSD Scale

PCL – Post Traumatic Stress Disorder Check List

BDI-II – Beck Depression Inventory – II

PTCI – Post Traumatic Cognitions Inventory

CPT – Cognitive Processing Therapy

PCT – Present Centered Therapy

PTSS – Post Traumatic Stress Symptoms

CSA – Civilian Sexual Assault

RTS – Rape Trauma Syndrome

VA – Veterans Administration

CHAPTER ONE

Introduction

POSTTRAUMATIC COGNITIONS

Military Sexual Trauma

Military Sexual Trauma (MST) is psychological trauma that results from sexual assault while in the military service. It can have numerous causes including sexual harassment, unwanted touching, physical assault, rape, and other acts of violence of a sexual nature (Regan, Wilhoite, Panucci, & Wright, 2007; Suris & Smith, 2011). Due to variations in the definition of what constitutes military sexual trauma among researchers, definitive conclusions regarding prevalence are not available. Although men also experience MST, most research has focused on women. Factors that contribute to MST include younger age upon entering into service, longer term of service, and lower rank while in service (Sadler, Booth, Cook, & Doebbeling, 2003; Skinner et al., 2000; Suris & Smith, 2011). Researchers have also found that veterans with a history of MST have significantly poorer psychiatric outcomes, poorer health, poorer quality of life than individuals who have experienced civilian sexual assault or childhood sexual assault (Suris, Lind, Kashner, & Borman, 2007; Suris, Lind, Kashner, Borman, & Petty, 2004) and have higher rates of PTSD when compared to victims experiencing other traumas (Suris et al., 2004; Yaeger, Himmelfarb, Cammack, & Mintz, 2006) .

Posttraumatic Stress Disorder

MST is not a psychiatric diagnosis but it can contribute to numerous disorders such as depression and anxiety. One common anxiety disorder following MST is Posttraumatic Stress Disorder (PTSD). Post Traumatic Stress Disorder involves a specific response to a traumatic stressor, which then manifests as a pattern of symptoms divided into three clusters: persistent re-

experiencing of the trauma, avoidance of stimuli associated with the trauma and/or emotional numbing, and a persistent increase in arousal. The current diagnostic criteria (Diagnostic and Statistical Manual of the American Psychiatric Association, TR, 2000) help clinicians to identify traumatic stressors of sufficient severity to potentially produce PTSD and to differentiate these from stressors that produce only a partial syndrome (Weathers & Keane, 2007). Because only 6 of the 17 possible symptoms are required in order to reach a diagnosis of PTSD, the disorder can manifest in a variety of ways; no two individuals with the diagnosis are identical in their suffering (Breslau, Reboussin, Anthony, & Storr, 2005; Rosen & Lilienfeld, 2008).

Previous literature supports the theory that the onset and persistence of PTSD is associated with negative cognitions about the event, the self, and the world (Chivers-Wilson, 2006; Ehlers & Clark, 2000; Epstein, 1991; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999; McCann & Pearlman, 1990; Resick & Schnicke, 1993). Individuals may use a number of strategies, some adaptive and some maladaptive, to deal with these troubling thoughts. Such strategies may include assimilation, overaccommodation, mental defeat, shame, self-blame, rumination, and mental pollution (Dunmore, Clark, & Ehlers, 1999, 2001; Foa et al., 1999; Foa & Rothbaum, 1998; Olatunji, Elwood, Williams, & Lohr, 2008; Resick & Schnicke, 1993; Sobel, Resick, & Rabalais, 2009; Vidal & Petrak, 2007).

With the rise in awareness of the cases of PTSD associated with MST and a better understanding of the resulting symptoms, clinicians are beginning to appreciate the variety of disorder patterns to which such an incident may contribute. It is important for researchers and clinicians to gain a better understanding of the most beneficial and efficient therapies available to treat this population. The development and maintenance of negative cognitions appear to be major contributors to PTSD related to MST. Treatments focusing on improving maladaptive

posttraumatic cognitions would be expected to reduce associated PTSD symptoms (Foa et al., 1999). Cognitive Processing Therapy (CPT) focuses on helping individuals to acquire balanced views of the traumatic experience. This therapy has been shown to decrease negative cognitions in rape survivors (Resick & Schnicke, 1993; Sobel et al., 2009). Therefore, applying such a treatment methodology to MST-related cognitions might be a reasonable approach.

In the civilian population, CPT has been shown to be effective in altering negative trauma-related cognitions and achieving symptom relief (Sobel et al., 2009). It cannot be assumed that the efficacy of CPT will translate to individuals with MST because of the differences between sexual assault in the civilian population versus sexual assault in the military population. The study on which this thesis was based examined the effects of CPT within a population of veterans with MST. This thesis will examine the effects of CPT on negative trauma-related cognitions and how such a change correlates with PTSD symptoms.

CHAPTER TWO

Review of the Literature

MILITARY SEXUAL TRAUMA

History of the Problem

Since the scandal surrounding the inappropriate sexual advances by male officers toward enlisted women at the Navy's Tailhook Convention in 1991, the problem of Military Sexual Trauma (MST) has gained more attention (Suris & Smith, 2011). In a hearing following the event, Congress passed Public Law 102.585, which defined MST as "...psychological trauma, which in the judgment of a mental health professional... resulted from a physical assault of a sexual nature [or] battery of a sexual nature... which occurred while the veteran was serving on active duty..." The specifics of the operational definition of MST tend to vary among studies, which leads to difficulty in comparing the results of the studies. The term sexual trauma encompasses the acts of sexual harassment (including offensive remarks, jokes, cartoons and other posted or spoken language), sexual assault (including unwanted touches, patting, and inappropriate use of objects), rape or other acts of violence (such as physical abuse or restraint) (Regan et al., 2007). Title 36 U.S. Code 1720D has defined MST to be "sexual harassment that is threatening in character or physical assault of a sexual nature that occurred while the victim was in the military, regardless of geographic location of the trauma, gender of victim, or the relationship to the perpetrator." According to Regan et al. (2007), rates of MST tend to increase during times of war. They speculate that this may be due to an association with the increase of stress in soldiers because of exposure to dangerous environments, separation from family, and uncertainty about the future. However, incidence of MST have been reported during field training and peacetime as well.

Some may incorrectly assume that the influx of female soldiers into military might be partially responsible for the increase in reported incidence of MST. However, male soldiers experience MST as well (Kimerling et al., 2010; Street, Stafford, Mahan, & Hendricks, 2008; Suris & Smith, 2011). Moreover, women have been part of military operations since the American Revolution (Katz, Bloor, Cojucar, & Draper, 2007). In fact, the Army Nurse Corp became a permanent appointment to the Army in 1901 due to the services women had provided to soldiers in previous wars (Butterfield, McIntyre, Stechuchak, Nanda, & Bastian, 1998). During the Gulf War, women became more involved in military operations, enlisting in almost every aspect of military operations except for direct combat (Kang, Dalager, Mahan, & Ishii, 2005; Katz et al., 2007). According to Butterfield et al. (1998), in 1998, 1.2 million women had served in the armed forces. They constituted 4.5% of veterans and 10% of active duty soldiers at that time. According to the Department of Defense, in September of 2011 166,905 women were active duty military (Department of Defense Female Active Duty Military Personnel by Rank/Grade). Since women have long been a part of the military it is not likely a simple increase in the number of female soldiers has multiplied the reported cases of MST. The increase in reported cases of MST is too complex to be accounted for by a single factor.

Risk Factors

Past research on MST has generally focused on female veterans, although studies have shown male veterans report MST in similar numbers (Suris & Smith, 2011). Factors that have been identified as putting female soldiers at risk for MST include entering the military at a younger age, typically 20 years of age to 22 years of age, and serving longer on active duty (Sadler et al., 2003; Suris & Lind, 2008). However, despite the longer tours, female soldiers who experienced MST were discharged from the military at a younger age, typically 26 to 29 years of

age, and many reported they voluntarily left earlier than originally intended (Sadler et al., 2003; Skinner et al., 2000). Women who experienced MST were also less likely to have completed college, less likely to be an officer, and more likely to serve in the Army versus the other branches of the military (Sadler et al., 2003; Skinner et al., 2000). In a study including both male and female service members, individuals who reported at least one experience of MST were more likely to have a history of civilian sexual assault (CSA) and had experienced a greater variety of trauma exposures in general (Zinzow, Grubaugh, Frueh, & Magruder, 2008). Those who reported an experience with sexual harassment or sexual assault during their service in the military viewed their military career far less favorably than those who did not (Skinner et al., 2000). Sadler et al. (2003) found that reported MST cases most often occurred in barracks on base while soldiers were off duty (between six in the evening and midnight). According to Sadler et al. (2003), reports also indicated perpetrators were more likely to be male non-commissioned officers who were of similar rank as the individual who was assaulted. Furthermore, perpetrators were more likely to have previously harassed the individual they assaulted while under the influence of drugs or alcohol. Finally, perpetrators were most likely to be African American or Caucasian (Sadler et al., 2003).

Prevalence

The prevalence rates of MST that have been reported vary from 1% (Fontana, Schwartz, & Rosenheck, 1997) to 43% (Fontana & Rosenheck, 1998). These variations can be attributed to the differences between studies, mainly the definitions used in the study, the aim of the investigators, the measures used, and the population sampled (Suris & Lind, 2008; Suris & Smith, 2011; Turchik & Wilson, 2010). The operational definition of MST specifies exactly what is being measured and can vary between studies. It is important to note that if a study simply

uses the term “sexual assault,” it generally measures incidence of sexual assault across the lifetime of the individual and it may or may not include sexual harassment. The definition is also important when considering risk comparisons. Since other studies restrict the time period to time served in the military as opposed to the entire lifespan of an individual (Suris et al., 2007), a study that does not appropriately limit results to a similar timespan would produce suboptimal risk comparisons. In addition, the method of data collection may bias the comparisons. A few common methods of data collection in MST studies include mail in surveys, telephone surveys/interviews, and face-to-face interviews (Suris & Lind, 2008). In some instances, the participant may be alone, answering questions in the privacy and comfort of her own home and have the option of deciding whether or not to respond at all. In other instances, the participant may be answering questions orally to a researcher, in person or over the phone, and may be uncomfortable disclosing information. Other participants, however, might divulge more information to a researcher face to face rather than take the time to write it in a survey. Suris and Lind (2008) found that in person collection methods produced a greater variance in prevalence rates when compared to studies which used mailed or telephone surveys.

The sample of veterans included may also influence prevalence rates. According to Suris and Lind (2008), MST has not always been at the forefront of concern when dealing with wounded veterans, therefore older populations will most likely report fewer cases of MST compared to the current era of servicemen and women. Military service has been so different for each generation of soldiers, not only because of the different theaters of war, but also because of the amount of interaction soldiers have with each other. During the Vietnam War, women worked in more supportive roles, such as nurses and lab technicians, which limited male and female interactions to areas such as hospitals or rehabilitation units (Suris & Lind, 2008). More

recent conflicts find women side by side with men in many combat situations (Suris & Lind, 2008), often interacting for much longer periods of time and in much less structured settings. Living conditions vary significantly with the region of conflict; in some settings soldiers experience constant states of danger with little to no privacy while other fields of operation allow for housing males and females in separate areas with a lesser chance of danger. Considering a large portion of assaults are perpetrated by males against females, this could account for some of the variation across time (Suris & Lind, 2008). However, since accounts of sexual assault are both heterosexual and homosexual in nature, the variations across time cannot be completely accounted for by male interactions with females. In fact, studies have shown that men and women report MST in about the same numbers (Suris & Smith, 2011). From 2002 to 2009, 6.8 million veterans were screened nationally for MST. The results of screening up to 2009 found 21.9% (53,295) of women and 1.1% (46,800) of men reported MST (Suris & Smith, 2011). Few studies have focused on men as victims and most fail to inquire about the gender of the perpetrator; therefore information regarding females as perpetrators is lacking (Turchik & Wilson, 2010). This leaves female-on-female and female-on-male perpetration less clearly documented.

It is interesting to compare rates of civilian sexual assault (CSA) to rates of MST. Studies have generally shown that reported CSA rates are equal to or less than reported MST rates, even though CSA typically includes the entire lifespan versus a much briefer time period of military service during which MST might occur (Turchik & Wilson, 2010). For example, Koss, Gidycz, and Wisniewski (1987) assessed 6,159 women and men from 32 higher education institutions across the United States with the National Survey of Inter-Gender Relationships. The survey was designed to measure a wide range of sexual experiences, from verbal coercion to penetration by

force. The results of the study indicated 27.5% of college women experienced an act of forcible penetration after the age of 14, while 7.7% of men reported perpetrating an act of forcible penetration (Koss et al., 1987). The National Institute of Justice and the Center for Disease Control performed a national telephone survey in which participants were asked a series of questions to determine instances of physical assault and forcible rape (Tjaden & Thoennes, 1998). Using the definition of rape as forced vaginal, oral, or anal intercourse, 18% of women reported a completed or attempted rape at some point in their life. Of the respondents, 0.3% reported an attempted or completed rape in the past 12 months. Of the women who reported a completed or attempted rape, 22% were under the age of 12 when the incident occurred and 32% were between the ages of 12 and 17 (Tjaden & Thoennes, 1998). Briere and Elliott (2003) did a similar study using the Traumatic Events Survey (TES) and the Traumatic Symptom Inventory (TSI) to document the prevalence of childhood sexual abuse experienced by adult participants. Sexual abuse was defined by using two questions on the TES. The first was, "Before the age of 18, did anyone five or more years older than you ever kiss or touch you in a sexual way or have you touch them in a sexual way?" and the second was, "Before the age of 18, did anyone less than five years older than you use physical force to kiss or touch you in a sexual way, or force you to touch them in a sexual way?" (Briere & Elliott, 2003, p. 1208-1209). In this study, participants were asked to return surveys through the mail; 935 out of 1,442 individuals who received surveys returned them. The results indicated that 14.2% of men and 32.3% of women reported an experience with childhood sexual abuse (Briere & Elliott, 2003).

On the other hand estimates of prevalence of assault, measured only during the period of military service range from 13.1% to 41% (Himmelfarb, Yaeger, & Mintz, 2006; Katz et al., 2007; Rowe, Gradus, Pineles, Batten, & Davison, 2009; Sadler et al., 2003; Skinner et al., 2000;

Street et al., 2008; Suris & Lind, 2008). Therefore, the risk of MST is likely much higher than the risk of sexual assault in the civilian population. There is variability among the studies concerning the prevalence of MST so it may be helpful to review a few of them. Skinner et al. (2000) used a participant pool consisting of female veterans who received care at a VA ambulatory care facility between July 1, 1994 and June 30, 1995. All eligible participants were mailed a survey packet and asked to return the packet by mail, which consisted of inventories to measure health, military experiences, medical conditions, health care utilization, social support, and life experiences. Completed surveys were received from 3,632 female veterans, about 50% of the eligible participants. MST was assessed by the endorsement of the question, "Did you ever have an experience where someone used force or threat of force to have sexual relations with you against your will while you were in the military?" (Skinner et al., 2000, p. 295). In this study, 23% ($n=805$) of the women who responded reported sexual assault during military service (Skinner et al., 2000). Sadler et al. (2003) surveyed 558 female veterans in order to assess military environmental factors that could be associated with MST. Data was identified from 506 participants through computer assisted telephone structured interviews. The legal definition of rape, "Any act that occurred without an individual's consent, which involved the use or threat of force, and included attempted or completed sexual penetration of the victim's vagina, mouth, or rectum," was used to identify instances of MST (Sadler et al., 2003, p. 264). Of the respondents, 30% ($n=151$) reported at least one instance that met qualifications for the legal definition of rape during military service (Sadler et al., 2003). Of the women who reported MST, 37% stated they experienced two or more instances of MST and 14% stated they were gang raped (Sadler et al., 2003). Katz et al. (2007) studied 18 female veterans who served in Operation Iraqi Freedom/Operation Enduring Freedom who received mental health treatment at a Veteran

Affairs Medical Center and were referred to the Women's Mental Health Center for individual therapy. The research team sought to understand why women report more emotional symptoms than men following service in the military. Participants were asked to complete a self-report survey and clinicians also rated the severity of symptoms. MST was defined by a positive endorsement to at least one of the three following questions: "Did you experience unwanted verbal comments of a sexual nature (e.g. cat calls, pressure for dates, comments about your body, verbal threats)?" "Did you experience unwanted physical advances (e.g. unwanted touching, grabbing, cornering)?" and "Were you sexually assaulted, attempted, or completed rape (e.g. being hit, choked, burned, forced sex, threatened, attempted, or did you agree to sex out of fear of consequences)?" (Katz et al., 2007, p. 241). Ten of the 18 female veterans reported MST. Of the ten who reported MST, five reported harassment on a weekly basis and six reported unwanted sexual advances on a weekly or daily basis. Three of the women reported an instance of completed rape; one reported being raped on a monthly basis, one was raped by a soldier she considered a friend, and one reported date rape (Katz et al., 2007). Street et al. (2008) used a sample of both men and women to detect the prevalence of sexual harassment and assault in veteran reservists and the negative mental health and physical health consequences associated with MST. Participants included 2,338 female former reservists and 1,684 male former reservists. Data was collected through a computer assisted telephone interview protocol which included a Sexual Experiences Questionnaire (SEQ-DOD) and MST was identified if the respondent endorsed, "at least one experience of coerced genital fondling, attempted rape, or completed rape during his or her Reserve service" (Street et al., 2008, p. 412). The study data indicated that 13.1% of women and 1.6% of men reported MST (Street et al., 2008). Rowe et al. (2009) studied a sample of 232 treatment-seeking female veterans from June 2003 to August

2006. The participants completed a series of self-report measures as part of the intake process of treatment in the clinic. The surveys were also completed at a four-month follow up. MST was defined using the VA MST screen, which consists of two questions clinicians routinely ask patients as part of their medical records. The questions are as follows: “When you were in the military did you ever receive uninvited or unwanted sexual attention?” and “When you were in the military, did anyone ever use force or threat of force to have sex against your will?” (Rowe et al., 2009, p. 391). If a participant answered, “yes” to either or both of these questions, they were positive for MST. The data in this study indicated that two thirds ($n=163$) of the female veterans sampled experienced MST (Rowe et al., 2009).

There are a number of difficulties encountered in trying to obtain an accurate estimate of prevalence of MST. The stigma associated with reports of MST may prevent individuals from reporting incidences both during service and after separation from the military (Himmelfarb et al., 2006). Studies have shown that active duty soldiers report MST far less often than do those no longer in active service (Himmelfarb et al., 2006). There could be several explanations for differences in the rates of MST reported while on active duty versus post active service. For example, many soldiers feel as if the need to maintain unit cohesion is more important than immediate reporting of an instance of MST (Skinner et al., 2000). Unit cohesion is important in the military environment particularly in instances where soldiers depend on each other to stay alive. A soldier may fear violating the trust of other soldiers within the unit by reporting an incident and be left the feeling like an outsider (Regan et al., 2007; Skinner et al., 2000). Regan et al. (2007) suggest the reporting soldier may not want other soldiers to find out about the incident due to misplaced shame or embarrassment or the reporting soldier may fear that no one will believe his or her claim. Individuals higher in the chain of command may inadvertently

discourage reporting of the incident through their actions and attitudes towards sexual assault (Regan et al., 2007). For example, how the superior discusses issues of assault and abuse with his or her soldiers or how the superior has handled complaints of assault and abuse in the past influences whether or not soldiers feel comfortable reporting to him (or her). Sadler et al. (2003) found that many veterans who had experienced MST did not report the incidence while they were in active duty because they did not know the proper procedures of reporting MST to the chain of command or other avenues of reporting that would be kept private. Other assaulted veterans did not report during active duty because a ranking soldier perpetrated the MST and she feared exposing her superior. Another explanation posed for instances of non-reporting is the common misconception that rape is inevitable in a male dominated environment (Regan et al., 2007; Sadler et al., 2003). Suris and Smith (2011) state men notoriously fail to report MST, possibly because male-on-male instances of MST can challenge the victim's view of his own masculinity or sexual orientation.

Unwritten Rules of the Military Environment

The military environment can be stressful because soldiers are living and working together without reprieve from each other. The soldiers are also subjected to higher than normal levels of stress, particularly in areas where conflict is eminent. Yaeger et al. (2006) posit women are at a greater risk for MST because of the male dominated nature of the military environment. Women are outnumbered and feel pressure to prove that they are as capable of performing the duties of a soldier as the men with whom they work (Katz et al., 2007). These pressures can cause a female soldier to be silent about sexual assault in order to maintain the respect of her peers.

Both female and male victims often live and work with the perpetrator, relying on him or her to survive in dangerous situations (Regan et al., 2007; Skinner et al., 2000). For the soldier who has been violated by a coworker he or she must depend on for cooperation in matters of work and safety, MST can be emotionally shattering and possibly a career ending-event (Katz et al., 2007; Regan et al., 2007; Skinner et al., 2000). The victim may feel more concerned with staying alive in a warzone environment rather than reporting MST and losing the support of the other soldiers. The reporting soldier may also fear becoming an outsider, being blamed for the incident, or being accused of lying (Regan et al., 2007). An assaulted soldier may refrain from reporting MST in order to avoid receiving mental health treatment, which could affect his or her deployment capabilities (Suris et al., 2004). Mental health officials must clear each soldier prior to deployment. If a soldier raises a red flag possibly due to PTSD, suicidality, or other behavioral health conditions, he or she will not be cleared for deployment. Deployment capabilities affect the path of a soldier's career and promotion (Suris et al., 2004). Commanding officers set the tone for what behavior is allowed. A commanding officer who is neutral or indifferent to reports of MST can perpetuate an atmosphere conducive to the occurrence of MST, especially if that leader discourages reporting or does not have a grievance procedure in place (Sadler et al., 2003; Turchik & Wilson, 2010). Common misconceptions in the military can contribute to the negative stigma of reporting events such as: "Women lie about being raped," "men cannot be raped," or "rapes are always physically violent" (Turchik & Wilson, 2010).

Associated Physical and Psychological Conditions

MST is not a clinical diagnosis; however MST is associated with several physical and psychological difficulties. MST has repeatedly been shown to have damaging effects on the quality of life of individuals, particularly on mental health (Rowe et al., 2009; Suris & Lind,

2008). MST has been shown to be associated with various medical conditions, psychological disorders, and emotional difficulties. Women who have experienced MST also report significant impairments in family relations, daily activities, and satisfaction with health (Suris et al., 2007). Sexual assault is a physical act, which has physical consequences for the target of the assault. Immediate physical ailments such as pelvic pain, abrasions, and menstrual problems are not unusual for survivors of assault. However, these physical ailments can be long term as well such as chronic back pain, chronic fatigue, and headaches (Frayne et al., 1999; Suris & Lind, 2008). Other medical conditions shown to be associated with MST include obesity, peptic ulcer disease, asthma/bronchitis, heart problems, hypertension, gastrointestinal symptoms, arthritis, and endometriosis (Frayne et al., 1999). Women who experienced MST are more likely to utilize medical services (Katz et al., 2007). Physical ailments are prevalent in individuals who experienced MST, including an increase in symptoms of bodily pain (Sadler et al., 2003; Suris et al., 2007; Suris & Smith, 2011). Overall, studies have shown that sexual assault in the military has deleterious effects on physical health even when measured several years after the incident (Skinner et al., 2000; Street et al., 2008; Suris & Lind, 2008). Sexual assault can also have devastating effects on the psychological well being of the survivor. Studies have shown that individuals who report MST suffer from significantly higher rates of depression, Post Traumatic Stress Disorder, somatoform disorders, anxiety disorders, panic disorders, and alcohol and drug abuse or dependence (Butterfield et al., 1998; Suris & Lind, 2008; Suris et al., 2007).

According to Skinner et al. (2000), women who were sexually harassed or sexually assaulted while in the military often reported feeling lonely and left out while still in the military. These problems were compounded when returning home (Suris et al., 2007) because the soldiers reported feeling distanced from friends and family as well and unable to find comfort and

support (Skinner et al., 2000). Furthermore, several studies have indicated veterans who report MST also report greater difficulties adjusting to civilian life compared to female veterans who did not experience this type of abuse (Suris & Lind, 2008). Adjustment difficulties included problems finding a job, difficulties controlling temper, and constant feelings of being on edge (Katz et al., 2007; Skinner et al., 2000). Because MST is associated with an increased risk of comorbid disorders, assaulted veterans often view themselves as disabled (Rowe et al., 2009). Oftentimes, cases of MST reviewed by the VA benefits board often find the veterans to have more severe and functional impairments qualifying for a greater percentage of disability benefits (Rowe et al., 2009).

POST TRAUMATIC STRESS DISORDER

Links to Military Sexual Trauma

Several studies have demonstrated that individuals who experience civilian sexual trauma have a higher risk of developing PTSD than those who experience any other type of trauma (Breslau, Davis, Andreski, & Peterson, 1991; Himmelfarb et al., 2006; Katz et al., 2007; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Kimerling, Gima, Smith, Street, & Frayne, 2007; McMillen, North, & Smith, 2000; Suris et al., 2004). Suris et al. (2004) found that female veterans who reported experiences of MST were 9 times more likely to meet criteria for PTSD than those veterans without a history of sexual assault. Female veterans who experienced MST also had significantly poorer psychiatric outcomes compared to other non-sexual assault groups when measured with the Brief Symptoms Inventory (Suris et al., 2004). Yaeger et al. (2006) also found that female veterans with MST experiences had higher rates of PTSD than female veterans who had experienced other non-sexual types of trauma. In this study, the researchers recruited 230 female veterans from the Women's Comprehensive Healthcare Center at the VA in West

Los Angeles either in person or by mail; they were asked to fill out a series of self-report questionnaires. The investigators received complete responses from 196 of the prospective participants. The data showed that 60% of the participants who reported MST also had PTSD, while only 43% of women categorized as having experienced “Other Trauma” met criteria for PTSD. It is also notable that, when participants reported other types of trauma along with MST, they often identified the MST as more distressing compared to any other trauma (Yaeger et al., 2006). These findings collectively suggest women who experience MST have higher rates of PTSD than those exposed to other, non-sexual trauma. That is not to say that every individual who experiences sexual trauma will go on to develop PTSD, only that PTSD is a common sequelae of sexual trauma.

Trauma Criterion

PTSD is unique among mental health diagnoses in that it requires a causal event to induce a specific pattern of symptoms. PTSD cannot be defined simply by the presentation of symptoms. The Diagnostic and Statistical Manual, 4th Edition, Revised, (DSM-IV-TR, 2000) specifies a PTSD diagnosis only occurs following a trauma exposure (i.e. Criterion A). The traumatic exposure, or stressor, must meet specific standards in order to qualify for a PTSD diagnosis; otherwise, the symptoms may be attributed to another disorder (North, Suris, Davis, & Smith, 2009). The DSM-IV-TR (2000) Criterion A diagnostic standards are as follows:

“(1) the person experienced, witnessed, or was confronted with an event or events involved actual threat or threatened death or serious injury, or a threat to the physical integrity of self or others ;

(2) the person’s response involved intense fear, helplessness, or horror”

(American Psychiatric Association, 2000, p. 463).

The diagnostic criteria helps clinicians to distinguish qualifying stressors which could potentially produce the set of symptoms associated with PTSD from non-qualifying stressors that are associated with similar but typically less intense symptoms (Weathers & Keane, 2007). North et al. (2009) posit that lesser stressors would not produce symptoms with the same strength and frequency as more traumatic events. For example, natural disasters and violent acts of terrorism, rape and other assaults, military combat, and accidental injuries could all qualify as meeting the stressor criterion for subsequent development of PTSD, whereas, divorce, bereavement, or simply watching a disaster on television would not (North et al., 2009). Given that a stressor must be present in order to produce symptoms of PTSD, a direct relationship between the two can be seen (Kilpatrick, Resnick, & Acierno, 2009; Rosen & Lilienfeld, 2008). On the other hand, North et al. (2009) caution against assuming that a known stressor (in this case MST) is the cause of subsequent symptoms without exploring other possible causes.

Current Diagnostic Criteria

Once a Criterion A stressor has been established, according to the DSM-IV-TR, the following additional criteria must be met for a diagnosis of PTSD:

B. The traumatic event is persistently re-experienced in one (or more) of the following ways:

- (1) recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions;
- (2) recurrent distressing dreams of the event;
- (3) acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or while intoxicated);

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

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

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:

(1) efforts to avoid thoughts, feelings, or conversations associated with the
trauma;

(2) efforts to avoid activities, places, or people arouse recollections of the trauma;

(3) inability to recall important aspects of the trauma;

(4) markedly diminished interest or participation in significant activities;

(5) feeling of detachment or estrangement from others;

(6) restricted range of affect (e.g. unable to have loving feelings);

(7) sense of foreshortened future (e.g. does not expect to have a career, marriage,
children, or a normal life span).

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

(1) difficulty falling or staying asleep;

(2) irritability or outbursts of anger;

(3) difficulty concentrating;

(4) hypervigilance;

(5) exaggerated startle response.

E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than 1 month.

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning (American Psychiatric Association, 2000, p. 467).

Ideally researchers and clinicians alike strive to continuously improve the validity of disorders in order to increase diagnostic sensitivity and treatment efficiency. Therefore, the diagnostic criteria for PTSD have been revised for each new edition of the DSM. For example, the specifications for the trauma criteria – Criterion A – have evolved since the original DSM. The current version uses the broad terms, “experienced, witnessed, or confronted” to describe an individual’s involvement in trauma. The broadened definition allows for events that were seen on the news or described in stories told by a friend as the possible trauma criterion for subsequent symptoms (Rosen & Lilienfeld, 2008). This extension of a criterion to define a qualifying traumatic event has been called “criterion creep” or “conceptual bracket creep” (McNally, 2003; Rosen, 2004; Rosen & Lilienfeld, 2008). Breslau and Kessler (2001) compared previous definitions to the broadened trauma criterion and found that it increased the number of events that can qualify for PTSD by 59.2%, allowing more cases of PTSD to be diagnosed when appropriate. Seeing another soldier killed --or raped-- seems to reasonably increase the witness’ fear of a similar, more personal occurrence.

Researchers have also suggested changes to the avoidance and numbing symptom criteria for various reasons (e.g. Asmundson, 2004; Breslau et al., 2005; McMillen et al., 2000).

Asmundson (2004) explained that avoidance and numbing symptoms have different manifestations and are responsive to different treatment modalities, and thus should be thought of as two distinct entities (Asmundson, 2004). Breslau and colleagues stated numbing occurred

more often in individuals with more severe symptoms (Breslau et al., 2005), while other researchers (McMillen et al., 2000) argued that the avoidance and numbing criteria can be so difficult to meet that individuals may fail to qualify for a diagnosis regardless of the severity of their symptoms due to this aspect alone.

Individuals must exhibit or report six of the 17 possible symptoms in order to qualify for a diagnosis of PTSD, which allows the disorder to manifest in unique ways across individuals (Breslau et al., 2005; Rosen & Lilienfeld, 2008). This can present a challenge for clinicians trying to effectively diagnose and treat the disorder. Alternatively, North et al., 2009 found significant similarities in the manifestation of PTSD symptoms when comparing civilians who were involved in the Oklahoma City bombing to survivors of a bombing in Nairobi, Kenya. This suggests that the manifestations of PTSD are similar enough across cultures to identify afflicted individuals despite the broad spectrum of possible symptoms (at least with a common stressor). Posttraumatic stress disorder also shares symptoms with a number of mood and other anxiety disorders, so it is not surprising that PTSD is often found with a number of comorbid conditions (McMillen et al., 2000). PTSD often co-occurs with Major Depressive Disorder, substance abuse, alcohol abuse/dependence, and panic disorders as well as an increase in general medical conditions and a decrease in overall physical and mental health (Frayne et al., 2004; Suris et al., 2004). Thus, symptoms of PTSD are often complicated by other disorders, and effective treatment may depend upon including treatment of the entire set of disorders.

ROLE OF COGNITIONS

When considering response to trauma across individuals, what features of the individual or his or her coping style determine who will have long lasting problems and who will not? Literature supports the hypothesis that the differences in reaction to trauma are in part mediated

by features of the cognitive processing of the individual (e.g. Chivers-Wilson, 2006; Ehlers & Clark, 2000; Epstein, 1991; Foa et al., 1999; McCann & Pearlman, 1990; Resick & Schnicke, 1993). Epstein (1991) suggested four core beliefs that are threatened by the occurrence of a traumatic experience: 1) the belief that the world is benign, 2) the belief that the world is meaningful, 3) the belief that the self is worthy, and 4) the belief that people are trustworthy. Falsifying any of these core beliefs could lead to a pervasive belief that the world is no longer a place in which one is safe to interact with others. McCann and Pearlman (1990) suggest that traumatic events facilitate disruptions in beliefs concerning personal safety, trust, power, esteem, and intimacy. Differences clinicians observe between the characteristic responses of non-traumatized individuals and those of individuals who have experienced a trauma frequently support the conclusion that basic strong beliefs are substantially changed by traumatic experiences. Cognitive processing theories have in common the underlying theme that the adoption of negative or pessimistic cognitions in response to trauma tends to produce more persistent and treatment-resistant symptomatology.

The Rape Trauma Syndrome (RTS) refers to hypothesized phases assault survivors experience immediately following an incident (Chivers-Wilson, 2006). According to this, during the first (or Acute Phase), the individual experiences a wide range of emotional reactions to having experienced a trauma. The emotional reaction may be paired with expressive behaviors, such as shaking and crying; on the other end of the spectrum, the individual may feel emotionally numb and display a blunted or restricted affect. The second phase (or Outward Adjustment Phase) begins when the individual focuses on returning to normal daily activities (although a significant amount of internal turmoil likely continues). The final (or Long Term Reorganization Phase) encompasses the period in which the individual integrates his or her

beliefs about assault into his or her view of themselves and of the world (Chivers-Wilson, 2006). Although this hypothesis does not directly address cognitions, it does suggest a step-wise recovery process and hints at when appropriate therapeutic interventions might be the most beneficial. Once pre-existing beliefs about the safety of the world or the worthiness of the self have been compromised, making an intervention “stick” may be much harder and require longer-term intervention.

One set of researchers, Olatunji et al. (2008), studied the relationship between “mental pollution,” negative PTSD-related cognitions, and PTSD symptoms. They hypothesized that PTSD-related cognitions would serve as a mediator between mental pollution and the development of PTSD. Olatunji et al. (2008) define mental pollution as a belief that the victim of the assault is now internally soiled and filthy. PTSD symptoms were measured using the Purdue PTSD Scale-Revised (PPTS-R) which is a 17-item self report questionnaire that assesses PTSD criteria B, C, and D. Posttraumatic cognitions were measured using the Posttraumatic Cognitions Inventory (PTCI), which specifically focuses on negative cognitions about self, negative cognitions about the world, and self-blame. The construct of mental pollution was measured using the Mental Pollution Questionnaire (MPQ). The nature of sexual assault was assessed using the Sexual Experiences Survey-Modified, which breaks the events into the following categories: attempted sexual intercourse with threatened physical force, attempted sexual intercourse using force, threatened or used force to engage in oral sex, verbally stated did not want to have sex but it happened anyway, unsuccessfully attempted to physically prevent sex, incapacitated by drugs or alcohol and unable to prevent unwanted sex, sex happened because of threatened force, sex happened because force was used, and force threats or physical force to engage in other sexual acts. Participants included 48 female undergraduate students who were

assessed using the Purdue PTSD Scale-Revised, the PTCI, the MPQ, the Sexual Assault and Rape Appraisals questionnaire, and the Beck Anxiety Symptom Inventory. Participants were asked to complete the inventory over the phone (Olatunji et al., 2008). The study found that mental pollution was significantly correlated with Post Traumatic Stress Symptoms (PTSS) in victims of sexual assault (Olatunji et al., 2008). The relationship between mental pollution and PTSS also remained significant when researchers controlled for symptoms of anxiety and depression. Thus, the findings of Olatunji et al. (2008) support the concept that mental pollution and PTSS have a relationship commonly found in sexual assault victims. Olatunji et al. (2008) also found that mental pollution was significantly correlated with PTSD-related cognitions. When PTSD cognitions were controlled, the relationship between mental pollution and PTSS was not significant. This finding provides preliminary support for the hypothesis that negative cognitions mediate the relationship between mental pollution and PTSS. Another interesting finding in this study was the strong correlation between the PTCI-self-blame subscale and mental pollution. Olatunji et al. (2008) posit that feelings of self-blame that are developed from mental pollution maintain symptoms of avoidance in individuals with PTSD.

Vidal and Petrak (2007) studied a group of 25 female survivors of adult sexual assault to assess feelings of shame, which they define as a subgroup of negative feelings about the self. A questionnaire was given to each participant including general questions about demographics, the characteristics of sexual assault, questions assessing the impact of the assault on the women and any shame response, as well as standardized measures of psychological distress. In this study sexual assault was defined as being forced to engage in sexual activities, including vaginal intercourse, anal intercourse, oral sex, penetration with object or digit, and masturbation, without the woman's consent, at or after the age of 16. Shame is an internal affect and is often linked to

feelings of self-blame. Women in this study who endorsed high rates of shame indicated they had strongly negative views of themselves, their bodies, and concerns about how others viewed them after the sexual assault and these negative cognitions exacerbated PTSS in these survivors (Vidal & Petrak, 2007).

Cieslak, Benight, and Lehman (2008) hypothesize that the link between negative cognitions and recovery versus development of posttraumatic stress is somewhat more complex. They have suggested that coping self-efficacy mediates the effect between negative cognitions and posttraumatic distress. Cieslak et al. (2008) defines coping self-efficacy as a belief in one's ability to cope with posttraumatic stress demands. If an individual perceives his or her self to be incapable of managing trauma-related demands, these negative cognitions contribute to the development and persistence of PTSS. In studying victims of child sexual abuse as well as survivors of motor vehicle accidents, their data supported the idea that coping self-efficacy is the mediating factor between negative trauma-related cognitions and PTSD symptoms (Cieslak et al., 2008). In both types of trauma, negative cognitions about the self, about the world, and the total number of negative cognitions were correlated with the victim's belief in his or her ability to manage trauma-related recovery demands and was also related to PTSS (Cieslak et al., 2008).

Foa et al. (1999) developed the emotional processing theory. This theory allows researchers and clinicians to compare healthy adjustment to disruptions that lead to the development, maintenance and exacerbation of PTSD symptoms. According to Foa et al. (1999), Foa and Riggs (1993), and Foa and Rothbaum (1998), most often the disruptions come in the form of dysfunctional cognitions that cause the individual to view the world as a completely dangerous place while viewing themselves as completely incompetent. They believe these dysfunctional cognitions were formed by assimilation and accommodation, terms introduced by

Piaget (1987). According to Piaget assimilation is a process by which new information is integrated by fitting it into a preexisting schema, where accommodation is the process by which new information is received, but incongruent with an existing schema, so the schema itself is altered to allow for/make sense of the new information (Piaget, 1987). The danger in accommodation occurs when inaccurate information alters an existing schema and thus causes the schema to be inaccurate— what is called overaccommodation (Resick & Schnicke, 1993). An example of a cognitive distortion that is the result of overaccommodation would be if an individual held the belief that the world was generally good, experienced a traumatic event, and now believes the world is all bad. On the other hand, assimilation can be problematic when inaccurate information is fit into existing schema. For example, if an individual has the pre-existing schema “bad things happen to bad people” and is then sexually assaulted, she may apply the existing schema that “bad things happen to bad people” incorrectly, therefore believing she must be a bad person because something awful happened to her (Sobel et al., 2009). If she successfully accommodates she will alter this belief to “bad things happen to bad people and sometimes to good ones.” Individuals who do not develop PTSD are more likely to interpret the trauma as an unusual experience and do not make generalizations about the world and themselves because of it (Foa et al., 1999).

Ehlers and Clark (2000) and Dunmore et al. (2001) support a cognitive model in which negative beliefs held by the individual during and following the assault contribute to the development and persistence of PTSD symptoms. According to Ehlers and Clark (2000) and Dunmore et al. (2001), persistent PTSD symptoms are reinforced by a combination of a current sense of threat and maladaptive coping strategies. Individuals may perceive the probability of future trauma to be much more likely following a traumatic event, which creates a feeling of

impending danger. Negative appraisals of the event and trauma memories also contribute to this sense of threat. Such negative appraisals include, negative appraisals of emotions felt during the trauma, negative evaluations of actions during the trauma, negative judgments of initial PTSD symptoms, negative perceptions of other's responses, negative views of permanent change following the trauma, and negative trauma sensitive beliefs (Dunmore et al., 2001; Ehlers & Clark, 2000; Lapsa & Alden, 2003). Following a traumatic event it is common for individuals to experience a range of negative emotions and reactions, but individuals who begin to see these negative reactions in themselves and view them as abnormal may begin to develop a negative sense of self (Ehlers & Clark, 2000). Mental defeat causes the individuals to think of themselves as less than a person. This contributes to feelings of impending danger because coping skills are thought to not be adequate enough to react to a dangerous situation (Dunmore et al., 2001).

Trauma memories that are influenced by mental confusion and detachment also contribute to a sense of threat because the individual is unable to process the memory and integrate it into his or her sense of self (Dunmore et al., 2001; Ehlers & Clark, 2000). Maladaptive coping strategies are often associated with PTSD and include avoidance behavior, thought suppression, safety seeking behaviors, and ruminating (Dunmore et al., 1999, 2001; Ehlers & Clark, 2000; Ehlers, Mayou, & Bryant, 1998; Lapsa & Alden, 2003). Individuals may find themselves constantly reviewing the traumatic event and thinking of ways it could have been changed or prevented (Ehlers & Clark, 2000). Although it is unclear how exactly rumination exacerbates PTSD symptoms, Ehlers and Clark (2000) propose that rumination strengthens the negative evaluations of the trauma.

Dunmore et al. (2001) studied 57 victims of physical or sexual assault to investigate several cognitive variables they predicted would significantly correlate with PTSD symptoms.

Dunmore et al. (2001) hypothesized that the cognitive processing style of the individual during the assault, the individual's appraisal of assault sequelae, negative beliefs about the self and the world, and maladaptive control styles would be indicative of persistent PTSD symptoms. Participants were assessed using a semi-structured interview and a series of questionnaires. The PTSD Symptom Scale: Self-Report version (PSS-SR) and the BDI were mailed to the participants once a month for 9 months after the assault. Several cognitive variables were significantly related to PTSD severity at both 6 and 9 months following a sexual assault. The factors included mental defeat, mental confusion, and detachment. Mental defeat challenges an individual's view of herself as competent. Mental confusion causes difficulties when forming accurate memories of the trauma. Negative appraisals of initial symptoms following a trauma, negative perceptions of the responses of loved ones, and the perception of permanent damage were also significantly correlated at 6 and 9 month follow up. Finally maladaptive coping strategies such as avoidance of trauma thoughts or stimuli and rumination were significantly correlated at 6 and 9 month follow up (Dunmore et al., 2001). Based on their findings, Dunmore et al. (2001) as well as Ehlers and Clark (2000) suggest that treatment which focuses on these cognitive factors will be the most effective.

INTERVENTIONS

Cognitive Processing Therapy

Cognitive Processing Therapy (CPT) for the veteran population was developed by Dr. Patricia Resick, Dr. Candice Monson, and Dr. Kathleen Chard. It was originally designed for the treatment of rape victims with symptoms of PTSD and is based on an information processing theory (Resick & Schnicke, 1992). Foa et al. (1999) hypothesized that if PTSD is mediated by cognitive distortions, such as overaccommodation and assimilation, then successful treatment

would be one that mitigated these cognitions, such as Cognitive Processing Therapy. Foa and Rauch (2004) found reductions in PTSD-related cognitions to be associated with reductions in PTSD symptoms of re-experiencing, arousal, numbing and avoidance, thus a therapy that focused on specific PTSD cognitions, such as CPT, would serve that purpose. The strongest relationship between a reduction in the number of negative cognitions and reduction in PTSD symptoms was seen when perceptions of incompetence and perceptions of the world as a dangerous place were reduced (Foa & Rauch, 2004). Ehlers and Clark (2000) suggest the most effective treatment for PTSD should include: integrating the trauma memory into the individual's view of herself and how it has affected her life, changing the negative cognitions that cause the individual to believe danger is eminent, and stopping harmful behavior and maladaptive cognitive coping strategies that are only contributing to worsening symptoms.

Nishith, Nixon, and Resick (2005) specifically studied the effects of CPT on PTSD related cognitions of guilt in 98 civilian rape survivors. Participants were assessed using a structured clinical interview, CAPS, the PTSD Checklist, the BDI, and the Trauma-Related Guilt Inventory for pretreatment, post treatment, and a 9-month follow-up. Results indicated that CPT was effective at reducing feelings of trauma-related guilt (Nishith et al., 2005).

Sobel et al. (2009) studied the effects of CPT in 37 female rape survivors using analysis of participants' written impact statements to assess the number of negative cognitions at the beginning and end of treatment. Sobel et al. (2009) hypothesized that CPT would be associated with reductions in PTSD symptoms and problematic thoughts as well as increases in the number of realistic cognitions. Participants were assessed before treatment and between 1 and 2 weeks post treatment and then subsequent follow-up periods. Participants were instructed to write an impact statement about the meaning of the rape at the end of the first CPT session and again just

before the last session. Participants were also assessed with the CAPS and PTSD Symptom Scale. Sobel et al. (2009) found that a course of CPT was associated with altered thoughts and significant decreases in the number and percentage of over-accommodated and assimilated clauses in the impact statements from start to end of therapy. A relationship was found between changes in accommodation and over-accommodation and self-reported PTSD scores. Also, the percentage of accommodated clauses was significantly and negatively correlated with self-reported and clinician-rated PTSD symptoms. Specifically, trauma survivors who made stronger positive cognitive changes also achieved greater levels of symptom relief (Sobel et al., 2009).

CPT has been shown to significantly decrease over-accommodated and assimilated cognitions, which can exacerbate PTSD symptoms in both civilian and military populations (Sobel et al., 2009). CPT modified to treat individuals who experienced childhood sexual trauma has also been shown to be effective in that population (Chard, 2005; House, 2006). CPT has been proven effective with various military-related cases of PTSD and simultaneously treats common co-occurring symptoms of anxiety, depression, and trauma-related guilt (Chard, Schumm, Owens, & Cottingham, 2010; Monson et al., 2006; Nishith et al., 2005; Suris & Smith, 2011).

Present Centered Therapy

Drs. Edna Foa and Shawn Cahill developed Present Centered Therapy (PCT). PCT is used as a comparison condition that provides an active therapeutic treatment in research studies. PCT for PTSD is a manualized treatment centered around how PTSD symptoms are affecting the individual's daily life rather than looking back into the trauma (Schnurr et al., 2007). The main elements of PCT are education about PTSD, assisting with problem solving techniques, and journal writing (McDonagh et al., 2005). PCT is an appropriate comparison because it allows for

therapeutic treatment without directly intervening with cognitions, which are conceptualized as the target variable in CPT.

Summary

Posttraumatic stress disorder that occurs in the military can be the result of many events, most commonly combat trauma, but MST is becoming more common. Military Sexual Trauma is an issue of critical importance because of multiple negative consequences including physical health and mental health sequelae. Studies have found Post Traumatic Stress Disorder rates to be higher in MST survivors compared to victims of civilian sexual traumas (e.g. Suris et al., 2007; Suris et al., 2004; Yaeger et al., 2006). Most of the extant research focuses on women, but the number of men reporting MST is approximately the same as women (Suris & Smith, 2011).

Several researchers have proposed and studies have supported the theory that the differences in reaction to trauma are mediated by negative trauma-related cognitions held by the individual (e.g. Chivers-Wilson, 2006; Ehlers & Clark, 2000; Epstein, 1991; Foa et al., 1999; McCann & Pearlman, 1990; Resick & Schnicke, 1993). Although several mechanisms have been proposed, the underlying characteristic is that negative cognitions cause changes in beliefs which contribute to the production of PTSD symptoms .

Cognitive Processing Therapy focuses on challenging unbalanced cognitions and has been shown to decrease the number of negative cognitions in rape survivors thereby decreasing symptoms of PTSD (Resick & Schnicke, 1993; Sobel et al., 2009). Because of the differences between sexual assault in the civilian population versus MST, it is important to examine the effectiveness of a therapy that is effective in decreasing the number of negative cognitions in civilians to assure that it translates to the military population. An increased understanding of how negative cognitions related to MST are changed by CPT may help clinicians to better treat

veterans.

Objectives of the Proposed Study

The proposed study is a part of a larger study that was conducted at a large southwestern Veterans Administration Medical center (VAMC) to determine the effectiveness of Cognitive Processing Therapy (CPT) for treating veterans with Post Traumatic Stress Disorder (PTSD) resulting from sexual assault trauma that occurred while on active military duty. The purpose of the proposed study is to examine the impact of CPT on trauma-related cognitions in individuals with PTSD associated MST, particularly if the cognitive based therapy will reduce the number of negative trauma-related cognitions. Furthermore, this study will explore the relationship between a reduction in negative trauma-related cognitions and symptoms of PTSD and depression.

Hypotheses

1. Participants who are treated with CPT will show a greater reduction in negative post traumatic cognitions, as measured by the PTCI, from baseline, post treatment, 2, 4, and 6 month follow up, compared to individuals who are treated with PCT.
 - 1a. Participants who are treated with CPT will show a greater reduction in negative cognitions about the self, as measured by the PTCI subscale (PTCI-self), from baseline, post treatment, 2, 4, and 6 month follow up, compared to individuals who are treated with PCT.
 - 1b. Participants who are treated with CPT will show a greater reduction in negative cognitions about the world, as measured by the PTCI subscale (PTCI-world), from baseline, post treatment, 2, 4, and 6 month follow up, compared to individuals who are treated with PCT.

- 1c. Participants who are treated with CPT will show a greater reduction in cognitions related to self-blame, as measured by the PTCI subscale (PTCI-blame), from baseline, post treatment, 2, 4, and 6 month follow up, compared to individuals who are treated with PCT.
2. For participants treated with CPT, a reduction in negative cognitions, as measured by the PTCI, will be positively correlated with a decrease in PTSD symptoms over time, as measured by the PTCI and CAPS, and depression symptoms, as measured by the BDI-II, over time.

CHAPTER THREE

METHODOLOGY

Participants

The participant data for this study was taken from a larger study that examined the effectiveness of Cognitive Processing Therapy (CPT) for treating Military Sexual Trauma-related (MST) Post Traumatic Stress Disorder (PTSD). Participants were included in the study upon meeting the following criteria. The individual was a veteran with a current diagnosis of PTSD related to MST. The MST was no less than three months prior to entering the trial. MST was identified as the trauma that was causing the worst current distress compared to lifetime trauma. The veteran had at least one clear memory of the trauma (sufficient to write an impact statement for therapy) and provided consent to be randomized into treatment. The veteran could not have participated in other psychotherapy for PTSD during the 6-weeks of active treatment (brief check-ins with an existing therapist, and attendance in self-help groups were allowed). If on active psychoactive medications, they must have been on a stable medication treatment regimen for a minimum of 6 weeks prior to entering the study. Participants were excluded based on the criteria of prior participation in CPT or PCT. Also individuals were excluded based on current substance dependence or prior substance dependence that had not been in remission for at least three months. Any current psychotic symptoms, current mania or unstable Bipolar Disorder, prominent current suicidal or homicidal features, severe cognitive impairment or history of organic mental disorder also excluded individuals. Finally, current involvement in a violent relationship warranted exclusion.

Measures

Clinician Administered PTSD Scale (CAPS)

As a part of establishing that Criterion A of the disorder was met, the Life Events Checklist was used to identify traumatic experiences and was administered before the Clinician Administered PTSD Scale for DSM-IV (CAPS) in order to guide the focus of the assessment. The CAPS is a structured clinical interview, developed by Blake et al. (1995). It is considered one of the gold standards in PTSD assessment. The 20-item interview relates to the DSM-IV criteria for PTSD and measures the frequency and intensity of the three symptom clusters (reexperiencing, avoidance, and hyperarousal) on a behaviorally anchored five-point rating scale from zero (never) to four (daily or almost daily) and intensity from zero (none) to four (extreme). The most commonly used scoring rule is to count the symptom present when there is a frequency score of one or more and an intensity score of two or more (Blake et al., 2000). Diagnostic criteria for PTSD is met when Criterion A is present, (i.e. having experienced a traumatic event and responded to the event with intense fear, helplessness or horror), criterion B is met if at least one or more re-experiencing symptoms are present, Criterion C is met when three or more avoidance symptoms are present, and criterion D is met when two or more hyperarousal symptoms are met. In addition, the duration must be for at least a month resulting in impairment in social, occupational or other important areas of life. Test-retest reliability for the CAPS is reported to range from .90 to .98 with internal consistency for the 17 symptoms at .94. The total severity score is reported to be highly correlated with other measures of PTSD including the Mississippi (.91) and PK scale of the MMPI-2 (.77) (Blake et al., 1995). A minimum CAPS score of 45 or higher was required for inclusion in the larger study.

The PTSD Checklist

The PTSD Checklist (PCL) is a brief self-report inventory for assessing the 17 symptoms of PTSD which correspond to the DSM-IV-TR (Weathers, Litz, Herman, Huska, & Keane, 1993). Examinees are instructed to indicate how much they have been bothered by each symptom related to a specific traumatic event using a five point scale, which ranges from “not at all” to “extremely.” In a sample of Vietnam veterans, test-retest reliability was found to be 0.96. The alpha coefficients of the three symptoms clusters range from 0.89 to 0.92. The validity-kappa for PTSD SCID (DSM-III-R) diagnosis was 0.64 (Weathers et al., 1993).

The Posttraumatic Cognitions Inventory (PTCI)

Foa et al. (1999) developed the Posttraumatic Cognitions Inventory (PTCI) to measure trauma related thoughts and beliefs in individuals who have experienced a traumatic event. The items on the inventory were developed through clinical observations to measure Negative Cognitions About Self, Negative Cognitions About the World, and Self-Blame, as well as a total score. The PTCI consists of 33 self-report items which are rated on a Likert type scale ranging from one (totally disagree) to seven (totally agree) (Beck et al., 2004). The instructions ask the individual to rate how much he/she agrees or disagrees to statements like, “I am a weak person” (Foa et al., 1999). Higher scores on the inventory indicate the individual is experiencing more negative cognitions. The battery was originally validated using 601 adult volunteers. The participants included individuals who had experienced a traumatic event and had at least moderately severe PTSD, individuals who had experienced a traumatic event and did not have PTSD or low PTSD symptoms severity, and non-traumatized individuals who did not have PTSD (Foa et al., 1999). Of the individuals who experienced trauma, the type of trauma experienced included motor vehicle accidents, natural disasters, nonsexual assault, sexual

assault, combat or war zone, child sexual abuse, imprisonment, torture, and illness. Foa et al. (1999) found that the median total score for non-traumatized individuals was 45.5 (SD = 34.8), the median total score for traumatized individuals without PTSD was 49.0 (SD = 23.6), and the median total score for traumatized individuals with PTSD was 133.0 (SD = 44.2). For the subscale negative cognitions about the self the median score for non-traumatized individuals was 1.08 (SD = 0.76), the median score for traumatized individuals without PTSD was 1.05 (SD = 0.63), and the median score for traumatized individuals with PTSD was 3.60 (SD = 1.48). For the subscale negative cognitions about the world the median score for non-traumatized individuals was 2.07 (SD = 1.43), the median score for traumatized individuals without PTSD was 2.43 (SD=1.42), and the median score for traumatized individuals with PTSD was 5.00 (SD = 1.25). For the self-blame subscale the median score for non-traumatized individuals was 1.00 (SD = 1.45), the median score for traumatized individuals without PTSD was 1.00 (SD = 1.02), and the median score for traumatized individuals with PTSD was 3.20 (SD = 1.74). Internal consistencies and test-retest reliabilities of the three subscales were very good. The Cronbach's alpha for Negative Cognitions about the self was .97, Negative Cognitions about the World was .88, and Self-Blame was .86. All three subscales were significantly correlated with measures of PTSD severity (Posttraumatic Stress Diagnostic Scale), depression (Beck Depression Inventory), and general anxiety (State-Trait Anxiety Form Y) (Foa et al., 1999). Beck et al. (2004) further examined the psychometric properties of the PTCI with motor vehicle accident survivors. The sample consisted of 112 individuals who had experienced a motor vehicle accident involving actual or threatened death or serious injury that satisfied Criterion A of the diagnostic criteria for PTSD. The results supported the factor structure, internal consistency, concurrent validity, discriminant validity, and discriminative validity of the PTCI (Beck et al., 2004). For the

subscale negative cognitions about the self, participants who did not have PTSD had a mean score of 2.27 (SD = 1.20), participants who had subsyndromal PTSD had a mean score of 2.46 (SD = 1.06), and participants who had fully-syndrome PTSD had a mean score of 3.46 (SD = 1.28).). For the subscale negative cognitions about the world, participants who did not have PTSD had a mean score of 3.69 (SD = 1.45), participants who had subsyndromal PTSD had a mean score of 4.30 (SD = 1.28), and participants who had fully-syndrome PTSD had a mean score of 4.44 (SD = 1.20).). For the subscale self-blame, participants who did not have PTSD had a mean score of 1.99 (SD = 1.55), participants who had subsyndromal PTSD had a mean score of 2.01 (SD = 1.21), and participants who had fully-syndrome PTSD had a mean score of 1.76 (SD = 1.12) (Beck et al., 2004). Beck et al. (2004) acknowledged that the self-blame subscale did not perform as well as it had when validated by Foa and colleagues. Beck et al. (2004) suspected that the population they studied may actually be at fault compared to Foa and colleagues' studies that included victims of sexual assault.

Beck Depression Inventory (BDI-II)

The Beck Depression Inventory II (BDI-II) was used to evaluate depressive symptoms. This instrument was developed by Beck, Steer, & Brown, (1996). The inventory consists of 21 items that assess the intensity of depression. Each item on the scale lists four statements arranged in increasing severity about a particular symptom of depression, which corresponds with the DSM-IV criteria for depression. Scores are obtained by summing the ratings from the 21 items. Scores can range from 0-63. High levels of convergent and divergent validity as well as reliability have been established in prior research (Beck, Steer, & Garbin, 1988; Beck et al., 2004). A test-retest reliability of .90 and an average reliability coefficient of .86 have been established (Beck et al., 1996).

Procedures

The study was approved by the VA Institutional Review Board (IRB) and performed at a large southwestern Veterans Administration Medical Center. The participants included 76 veterans, which consisted of 63 of whom were females and 13 of whom were males. The participants were recruited through IRB approved letters describing the study sent to all women enrolled in VA services at the facility. The research team recruited other male and female participants by networking with mental health professionals, visiting female therapy groups, and IRB approved advertising methods such as flyers. Once potential participants were identified the individuals were screened through an initial phone call to determine if the inclusion criterion for participation in the study were met and were informed of all study related procedures. Eligible participants were deidentified and randomized by a third party consultant in order to place them in either the CPT or PCT treatment conditions. Participants were assessed at a baseline using a series of clinician administered and self-administered questionnaires. In this study, MST was defined as an attempted or completed sexual assault that occurred while on active duty. The questionnaires relevant to the current study include the CAPS, PCL, PTCI, and BDI-II. Following the baseline assessment, participants participated in twelve therapy sessions, which occurred weekly, or biweekly depending on the availability of the participant. After completion of therapy participants were assessed immediately, generally within 7 days of the final therapy session, using the same questionnaires. Follow up sessions were conducted at 2, 4, and 6 months after the final therapy session.

CHAPTER FOUR

Results

Preliminary Results

Demographics.

Characteristics of total population. Table 1 shows the frequencies and percentages for demographic information. The sample consisted of 76 participants, 63 female veterans and 13 male veterans. Approximately 41% of the participants were African American, 40% White, and 4% Hispanic. Approximately 72% of the participants had 14 years of education or more. Approximately 45% of the participants were divorced, 19% were married, and 16% were separated. Approximately 45% of the participants served in the Army, 24% of the participants served in the Navy, and 23% of the participants served in the Air Force.

The CPT group and the PCT group were not significantly different for age, $t(74) = -.38, p = .43$, or for education, $t(74) = -.91, p = .17$. The assumptions for the chi squared test were not met, therefore Fisher's exact test was used to determine the differences between groups for marital status and branch of service and neither marital status ($p=0.89$) nor branch of service ($P=.95$) were significantly different from each other.

Primary Results

Hypothesis one examines the differences in negative cognitions between individuals who received Cognitive Processing Therapy and individuals who received Present Centered Therapy using repeated-measures Analysis of Variance (ANOVA). Levene's test for equal variances was reviewed to see if the number of participants in each group is equal and to check for missing data. Distribution for each combination was also reviewed for normality. A two way ANOVA was used with one between factor (therapy group) and one within factor (time). The ANOVA

allowed for the same scores to be compared across time from baseline to post-treatment, 2, 4, and 6 month follow ups while examining two different therapies. The Greenhouse-Geisser F test was used as a conservative measure of significance. If the interaction between time and group was significant, a follow up pairwise comparison across time was performed. Hypothesis two was examined using a series of Pearson correlations. Homoscedasticity was examined to determine the variability of the data and the appropriateness of a Pearson correlation. The means and standard deviations of total PTCI scores and the scores for each subscale are presented in Table 2.

Hypothesis 1: Negative cognitions. A two-way ANOVA was conducted with scores on the PTCI as the dependent variable. Assumptions for the two-way ANOVA were reviewed and met. The results indicate there was not a significant interaction between time and treatment group, $F(3.26, 240.93) = .53, p = .68, \eta^2 = .01$. There was a significant main effect for time, $F(3.26, 240.93) = 7.75, p < .001, \eta^2 = .10$, with baseline reports of negative cognitions being significantly higher than post treatment ($p = .001$), 2 month follow-up ($p < .001$), 4 month follow-up ($p < .001$), and 6 month follow-up ($p < .001$). There was not a significant main effect for treatment group, $F(1.27, 74) = 1.27, p = .26, \eta^2 = .02$. See Table 3.

Hypothesis 1a: Negative cognitions about the self. A two-way ANOVA was conducted with the score on the PTCI subscale Cognitions About the Self as the dependent variable. Assumptions for the two way ANOVA were reviewed and met. The results indicate there was not a significant interaction between time and treatment group, $F(3.25, 240.61) = .47, p = .72, \eta^2 = .01$. There was a significant main effect for time, $F(3.25, 240.61) = 7.35, p < .001, \eta^2 = .10$, with baseline reports of negative cognitions about the self being significantly higher than post treatment ($p = .001$), 2 month follow-up ($p < .001$), 4 month follow-up ($p < .001$), and 6 month

follow-up ($p < .001$). There was not a significant main effect for treatment group, $F(1,74) = 1.74$, $p = .19$, $\eta^2 = .02$. See Table 4.

Hypothesis 1b: Negative cognitions about the world. A two-way ANOVA was conducted with the score on the PTCI subscale Negative Cognitions About the World as the dependent variable. Assumptions for the two way ANOVA were reviewed and met. The results indicate there was not a significant interaction between time and treatment group, $F(3.33, 246.23) = .79$, $p = .52$, $\eta^2 = .01$. There was a significant main effect for time, $F(3.33, 246.23) = 3.99$, $p = .006$, $\eta^2 = .05$, with baseline reports of negative cognitions about the self being significantly higher than post treatment ($p = .007$), 2 month follow-up ($p = .007$), 4 month follow-up ($p = .004$), and 6 month follow-up ($p = .003$). There was not a significant main effect for treatment group, $F(1,74) = .22$, $p = .64$, $\eta^2 < .01$. See Table 5.

Hypothesis 1c: Negative cognitions about self-blame. A two-way ANOVA was conducted with the score on the PTCI subscale Negative Cognitions about Self-Blame as the dependent variable. Assumptions for the two-way ANOVA were reviewed and met. The results indicate there was not a significant interaction between time and treatment group, $F(3.61, 267.42) = 1.55$, $p = .20$, $\eta^2 = .08$. There was a significant main effect for time, $F(3.61, 267.42) = 5.96$, $p < .001$, $\eta^2 = .02$, with baseline reports of negative cognitions about the self being significantly higher than post treatment ($p = .004$), 2 month follow-up ($p = .001$), 4 month follow-up ($p < .001$), and 6 month follow-up ($p = .001$). There was not a significant main effect for treatment group, $F(1,74) = .37$, $p = .54$, $\eta^2 < .01$. See Table 6.

Hypothesis 2: Correlation between score on the PTCI and scores on the CAPS, PCL, and BDI-II. All correlations are presented in Table 7. There was a positive correlation between the change in scores on the PTCI and the change in scores on the PCL at each time

point in the group of individuals who received CPT: posttreatment $r = .49$, $n = 38$, $p = .002$; 2 month follow up $r = .69$, $n = 38$, $p < .001$; 4 month follow up $r = .75$, $n = 38$, $p < .001$; and 6 month follow up $r = .72$, $n = 38$, $p < .001$. There was a positive correlation between the change in scores on the PTCI and the change in scores on the CAPS at each time point in the group of individuals who received CPT: post treatment $r = .51$, $n = 38$, $p = .001$; 2 month follow up $r = .57$, $n = 38$, $p < .001$; 4 month follow up $r = .69$, $n = 38$, $p < .001$; and 6 month follow up $r = .64$, $n = 38$, $p < .001$. There was a positive correlation between the change in scores on the PTCI and the change in scores on the BDI-II at each time point in the group of individuals who received CPT: post treatment $r = .38$, $n = 38$, $p = .020$; 2 month follow up $r = .75$, $n = 38$, $p < .001$; 4 month follow up $r = .75$, $n = 38$, $p < .001$; and 6 month follow up $r = .78$, $n = 38$, $p < .001$.

Multiple regression analysis was used to test if a change in CAPS scores, PCL scores, and BDI-II significantly predicted a change in PTCI scores. A stepwise multiple regression model predicting the change in PTCI scores from baseline to post-treatment was found to be significant ($R = .51$, $n = 38$, and $p = .001$). See Table 8. The change in CAPS scores from baseline to post-treatment significantly predicted the change in PTCI scores from baseline to post-treatment ($B = 1.08$, 95% C.I.: .46 to 1.70, $p = .001$) and accounted for 26% of the variability of PTCI scores. A stepwise multiple regression model predicting the change in PTCI scores from baseline to 2 month follow-up was found to be significant ($R = .82$, $n = 38$, and $p < .001$). See Table 9. The change in BDI-II scores from baseline to 2 month follow-up ($B = 2.17$, 95% C.I.: 1.18 to 3.16, $p < .001$) and the change in PCL scores from baseline to 2 month follow-up ($B = 1.11$, 95% C.I.: .405 to 1.81, $p = .003$) significantly predicted the change in PTCI scores from baseline to two month follow-up and together accounted for 67% of the variability of PTCI scores. A stepwise multiple regression model predicting the change in PTCI scores from baseline

to 4 month follow-up was found to be significant ($R = .86$, $n = 38$, and $p < .001$). See Table 10. The change in BDI-II scores baseline to 4 month follow-up ($B = 1.88$, 95% C.I.: .72 to 3.04, $p = .002$), the change in CAPS scores from baseline to 4 month follow-up ($B = .69$, 95% C.I.: .25 to 1.13, $p = .003$) and the change in PCL scores from baseline to 4 month follow-up ($B = .94$, 95% C.I.: .138 to 1.75, $p = .003$) significantly predicted the change in PTCI scores from baseline to 4 month follow-up and accounted for 75% of the variability of PTCI scores. A stepwise multiple regression model predicting the change in PTCI scores from baseline to 6 month follow-up was found to be significant ($R = .84$, $n = 38$, and $p < .001$). See Table 11. The change in BDI-II scores baseline to 6 month follow-up ($B = 2.36$, 95% C.I.: 1.33 to 3.40, $p < .001$) and the change in PCL scores from baseline to 6 month follow-up ($B = 1.14$, 95% C.I.: .46 to 1.82, $p = .002$) significantly predicted the change in PTCI scores from baseline to 6 month follow-up and accounted for 70% of the variability of PTCI scores.

CHAPTER FIVE

Discussion

Military Sexual Trauma (MST) can be a devastating physical and psychological trauma that can induce a host of other physical and psychological problems. Post Traumatic Stress Disorder (PTSD) and depression are common sequelae for MST survivors. Symptoms of PTSD and depression can make transition into civilian life challenging and contribute to difficulties in daily functioning across multiple domains, such as participating in social functions or maintaining employment, as well as difficulties in personal relationships (Rowe et al., 2009; Suris & Lind, 2008).

Experts agree that the cognitive processes of an individual are extremely important to recovery after a trauma. Cognitive processes can either hinder or contribute to healthy recovering following a traumatic event such as MST (Ehlers & Clark, 2000; Foa et al., 1999; McCann & Pearlman, 1990; Resick & Schnicke, 1993). According to Foa et al. (1999), Foa and Riggs (1993), and Foa and Rothbaum (1998) there are three cognitive disruptions that are most often contributing factors to the development of harmful sequelae. The first is the individual's view of his or her self, for example, as a weak, inadequate and incompetent. The second is the individual's view of the world as a dangerous and unpredictable place. Finally, is the view that he or she was at fault for the incident or inherently attracts dangerous situations. In order to measure these particular negative cognitions, Foa et al. (1999) developed and validated the Post Traumatic Cognitions Inventory (PTCI) in order to detect the presence of negative cognitions in traumatized individuals and differentiate those with PTSD symptoms from those without.

The purpose of this study was to compare the effects of a cognitive based therapy, Cognitive Processing Therapy (CPT), versus a non-cognitive based therapy, Present Centered

Therapy (PCT), on individuals with PTSD from MST. The PTCI was used to identify the number of negative cognitions held each individual. Individuals' scores on each subcategory of the PTCI (Negative Cognitions About the Self, Negative Cognitions About the World, and Self-Blame) were also compared to determine differences between groups. Finally, the relationship between a reduction in negative cognitions and a reduction in PTSD symptoms as well as a reduction in negative cognitions and a reduction in depression symptoms were examined.

The first hypothesis examined the effects of CPT versus PCT on negative cognitions. The expected result was that CPT would significantly decrease the number of negative cognitions compared to PCT because CPT is a cognitive based therapy whereas PCT has a problem solving focus. The CPT group did show a slightly greater decrease in the number of negative cognitions compared to the PCT; however the difference between groups was not statistically significant. This could possibly be because of the sample size is too small to detect an effect or the power of the measurements used is too small to detect an effect. The individuals may also be experiencing symptom reduction due to treatment in general. The results indicated that there was a significant main effect for time, with both treatment groups experiencing a significant decrease in the number of negative cognitions from baseline to post treatment, 2, 4, and 6 month follow ups. Therefore, change was in the expected direction for both treatment groups over time (see Figure 1). Both groups appear to be getting better and these findings are consistent with the results of the main study. Several researchers have supported the effectiveness of CPT in the civilian population (Sobel et al., 1999); this research suggests that CPT is also effective in the military population in reducing negative cognitions. It is possible that PCT is effective at reducing negative cognitions due to the problem solving elements in therapy. Negative trauma-related cognitions include thoughts of being unable to control the situation, being unable to cope with

difficulties in threatening situations, or that the event happened because of the way the individual acted. It is possible that negative cognitions such as these diminished when individuals felt better equipped and more confident in their ability to handle future problems and situations with trauma-related cues. For example, an individual may be afraid to walk from the car to the elevator in a parking garage. If the individual discusses this in therapy and is given suggestions on how to protect him or her self while walking in the garage, such as, walking with keys in hand, he or she may feel safer when walking through the garage and have fewer negative cognitions about the situation.

The results also indicated a main effect for time in each of the following subcategories; Cognitions about the Self (Figure 2), Cognitions about the World (Figure 3), and Self-Blame (Figure 4). Again, both treatment groups changed in the expected direction over time. However, there was not a statistically significant difference in the decrease in number of negative cognitions between the two groups. When assessing negative cognitions about the self and self-blame, slightly greater reductions in negative cognitions were found within the CPT group over time compared to the PCT group. Interestingly, when negative cognitions about the world were assessed, the PCT group showed fewer negative cognitions at 6 month follow up compared to CPT, although the difference did not reach the level of significance. Negative cognitions about the world are focused on distrust in others, believing that the world is a dangerous place, and always having to be on guard. Once more, this may be evidence towards the effectiveness of the problem solving approach of PCT in lowering negative cognitions particularly negative cognitions about the world. Negative cognitions about the world are greater at all time points for both the CPT and PCT groups when compared to negative cognitions about the self and self-blame. This could suggest that negative cognitions about the world are more prominent and

resistant to treatment compared to cognitions about the self and self-blame. It is possible that this is true due to the fact that cognitions about the world are relate to outside stimuli that cannot be controlled.

For the CPT group, it was hypothesized that a positive correlation existed between the reduction of negative cognitions and the reduction of PTSD symptoms. It was also hypothesized that a positive correlation existed between the reduction of negative cognitions and the reduction of depression symptoms. Pearson Correlations and multiple regression analyses were used to examine the relationship between the change from baseline in PTCI scores and the change in CAPS, PCL, and BDI-II scores. The results indicate that for individuals treated with CPT, negative cognitions decreased over time and were positively correlated with decreases in PTSD and depression symptoms over time, as expected. These results support the hypothesis that negative cognitions are positively correlated with symptoms of PTSD and depression as described by Ehlers and Clark (2000), Dunmore et al. (2001), and Foa et al. (1999). Additionally, the multiple regression analysis revealed a positive relationship between negative cognitions and PTSD, as well as a positive relationship between negative cognitions and depression symptoms at each time point. This suggests that if symptoms of PTSD and depression are reduced it can be reasonably predicted that negative cognitions would be reduced as well. Following 12 completed therapy sessions, the change in PTSD symptoms as measured by the CAPS accounted for 24% of the variability in the change in negative cognitions as measured by the PTCI and was the only significant variable. At six month follow up, a stepwise model of regression indicated that the change in depression symptoms as measured by the BDI-II and the change in PTSD symptoms as measured by the PCL together significantly accounted for 70% of the variability in the decrease of negative cognitions as measured by the PTCI and the CAPS scores were no longer

significant. Thus, initially following treatment 24% of the changes in CAPS scores were related to the change in PTCI scores, while at 6 month follow up 70% of the change in PCL and BDI-II scores was related to the change in PTCI scores. The data indicated a larger percentage of the variability of the change in PTCI scores was predicted at 6 month follow up by the change in PCL and BDI-II than was accounted for by the change in CAPS scores at post treatment. The CAPS is a clinician administered structured interview, which has more room for questioning and clinician judgment while also asking several questions regarding the trauma. The PCL and BDI-II are both self-report questionnaires that focus more on symptom report rather than the trauma itself. The difference between the responses to the measures could possibly be accounted for by the attitude towards assessment by a clinician versus self-report, as well as the attitude towards discussing the trauma versus not discussing the trauma. Also, each measure has different instructions. The CAPS specifically discusses the trauma and asks certain questions in relation to the MST; while the PCL and BDI-II do not specify to answer questions in relation to MST, but rather the PCL states to answer the questions in response to a “stressful experience.” Relatedly, the BDI-II asks to mark the statement that best describes how he or she has been feeling the past week and not how they are feeling with regard to their MST.

Both CPT and PCT successfully decreased the number of negative cognitions in veterans with MST. However, contrary to what was hypothesized, there was no significant difference between CPT and PCT in decreasing the number and quality of negative cognitions over time. A decrease in negative cognitions was positively associated with a reduction in PTSD symptoms and a reduction in depression symptoms. Negative cognitions can be thought of as mediating variables because they partly account for the external events of MST that take on intrapsychic significance, such as PTSD and depression symptoms (Baron & Kenny, 1986). Evidence for a

single dominating mediating variable is not addressed in this study; therefore negative cognitions cannot be postulated as such. Rather, multiple mediating factors may exist and are beyond the scope of this study.

Limitations of the Current Study and Suggestions for Future Research

The primary limitation to this study was the small sample size. More robust and significant results can be obtained through a larger sample size. When comparing CPT and PCT, both group's negative cognition scores significantly decreased over time; however a significant difference was not found between the two groups. The results did reveal non-significant differences and a larger sample size might increase the ability to detect significant differences.

Although men were included in the current study, their numbers were sparse. As a result, comparisons could not be made between males and females. In the future, it would be helpful to compare the number and quality of negative cognitions in males and females treated with CPT to see if similar relationships are found between negative cognitions and PTSD and depression symptoms. Also, if the type of negative cognitions are different between males and females, it would be helpful to know so that treatment can be modified for gender.

In this study, PCT was used as an active intervention to control for aspects of a therapy such as time and attention. However, both a cognitive based therapy (CPT) and a non-cognitive based therapy (PCT) significantly decreased the number of negative cognitions. Although not done at Veteran's Affairs Hospitals, it would be interesting to compare both CPT and PCT to a wait-list control group to see if the effects of overall treatment or simply the passing of time is contributing to the main effect of time.

Other possible future directions in research include comparing the effectiveness of CPT in reducing negative cognitions based on age as well as gender. For example, an individual who

experienced trauma at age 20 and is now 40 may have more deeply ingrained and treatment refractory negative cognitions compared to an individual who experienced trauma at age 20 and is now 22. Also, studying the interaction between depression and negative cognitions further would be beneficial since depression has such a great effect on how individuals view the world. Furthermore, PTSD and depression are often comorbid disorders. Research concerning the specific types of negative cognitions, for example cognitions about the self, cognitions about the world, and self-blame, which are more strongly correlated with a diagnosis of PTSD over a diagnosis of major depression may help in treating individuals with more persistent PTSD rather than depression or vice versa if a difference exists. Possibly, targeting specific negative cognitions that are more strongly correlated with depression before targeting negative cognitions strongly correlated with PTSD can be advantageous in treatment.

Conclusions

Prevalence rates of MST have been reported to be as high as 43% (Fontana & Rosenheck, 1998). Individuals recovering from MST are at risk for developing various physical and psychological difficulties (Suris & Lind, 2008; Suris et al., 2007). Cognitive processes are thought to be a contributing factor in the mediation between MST and the development of symptoms of PTSD and depression (Ehlers & Clark, 2000; Foa et al., 1999; McCann & Pearlman, 1990; Resick & Schnicke, 1993). The current study provides preliminary evidence that the number of negative cognitions is decreased over time in both CPT and PCT interventions for veterans with PTSD related to MST. Also, that the decrease in number of negative cognitions is positively related with decreased PTSD and depression symptoms. These findings are important because they support the idea that negative cognitions contribute to PTSD and depression symptoms, while also providing evidence that CPT and PCT are effective in reducing

negative cognitions. CPT is more trauma focused, thus PCT is a viable treatment option for individuals who are unwilling to revisit trauma-related issues while still reducing negative cognitions.

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Table 1
Demographic Differences between CPT and PCT groups (Percentages in Parentheses)

Variable	CPT <i>n</i> =38		PCT <i>n</i> =38		Total <i>n</i> =76	
Gender						
Female	28	(73.70)	35	(92.10)	63	(82.90)
Male	10	(26.30)	3	(7.90)	13	(17.10)
Total	38	(100)	38	(100)	76	(100)
Marital Status						
Never Married	6	(15.8)	3	(7.90)	9	(11.80)
Married	7	(18.40)	7	(18.40)	14	(18.40)
Cohabiting	2	(5.30)	2	(5.30)	4	(5.30)
Separated	6	(15.80)	6	(15.80)	12	(15.80)
Divorced	15	(39.50)	19	(50.00)	34	(44.70)
Widowed	2	(5.30)	1	(2.60)	3	(3.90)
Total	38	(100)	38	(100)	76	(100)
Service Branch						
Air Force	9	(23.70)	8	(21.10)	17	(22.40)
Army	18	(47.40)	16	(42.10)	34	(44.70)
Marines	2	(5.30)	3	(7.90)	5	(6.60)
Navy	8	(21.10)	10	(26.30)	18	(23.70)
other	1	(2.60)	1	(2.60)	2	(2.60)
Total	38	(100)	38	(100)	76	(100)
Race/Ethnicity						
White, Non-Hispanic	14	(36.80)	16	(42.10)	30	(39.50)
Black/African American, Non-Hispanic	16	(42.10)	15	(39.50)	31	(40.80)
White, Hispanic	2	(5.30)	1	(2.60)	3	(3.90)
Black/African American, Hispanic	1	(2.60)	0	(0.00)	1	(1.30)
American Indian/Alaskan Native	1	(2.60)	0	(0.00)	1	(1.30)
Native Hawaiian/ Pacific Islander	1	(2.60)	0	(0.00)	1	(1.30)
other	3	(7.90)	6	(15.80)	9	(11.80)
Total	38	(100.0)	38	(100.0)	76	(100.00)
Age						
Mean	46.45		47.21			
SD	9.56		7.82			
Years of Education						
Mean	14.32		14.76			
SD	1.89		2.37			

Table 2

Mean PTCI scores and mean PTCI subscale scores by group (SD in parentheses)

CPT				
	PTCI total	PTCI-Self	PTCI-World	PTCI-Self-blame
Baseline	148.40 (35.64)	4.22 (1.21)	5.66 (1.04)	4.02 (1.48)
Post treatment	125.13 (49.30)	3.52 (1.59)	4.94 (1.55)	3.34 (1.59)
2 month follow-up	124.05 (42.93)	3.46 (1.43)	5.13 (1.34)	3.16 (1.59)
4 month follow-up	127.71 (42.09)	3.60 (1.44)	5.14 (1.37)	3.22 (1.31)
6 month follow-up	124.76 (46.01)	3.50 (1.54)	5.17 (1.31)	3.00 (1.70)
PCT				
	PTCI total	PTCI-Self	PTCI-World	PTCI-Self-blame
Baseline	152.34 (35.30)	4.47 (1.25)	5.61 (1.55)	3.85 (1.60)
Post treatment	139.05 (51.67)	4.01 (1.69)	5.34 (1.61)	3.51 (2.02)
2 month follow-up	139.08 (50.84)	4.04 (1.68)	5.32 (1.38)	3.43 (1.97)
4 month follow-up	135.71 (47.92)	3.93 (1.57)	5.22 (1.42)	3.39 (2.03)
6 month follow-up	134.42 (53.28)	3.83 (1.76)	5.14 (1.49)	3.62 (1.88)

Table 3
Results of ANOVA for PTCI total

Summary of the two-way ANOVA results						
Source	df	Mean Square	F	Sig.	Partial Eta Squared	
Time	3.26	6920.66	7.75	<0.01	0.10	
Treatment Group	1	9711.16	1.27	0.26	0.02	
Time * Treatment Group	3.26	474.61	0.53	0.68	0.01	
Error (Time)	240.93	893.48				

a. Computed using alpha = .05

b. Greenhouse-Geisser correction

Table 4
Results of ANOVA for PTCI Subscale - Negative Cognitions About Self

Summary of the two-way ANOVA results						
Source	df	Mean Square	F	Sig.	Partial Eta Squared	
Time	3.25	7.04	7.35	<0.01	0.10	
Treatment Group	1	14.86	1.74	0.19	0.02	
Time * Treatment Group	3.25	0.45	0.47	0.72	0.01	
Error (Time)	240.61	0.96				

a. Computed using alpha = .05

b. Greenhouse-Geisser correction

Table 5
Results of ANOVA for PTCI subscale- Negative Cognitions About the World

Summary of the two-way ANOVA results						
Source	df	Mean Square	F	Sig.	Partial Eta Squared	
Time	3.33	4.01	3.99	0.01	0.05	
Treatment Group	1	1.32	0.22	0.64	<0.01	
Time*Treatment Group	3.33	0.78	0.78	0.52	0.01	
Error (Time)	246.23	1.01				

a. Computed using alpha = .05

b. Greenhouse-Geisser correction

Table 6
Results of ANOVA for PTCI subscale - Self-Blame

Summary of the two-way ANOVA results						
Source	df	Mean Square	F	Sig.	Partial Eta Squared	
Time	3.61	6.38	5.96	<0.01	0.02	
Treatment Group	1	4.25	0.37	0.54	<0.01	
Time * Treatment Group	3.61	1.65	1.55	0.20	0.08	
Error (Time)	267.42	1.07				

a. Computed using alpha = .05

b. Greenhouse-Geisser correction

Table 7

Pearson Product Moment Correlations in CPT (n=38) group among total change from baseline in PTCI scores and total change from baseline in PCL, CAPS, and BDI-II scores over time.

		PTCI Post Treatment	PTCI 2 Months	PTCI 4 Months	PTCI 6 Months
PCL	Pearson	.489**	0.21	0.17	.336*
Post Treatment	Correlation				
	Sig. (2-tailed)	0.00	0.20	0.31	0.04
PCL	Pearson	0.26	.692**	.566**	.543**
2 Months	Correlation				
	Sig. (2-tailed)	0.11	0.00	0.00	0.00
PCL	Pearson	0.26	.574**	.747**	.704**
4 Months	Correlation				
	Sig. (2-tailed)	0.12	0.00	0.00	0.00
PCL	Pearson	0.28	.462**	.505**	.719**
6 Months	Correlation				
	Sig. (2-tailed)	0.09	0.00	0.00	0.00
CAPS	Pearson	.510**	0.14	0.20	.349*
Post Treatment	Correlation				
	Sig. (2-tailed)	0.00	0.39	0.23	0.03
CAPS	Pearson	.359*	.565**	.548**	.534**
2 Months	Correlation				
	Sig. (2-tailed)	0.03	0.00	0.00	0.00
CAPS	Pearson	.408*	.536**	.690**	.612**
4 Months	Correlation				
	Sig. (2-tailed)	0.01	0.00	0.00	0.00
CAPS	Pearson	0.27	.338*	.431**	.637**
6 Months	Correlation				
	Sig. (2-tailed)	0.10	0.04	0.01	0.00
BDI-II	Pearson	.376*	.404*	0.27	0.27
Post Treatment	Correlation				
	Sig. (2-tailed)	0.02	0.01	0.10	0.10
BDI-II	Pearson	0.12	.754**	.673**	.533**
2 Months	Correlation				
	Sig. (2-tailed)	0.47	0.00	0.00	0.00
BDI-II	Pearson	0.29	.730**	.750**	.695**
4 Months	Correlation				
	Sig. (2-tailed)	0.08	0.00	0.00	0.00
BDI-II	Pearson	0.23	.622**	.646**	.777**
6 Months	Correlation				
	Sig. (2-tailed)	0.17	0.00	0.00	0.00

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 8
Multiple Regression Analysis at Post Treatment

Predicted Change in PTCI Scores						
Model		B	t	Sig.	95.0% Confidence Interval for B	
					Lower Bound	Upper Bound
Variables in Model	Constant	-0.64	-0.07	0.95	-20.18	18.90
	CAPS	1.08	3.55	0.001	0.46	1.70
Excluded Variables	PCL		0.92	0.37		
	BDI-II		1.01	0.32		

Notes: $R^2 = .29$ for variables in the Model

Table 9
Multiple Regression Analysis at 2 Month Follow Up

Predicted Change in PTCI Score						
Variable	B	t	Sig.	95.0% Confidence Interval for B		
				Lower Bound	Upper Bound	
Constant	-0.82	-.14	.89	-12.28	10.65	
BDI-II	2.17	4.44	.000	1.18	3.16	
PCL	1.11	3.20	.003	.41	1.81	
R^2	.57					

Table 10
Multiple Regression Analysis at 4 Month Follow Up

Variable	Predicted Change in PTCI Score				
	B	t	Sig.	95.0% Confidence Interval for B	
				Lower Bound	Upper Bound
Constant	-17.92	-2.93	0.006	-30.37	-5.48
BDI-II	1.89	3.3	0.002	0.72	3.04
PCL	0.69	3.17	0.003	0.25	1.13
CAPS	0.94	2.38	0.023	0.14	1.75
R ²	0.75				

Table 11
Multiple Regression Analysis at 6 Month Follow Up

Variable	Predicted Change in PTCI Score				
	B	t	Sig.	95.0% Confidence Interval for B	
				Lower Bound	Upper Bound
Constant	-4.50	-.82	.42	-15.63	6.63
BDI-II	2.36	4.64	.000	1.33	3.40
PCL	1.14	3.39	.002	.46	1.82
R ²	.70				

Figures

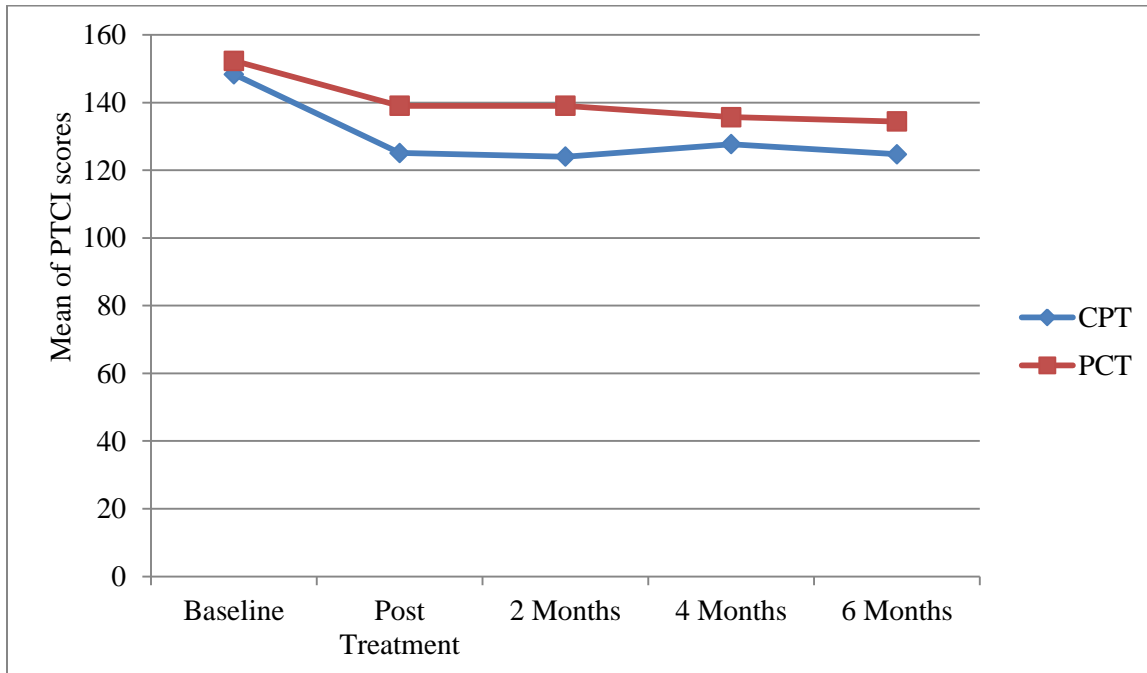


Figure 1: Mean of PTCI scores over time

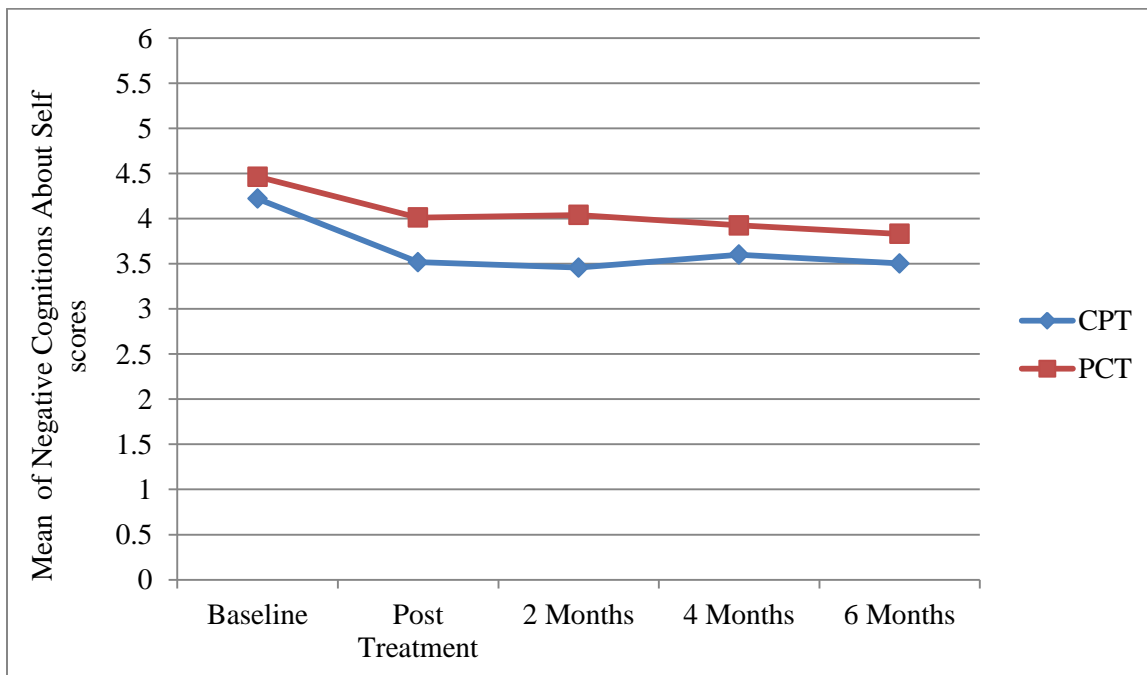


Figure 2: Mean of PTCI subcategory - Negative Cognitions About the Self scores over time

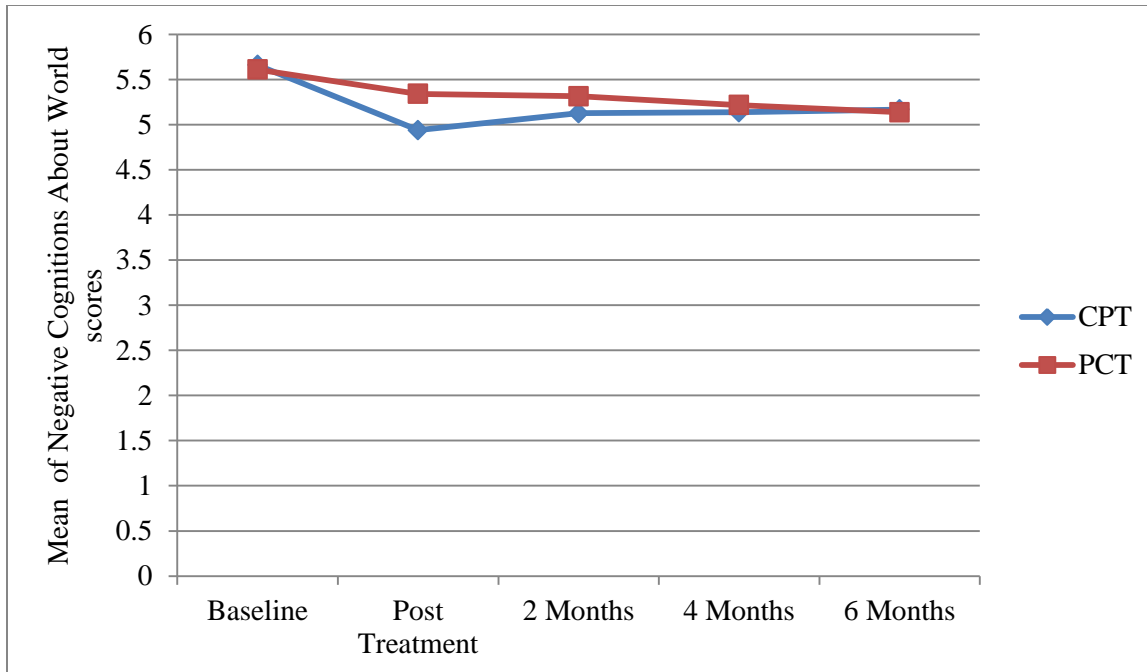


Figure 3: Mean of PTCI subcategory - Negative Cognitions About the World scores over time

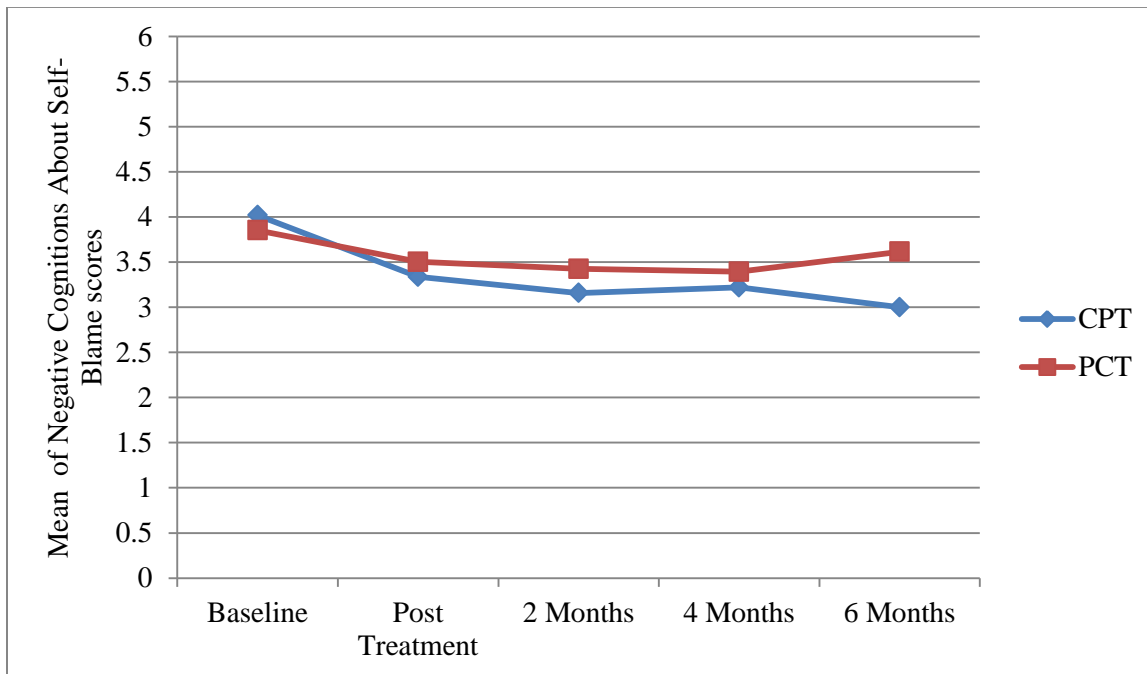


Figure 4: Mean of PTCI subcategory - Negative Cognitions About Self-Blame scores over time

Appendix A

CLINICIAN ADMINISTERED PTSD SCALE FOR DSM-IV (CAPS)

I'm going to be asking you about some difficult or stressful things that sometimes happen to people. Some examples of this are being in some type of serious accident; being in a fire, a hurricane, or an earthquake; being mugged or beaten up or attacked with a weapon; or being forced to have sex when you didn't want to. I'll start by asking you to look over a list of experiences like this and check any that apply to you. Then, if any of them do apply to you, I'll ask you to briefly describe what happened and how you felt at the time.

Some of these experiences may be hard to remember or may bring back uncomfortable memories or feelings. People often find that talking about them can be helpful, but it's up to you to decide how much you want to tell me. As we go along, if you find yourself becoming upset, let me know and we can slow down and talk about it. Also, if you have any questions or you don't understand something, please let me know. Do you have any questions before we start?

Criterion A. The person has been exposed to a traumatic event in which both of the following were present:

- (1) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others**
- (2) the person's response involved intense fear, helplessness, or horror. Note: In children, this may be expressed instead by disorganized or agitated behavior**

IF NO EVENTS ENDORSED ON CHECKLIST ABOVE: *(Has there ever been a time when your life was in danger or you were seriously injured or harmed?)*

IF NO: *(What about a time when you were threatened with death or serious injury, even if you weren't actually injured or harmed?)*

IF NO: *(What about witnessing something like this happen to someone else or finding out that it happened to someone close to you?)*

IF NO: *(What would you say are some of the most stressful experiences you have had over your life?)*

For the rest of the interview, I want you to keep (EVENTS) in mind as I ask you some questions about how they may have affected you.

I'm going to ask you about twenty questions altogether. Most of them have two parts. First, I'll ask if you've experienced a particular problem in the last month, and if so, about how often. Then I'll ask you how much distress or discomfort that problem may have caused you.

EVENT #1: _____

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.

<p><u>Frequency</u> In the past month, have you had unwanted memories of (EVENT)? 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?</p> <p>0 Never 1 Once or twice 2 Once or twice a week 3 Several times a week 4 Daily or almost every day</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> In the past month, 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?</p> <p>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</p> <p>QV (specify) _____</p>	<p><u>Current</u></p> <p>F _____</p> <p>I _____</p> <p>Sx: Y N</p>
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2. (B-2) recurrent distressing dreams of the event.

<p><u>Frequency</u> In the past month, have you had unpleasant dreams about (EVENT)? Describe a typical dream. (What happens in them?) How often have you had these dreams in the past month?</p> <p>0 Never 1 Once or twice 2 Once or twice a week 3 Several times a week 4 Daily or almost every day</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> In the past month, 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?)</p> <p>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</p> <p><u>QV (specify)</u> _____</p>	<p><u>Current</u></p> <p>F _____</p> <p>I _____</p> <p>Sx: Y N</p>
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3. (B-3) acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated).

<p><u>Frequency</u> In the past month, have you suddenly acted or felt as if (EVENT) were happening again? (Have you ever had flashbacks about [EVENT]?) [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?</p> <p>0 Never 1 Once or twice 2 Once or twice a week 3 Several times a week 4 Daily or almost every day</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> In the past month, how much did it seem as if (EVENT) 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?)</p> <p>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), no awareness of surroundings, may be unresponsive, possible amnesia for the episode (blackout)</p> <p><u>QV (specify)</u> _____</p>	<p><u>Current</u></p> <p>F _____</p> <p>I _____</p> <p>Sx: Y N</p>
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4. (B-4) intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

<p><u>Frequency</u> In the past month, have you gotten emotionally upset when something reminded you of (EVENT)? (<i>Has anything ever triggered bad feelings related to [EVENT]?</i>) What kinds of reminders made you upset? How often in the past month?</p> <p>0 Never 1 Once or twice 2 Once or twice a week 3 Several times a week 4 Daily or almost every day</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> In the past month, how much distress or discomfort did (REMINDERS) cause you? How long did it last? How much did it interfere with your life?</p> <p>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</p> <p><i>QV (specify)</i> _____</p>	<p><u>Current</u></p> <p><i>F</i> _____ <i>I</i> _____ <i>Sx: Y N</i></p>
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5. (B-5) physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

<p><u>Frequency</u> In the past month, have you had any physical reactions when something reminded you of (EVENT)? <i>(Did your body ever react in some way when something reminded you of [EVENT]?)</i> Can you give me some examples? <i>(Did your heart race or did your breathing change? What about sweating or feeling really tense or shaky?)</i> What kinds of reminders triggered these reactions? How often in the past month?</p> <p>0 Never 1 Once or twice 2 Once or twice a week 3 Several times a week 4 Daily or almost every day</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> How strong were (PHYSICAL REACTIONS) in the past month? How long did they last? <i>(Did they last even after you were out of the situation?)</i></p> <p>0 No physical reactivity 1 Mild, minimal reactivity 2 Moderate, physical reactivity clearly present, may be sustained if exposure continues 3 Severe, marked physical reactivity, sustained throughout exposure 4 Extreme, dramatic physical reactivity, sustained arousal even after exposure has ended</p> <p><i>QV (specify)</i> _____</p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p>
<p>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:</p>		

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

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

<p><u>Frequency</u> In the past month, have you tried to avoid thoughts or feelings about (EVENT)? (<i>What kinds of thoughts or feelings did you try to avoid?</i>) What about trying to avoid talking with other people about it? (<i>Why is that?</i>) How often in the past month?</p> <p>0 Never 1 Once or twice 2 Once or twice a week 3 Several times a week 4 Daily or almost every day</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> How much effort did you make to avoid (THOUGHTS/FEELINGS/CONVERSATIONS)? (<i>What kinds of things did you do? What about drinking or using medication or street drugs?</i>) [CONSIDER ALL ATTEMPTS AT AVOIDANCE, INCLUDING DISTRACTION, SUPPRESSION, AND USE OF ALCOHOL/DRUGS] How much did that interfere with your life?</p> <p>0 None 1 Mild, minimal effort, little or no disruption of activities 2 Moderate, some effort, avoidance definitely present, some disruption of activities 3 Severe, considerable effort, marked avoidance, marked disruption of activities, or involvement in certain activities as avoidant strategy 4 Extreme, drastic attempts at avoidance, unable to continue activities, or excessive involvement in certain activities as avoidant strategy</p> <p><i>QV (specify)</i> _____</p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p>
<p><u>Frequency</u> In the past month, have you tried to avoid certain activities, places, or people that reminded you of (EVENT)? (<i>What kinds of things did you avoid? Why is that?</i>) How often in the past month?</p> <p>0 Never 1 Once or twice 2 Once or twice a week 3 Several times a week 4 Daily or almost every day</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> In the past month, how much effort did you make to avoid (ACTIVITIES/PLACES/PEOPLE)? (<i>What did you do instead?</i>) How much did that interfere with your life?</p> <p>0 None 1 Mild, minimal effort, little or no disruption of activities 2 Moderate, some effort, avoidance definitely present, some disruption of activities 3 Severe, considerable effort, marked avoidance, marked disruption of activities or involvement in certain activities as avoidant strategy 4 Extreme, drastic attempts at avoidance, unable to continue activities, or excessive involvement in certain activities as avoidant strategy</p> <p><i>QV (specify)</i> _____</p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p>

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

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

<p><u>Frequency</u> In the past month, have you had difficulty remembering some important parts of (EVENT)? 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 (EVENT) have you had difficulty remembering? (What parts do you still remember?)</p> <p>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%)</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> How much difficulty did you have recalling important parts of (EVENT)? (Were you able to recall more if you tried?)</p> <p>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</p> <p><u>QV (specify)</u> _____</p>	<p><u>Current</u></p> <p>F _____</p> <p>I _____</p> <p>Sx: Y N</p>
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<p><u>Frequency</u> In the past month, have you been less interested in activities that you used to enjoy? <i>(What kinds of things have you lost interest in? Are there some things you don't do at all anymore? Why is that?)</i> [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? <i>(What kinds of things do you still enjoy doing?)</i> When did you first start to feel that way? <i>(After the [EVENT]?)</i></p> <p>0 None 1 Few activities (less than 10%) 2 Some activities (approx 20-30%) 3 Many activities (approx 50-60%) 4 Most or all activities (more than 80%)</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> How strong was your loss of interest? <i>(Would you enjoy [ACTIVITIES] once you got started?)</i></p> <p>0 No loss of interest 1 Mild, slight loss of interest, probably would enjoy after starting activities 2 Moderate, definite loss of interest, but still has some enjoyment of activities 3 Severe, marked loss of interest in activities 4 Extreme, complete loss of interest, no longer participates in any activities</p> <p><u>QV (specify)</u> _____ Trauma-related? 1 definite 2 probable 3 unlikely</p> <p><i>Current</i> _____</p> <p>Reminder: Sx should not be counted if definitely not trauma related.</p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p>
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10. (C-5) feeling of detachment or estrangement from others

<u>Frequency</u>	<u>Intensity</u>	<u>Current</u>
<p>In the past month, 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 [EVENT]?)</p> <p>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%)</p> <p><u>Description/Examples</u></p>	<p>How strong were your feelings of being distant or cut off from others? (Who do you feel closest to? How many people do you feel comfortable talking with about personal things?)</p> <p>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</p> <p><i>QV (specify) _____</i></p> <p>Reminder: Sx should not be counted if definitely not trauma related.</p> <p>Trauma-related? 1 definite 2 probable 3 unlikely</p>	<p>F _____</p> <p>I _____</p> <p>Sx: Y N</p>

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

<p><u>Frequency</u> In the past month, have there been times when you felt emotionally numb or had trouble experiencing feelings like love or happiness? What was that like? (<i>What feelings did you have trouble experiencing?</i>) How much of the time in the past month have you felt that way? When did you first start having trouble experiencing (EMOTIONS)? (<i>After the [EVENT]?</i>)</p> <p>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%)</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> How much trouble did you have experiencing (EMOTIONS)? (<i>What kinds of feelings were you still able to experience?</i>) [INCLUDE OBSERVATIONS OF RANGE OF AFFECT DURING INTERVIEW]</p> <p>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</p> <p><u>QV (specify)</u> _____</p> <p><u>Trauma-related?</u> 1 definite 2 probable 3 unlikely</p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p>
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12. (C-7) sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)

<p><u>Frequency</u> In the past month, have there been times when you felt there is 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? (<i>After the [EVENT]?</i>)</p> <p>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%)</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> How strong was this feeling that your future will be cut short? (<i>How long do you think you will live? How convinced are you that you will die prematurely?</i>)</p> <p>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 Severe, marked sense of a foreshortened future, may make specific prediction about longevity 4 Extreme, overwhelming sense of a foreshortened future, completely convinced of premature death</p> <p><i>QV (specify)</i> _____</p> <p><i>Trauma-related?</i> 1 definite 2 probable 3 unlikely</p>	<p><u>Current</u></p> <p>F _____</p> <p>I _____</p> <p>Sx: Y N</p>
<p>Criterion D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:</p>		

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

<p><u>Frequency</u> In the past month, 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? <i>(After the [EVENT]?)</i></p> <p>0 Never 1 Once or twice 2 Once or twice a week 3 Several times a week 4 Daily or almost every day</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> How strong was your anger? <i>(How did you show it?)</i> [IF REPORTS SUPPRESSION:] <i>(How hard was it for you to keep from showing your anger?)</i> How long did it take you to calm down? Did your anger cause you any problems?</p> <p>0 No irritability or anger 1 Mild, minimal irritability, may raise voice when angry 2 Moderate, definite irritability or attempts to suppress anger, but can recover quickly 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</p> <p><i>QV (specify) _____</i> <i>Trauma-related? 1 definite 2 probable 3 unlikely</i></p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p>
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15. (D-3) difficulty concentrating

<p><u>Frequency</u> In the past month, 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 [EVENT]?)</p> <p>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%)</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> How difficult was it for you to concentrate? [INCLUDE OBSERVATIONS OF CONCENTRATION AND ATTENTION IN INTERVIEW] How much did that interfere with your life?</p> <p>0 No difficulty with concentration 1 Mild, only slight effort needed to concentrate, little or no disruption of activities 2 Moderate, definite loss of concentration but could concentrate with effort, some disruption of activities 3 Severe, marked loss of concentration even with effort, marked disruption of activities 4 Extreme, complete inability to concentrate, unable to engage in activities</p> <p><i>QV (specify)</i> _____</p> <p><i>Trauma-related?</i> 1 definite 2 probable 3 unlikely</p>	<p><u>Current</u></p> <p><i>F</i> _____</p> <p><i>I</i> _____</p> <p><i>Sx: Y</i> <i>N</i></p>
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16. (D-4) hypervigilance

<p><u>Frequency</u> In the past month, have you been especially alert or watchful, even when there was no real need to be? (<i>Have you felt as if you were constantly on guard?</i>) Why is that? How much of the time in the past month? When did you first start acting that way? (<i>After the [EVENT]?</i>)</p> <p>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%)</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> 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?</p> <p>0 No hypervigilance 1 Mild, minimal hypervigilance, slight heightening of awareness 2 Moderate, hypervigilance clearly present, watchful in public (e.g., chooses safe place to sit in a restaurant or movie theater) 3 Severe, marked hypervigilance, very alert, scans environment for danger, exaggerated concern for safety of self/family/home 4 Extreme, excessive hypervigilance, efforts to ensure safety consume significant time and energy and may involve extensive safety/checking behaviors, marked watchfulness during interview</p> <p><i>QV (specify)</i> _____</p> <p><i>Trauma-related?</i> 1 definite 2 probable 3 unlikely</p>	<p><u>Current</u> <i>F</i> _____ <i>I</i> _____ <i>Sx:</i> Y N</p>
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17. (D-5) exaggerated startle response

<p><u>Frequency</u> In the past month, have you had any strong startle reactions? When did that happen? (<i>What kinds of things made you startle?</i>) How often in the past month? When did you first have these reactions? (<i>After the [EVENT]?</i>)</p> <p>0 Never 1 Once or twice 2 Once or twice a week 3 Several times a week 4 Daily or almost every day</p> <p><u>Description/Examples</u></p>	<p><u>Intensity</u> How strong were these startle reactions? (<i>How strong were they compared to how most people would respond?</i>) How long did they last?</p> <p>0 No startle reaction 1 Mild, minimal reaction 2 Moderate, definite startle reaction, feels “jumpy” 3 Severe, marked startle reaction, sustained arousal following initial reaction 4 Extreme, excessive startle reaction, overt coping behavior (e.g., combat veteran who “hits the dirt”)</p> <p><i>QV (specify)</i> _____</p> <p><i>Trauma-related?</i> 1 definite 2 probable 3 unlikely</p>	<p><u>Current</u> <i>F</i> _____ <i>I</i> _____ <i>Sx:</i> Y N</p>
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Criterion E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than 1 month.

18. onset of symptoms

<p>[IF NOT ALREADY CLEAR:] When did you first start having (PTSD SYMPTOMS) you've told me about? (How long after the trauma did they start? More than six months?)</p>	<p style="text-align: center;">_____ <i>total # months delay in onset</i></p> <p>With delayed onset (≥ 6 months)? NO YES</p>
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19. duration of symptoms

<p>[CURRENT] How long have these (PTSD SYMPTOMS) lasted altogether?</p>	<p style="text-align: center;"><i>Duration more than 1 month?</i></p>	<p style="text-align: center;"><u>Current</u></p> <p style="text-align: center;">NO YES</p>
<p>[LIFETIME] How long did these (PTSD SYMPTOMS) last altogether?</p>	<p style="text-align: center;"><i>Total # months duration</i></p> <p style="text-align: center;"><i>Acute (< 3 months) or chronic (≥ 3 months)?</i></p>	<p style="text-align: center;">_____</p> <p style="text-align: center;"><i>acute chronic</i></p>

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

20. subjective distress

<p>[CURRENT] Overall, how much have you been bothered by these (PTSD SYMPTOMS) you've told me about?</p> <p>[CONSIDER DISTRESS REPORTED ON EARLIER ITEMS]</p>	<p>0 None</p> <p>1 Mild, minimal distress</p> <p>2 Moderate, distress clearly present but still manageable</p> <p>3 Severe, considerable distress</p> <p>4 Extreme, incapacitating distress</p>
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21. impairment in social functioning

<p>[CURRENT] Have these (PTSD SYMPTOMS) affected your relationships with other people? How so? [CONSIDER IMPAIRMENT IN SOCIAL FUNCTIONING REPORTED ON EARLIER ITEMS]</p>	<p>0 No adverse impact</p> <p>1 Mild impact, minimal impairment in social functioning</p> <p>2 Moderate impact, definite impairment, but many aspects of social functioning still intact</p> <p>3 Severe impact, marked impairment, few aspects of social functioning still intact</p> <p>4 Extreme impact, little or no social functioning</p>
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22. impairment in occupational or other important area of functioning

<p>[CURRENT -- IF NOT ALREADY CLEAR] Are you working now?</p> <p>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 PRE-TRAUMA SCHOOL PERFORMANCE AND POSSIBLE PRESENCE OF BEHAVIOR PROBLEMS]</p> <p>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?</p>	<p>0 No adverse impact</p> <p>1 Mild impact, minimal impairment in occupational/other important functioning</p> <p>2 Moderate impact, definite impairment, but many aspects of occupational/other important functioning still intact</p> <p>3 Severe impact, marked impairment, few aspects of occupational/other important functioning still intact</p> <p>4 Extreme impact, little or no occupational/other important functioning</p>
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Global Ratings

23. global validity

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

<i>Criterion A met (traumatic event)?</i>	<i>NO</i>	<i>YES</i>
_____ # <i>Criterion B sx (≥ 1)?</i>	<i>NO</i>	<i>YES</i>
_____ # <i>Criterion C sx (≥ 3)?</i>	<i>NO</i>	<i>YES</i>
_____ # <i>Criterion D sx (≥ 2)?</i>	<i>NO</i>	<i>YES</i>
<i>Criterion E met (duration ≥ 1 month)?</i>	<i>NO</i>	<i>YES</i>
<i>Criterion F met (distress/impairment)?</i>	<i>NO</i>	<i>YES</i>
<i>CURRENT PTSD (Criteria A-F met)?</i> <i>NO</i> <i>YES</i>		

IF CURRENT PTSD CRITERIA ARE MET, SKIP TO ASSOCIATED FEATURES.

IF CURRENT CRITERIA ARE NOT MET, ASSESS FOR LIFETIME PTSD. IDENTIFY A PERIOD OF AT LEAST A MONTH SINCE THE TRAUMATIC EVENT IN WHICH SYMPTOMS WERE WORSE.

Since the (EVENT), has there been a time when these (PTSD SYMPTOMS) were a lot worse than they have been in the past month? When was that? How long did it last? (At least a month?)

IF MULTIPLE PERIODS IN THE PAST: When were you bothered the most by these (PTSD SYMPTOMS)?

IF AT LEAST ONE PERIOD, INQUIRE ITEMS 1-17, CHANGING FREQUENCY PROMPTS TO REFER TO WORST PERIOD: During that time, did you (EXPERIENCE SYMPTOM)? How often?

CAPS-DX SUMMARY SHEET

Circle One: **Baseline** **Post-Treatment** **2 month** **4 month** **6 month**

Date of Traumatic Event: (/ /)
 mm dd yy

A. Traumatic Event:

B. Re-Experiencing Symptoms	CURRENT		
	Freq	Int	F + I
(1) intrusive recollections			
(2) distressing dreams			
(3) acting or feeling as if event were recurring			
(4) psychological distress at exposure to cues			
(5) psychological reactivity on exposure to cues			
B subtotals			
Number of Criterion B symptoms (need 1)			

C. Avoidance and numbing symptoms	CURRENT		
	Freq	Int	F + I
(6) avoidance of thoughts, feelings or conversations			
(7) avoidance of activities, places or people			
(8) inability to recall important aspect of trauma			
(9) diminished interest or participation in activities			
(10) detachment or estrangement			
(11) restricted range of affect			
(12) sense of a foreshortened future			
C subtotals			
Number of Criterion C symptoms (need 3)			

D. Hyperarousal symptoms	CURRENT		
	Freq	Int	F + I
(13) difficulty falling or staying asleep			
(14) irritability or outbursts of anger			
(15) difficulty concentrating			
(16) hypervigilance			
(17) exaggerated startle response			
D subtotals			
Number of Criterion D symptoms (need 2)			

Total Freq, Int, Severity (F + I)	CURRENT

	Freq	Int	F + I
Sum of Subtotals (B + C + D)			

E. Duration of disturbance	CURRENT	
(19) duration of disturbance at least one month	NO	YES
F. Significant distress or impairment in functioning	CURRENT	
(20) subjective distress		
(21) impairment in social functioning		
(22) impairment in occupational functioning		
AT LEAST ONE ≥ 2?	NO	YES

PTSD diagnosis	CURRENT	
PTSD PRESENT -- ALL CRITERIA (A-F) MET?	NO	YES
Specify: (18) with delayed onset (≥ 6 months delay)	NO	YES
(19) acute (< 3 months) or chronic (≥ 3 months)	acute	chronic

Global ratings	CURRENT	
(23) global validity		
(24) global severity		

Appendix B

PTCI

DIRECTIONS: We are interested in the kind of thoughts which you may have had after a traumatic experience. Below are a number of statements that may or may not be representative of your thinking. Please read each statement carefully and tell us how much you AGREE or DISAGREE with each statement. People react to traumatic events in many different ways. There are no right or wrong answers to these statements.

	Totally Disagree	Disagree Very Much	Disagree Slightly	Neutral	Agree Slightly	Agree Very Much	Totally Agree
1. The event happened because of the way I acted.	1	2	3	4	5	6	7
2. I can't trust that I will do the right thing.	1	2	3	4	5	6	7
3. I am a weak person.	1	2	3	4	5	6	7
4. I will not be able to control my anger and will do something terrible.	1	2	3	4	5	6	7
5. I can't deal with even the slightest upset.	1	2	3	4	5	6	7
6. I used to be a happy person but now I am always miserable.	1	2	3	4	5	6	7
7. People can't be trusted.	1	2	3	4	5	6	7
8. I have to be on guard all the time.	1	2	3	4	5	6	7
9. I feel dead inside.	1	2	3	4	5	6	7
10. You can never know who will harm you.	1	2	3	4	5	6	7
11. I have to be especially careful because you never know what can happen next.	1	2	3	4	5	6	7
12. I am inadequate.	1	2	3	4	5	6	7
13. I will not be able to control my emotions and something terrible will happen.	1	2	3	4	5	6	7
14. If I think about the event, I will not be able to handle it.	1	2	3	4	5	6	7
15. The event happened to me because of the sort of person I am.	1	2	3	4	5	6	7
16. My reactions since the event mean that I am going crazy.	1	2	3	4	5	6	7

17. I will never be able to feel normal emotions again.	1	2	3	4	5	6	7
18. The world is a dangerous place.	1	2	3	4	5	6	7
19. Somebody else would have stopped the event from happening.	1	2	3	4	5	6	7
20. I have permanently changed for the worse.	1	2	3	4	5	6	7
21. I feel like an object, not like a person.	1	2	3	4	5	6	7
22. Somebody else would not have gotten into this situation.	1	2	3	4	5	6	7
23. I can't rely on other people.	1	2	3	4	5	6	7
24. I feel isolated and set apart from others.	1	2	3	4	5	6	7
25. I have no future.	1	2	3	4	5	6	7
26. I can't stop bad things from happening to me.	1	2	3	4	5	6	7
27. People are not what they seem.	1	2	3	4	5	6	7
28. My life has been destroyed by the trauma.	1	2	3	4	5	6	7
29. There is something wrong with me as a person.	1	2	3	4	5	6	7
30. My reactions since the event show that I am a lousy copier.	1	2	3	4	5	6	7
31. There is something about me that	1	2	3	4	5	6	7
32. I will not be able to tolerate my thoughts about the event, and I will fall apart.	1	2	3	4	5	6	7
33. I feel like I don't know myself anymore.	1	2	3	4	5	6	7
34. You never know when something terrible will happen.	1	2	3	4	5	6	7
35. I can't rely on myself.	1	2	3	4	5	6	7
36. Nothing good can happen to me anymore.	1	2	3	4	5	6	7

Appendix C

BDI-II

DIRECTIONS: On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the **PAST WEEK INCLUDING TODAY**. **Mark only one box** in each group to the right of the statement you picked. Be sure to read all statements in each group before making your choice.

During the past week...	During the past week...
<p>1.</p> <p><input type="checkbox"/> a I do not feel sad.</p> <p><input type="checkbox"/> b I feel sad.</p> <p><input type="checkbox"/> c I feel sad all the time and I can't snap out of it.</p> <p><input type="checkbox"/> d I am so sad or unhappy that I can't stand it.</p>	<p>6.</p> <p><input type="checkbox"/> a I don't feel I am being punished.</p> <p><input type="checkbox"/> b I feel I may be punished.</p> <p><input type="checkbox"/> c I expect to be punished.</p> <p><input type="checkbox"/> d I feel I am being punished.</p>
<p>2.</p> <p><input type="checkbox"/> a I am not particularly discouraged about the future.</p> <p><input type="checkbox"/> b I feel discouraged about the future.</p> <p><input type="checkbox"/> c I feel I have nothing to look forward to.</p> <p><input type="checkbox"/> d I feel that the future is hopeless and that things cannot improve.</p>	<p>7.</p> <p><input type="checkbox"/> a I don't feel disappointed in myself.</p> <p><input type="checkbox"/> b I am disappointed in myself.</p> <p><input type="checkbox"/> c I am disgusted with myself.</p> <p><input type="checkbox"/> d I hate myself.</p>
<p>3.</p> <p><input type="checkbox"/> a I do not feel like a failure.</p> <p><input type="checkbox"/> b I feel I have failed more than the average person.</p> <p><input type="checkbox"/> c As I look back on my life, all I can see is a lot of failures.</p> <p><input type="checkbox"/> d I feel I am a complete failure as a person.</p>	<p>8.</p> <p><input type="checkbox"/> a I don't feel I am any worse than anybody else.</p> <p><input type="checkbox"/> b I am critical of myself for my weaknesses or mistakes.</p> <p><input type="checkbox"/> c I blame myself all the time for my faults.</p> <p><input type="checkbox"/> d I blame myself for everything.</p>
<p>4.</p> <p><input type="checkbox"/> a I get as much satisfaction out of things as I used to.</p> <p><input type="checkbox"/> b I don't enjoy things the way I used to.</p> <p><input type="checkbox"/> c I don't get real satisfaction out of anything anymore.</p> <p><input type="checkbox"/> d I am dissatisfied or bored with everything.</p>	<p>9.</p> <p><input type="checkbox"/> a I don't have any thoughts of killing myself.</p> <p><input type="checkbox"/> b I have thoughts of killing myself, but I will not carry them out.</p> <p><input type="checkbox"/> c I would like to kill myself.</p> <p><input type="checkbox"/> d I would like to kill myself if I had the chance.</p>

<p>5.</p> <ul style="list-style-type: none"> <input type="checkbox"/> a I don't feel particularly guilty. <input type="checkbox"/> b I feel guilty a good part of the time. <input type="checkbox"/> c I feel guilty most of the time. <input type="checkbox"/> d I feel guilty all of the time. 	<p>10.</p> <ul style="list-style-type: none"> <input type="checkbox"/> a I don't cry anymore than usual. <input type="checkbox"/> b I cry now more than I used to. <input type="checkbox"/> c I cry all the time now. <input type="checkbox"/> d I used to be able to cry, but now I can't even cry even though I want to.
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During the past week...	During the past week...
<p>11.</p> <ul style="list-style-type: none"> <input type="checkbox"/> a I am no more irritated now than I ever was. <input type="checkbox"/> b I get annoyed or irritated more easily than I used to. <input type="checkbox"/> c I feel irritated all the time now. <input type="checkbox"/> d I don't get irritated at all by the things that used to irritate me. 	<p>17.</p> <ul style="list-style-type: none"> <input type="checkbox"/> a I don't get more tired than usual. <input type="checkbox"/> b I get tired more easily than I used to. <input type="checkbox"/> c I get tired from doing almost anything. <input type="checkbox"/> d I am too tired to do anything.
<p>12.</p> <ul style="list-style-type: none"> <input type="checkbox"/> a I have not lost interest in other people. <input type="checkbox"/> b I am less interested in other people than I used to be. <input type="checkbox"/> c I have lost most of my interest in other people. <input type="checkbox"/> d I have lost all of my interest in other people. 	<p>18.</p> <ul style="list-style-type: none"> <input type="checkbox"/> a My appetite is no worse than usual. <input type="checkbox"/> b My appetite is not as good as it used to be. <input type="checkbox"/> c My appetite is much worse now. <input type="checkbox"/> d I have no appetite at all anymore.
<p>13.</p> <ul style="list-style-type: none"> <input type="checkbox"/> a I make decisions about as well as I ever could. <input type="checkbox"/> b I put off making decisions more than I used to. <input type="checkbox"/> c I have greater difficulty in making decisions than before. <input type="checkbox"/> d I can't make decisions at all anymore. 	<p>19.</p> <ul style="list-style-type: none"> <input type="checkbox"/> a I haven't lost much weight, if any, lately. <input type="checkbox"/> b I have lost more than 5 pounds. <input type="checkbox"/> c I have lost more than 10 pounds. <input type="checkbox"/> d I have lost more than 15 pounds.
<p>14.</p> <ul style="list-style-type: none"> <input type="checkbox"/> a I don't feel I look any worse than I used to. <input type="checkbox"/> b I am worried that I am looking old or unattractive. <input type="checkbox"/> c I feel there are permanent changes in my appearance that make me look unattractive. <input type="checkbox"/> d I believe I look ugly. 	<p>20.</p> <ul style="list-style-type: none"> <input type="checkbox"/> a I am no more worried about my health than usual. <input type="checkbox"/> b I am worried about physical problems such as aches and pains, or upset stomach, or constipation. <input type="checkbox"/> c I am very worried about physical problems and it's hard to think of much else. <input type="checkbox"/> d I am so worried about my physical problems that I cannot think about anything else.

<p>15.</p> <ul style="list-style-type: none"><input type="checkbox"/> a I can work about as well as before.<input type="checkbox"/> b It takes an extra effort to get started at doing something.<input type="checkbox"/> c I have to push myself very hard to do anything.<input type="checkbox"/> d I can't do any work at all.	<p>21.</p> <ul style="list-style-type: none"><input type="checkbox"/> a I have not noticed any recent change in my interest in sex .<input type="checkbox"/> b I am less interested in sex than I used to be.<input type="checkbox"/> c I am much less interested in sex now.<input type="checkbox"/> d I have lost interest in sex completely.
<p>16.</p> <ul style="list-style-type: none"><input type="checkbox"/> a I can sleep as well as usual.<input type="checkbox"/> b I don't sleep as well as I used to.<input type="checkbox"/> c I wake up one to two hours earlier than usual and find it hard to get back to sleep.<input type="checkbox"/> d I wake up several hours earlier than I used to and cannot get back to sleep.	

Appendix D

PCL

Directions: Below is a list of problems and complaints that people sometimes have in response to stressful experiences. **Circle the number below to the right that indicates how much you have been bothered by that problem in the past week.**

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing <i>memories, thoughts, or images</i> of a stressful military experience?	1	2	3	4	5
2. Repeated, disturbing <i>dreams</i> , of a stressful military experience?	1	2	3	4	5
3. Suddenly <i>acting or feeling</i> as if a stressful military experience were <i>happening again</i> (as if you were reliving it)?	1	2	3	4	5
4. Feeling very upset when <i>something</i> reminded you of a stressful military experience?	1	2	3	4	5
5. Having <i>physical</i> reactions (e.g., heart pounding, trouble breathing, sweating) when <i>something</i> reminded you of a stressful military experience)?	1	2	3	4	5
6. Avoiding <i>thinking</i> about or <i>talking</i> about a stressful military experience or avoiding having <i>feelings</i> related to it?	1	2	3	4	5
7. Avoiding <i>activities</i> or <i>situations</i> because <i>they</i> reminded you of a stressful military experience?	1	2	3	4	5
8. Trouble <i>remembering important parts</i> of a stressful military experience?	1	2	3	4	5
9. Loss of <i>interest</i> in activities that you used to enjoy?	1	2	3	4	5
10. Feeling <i>distant</i> or <i>cut off</i> 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 <i>future</i> will somehow be <i>cut short</i> ?	1	2	3	4	5
13. Trouble <i>falling</i> or staying <i>asleep</i> ?	1	2	3	4	5

14.	Feeling irritable or having angry outbursts?	1	2	3	4	5
15.	Having <i>difficulty</i> concentrating?	1	2	3	4	5
16.	Being “super alert” or watchful or on guard?	1	2	3	4	5
17.	Feeling <i>jumpy</i> or easily startled?	1	2	3	4	5

BIOGRAPHICAL SKETCH

Kristie Marie Vera
 Kristie.Vera@gmail.com

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional*

INSTITUTION AND LOCATION	DEGREE	YEAR	FIELD OF STUDY
Baylor University Waco, TX	B.A.	2009	Psychology
The University of Texas Southwestern School of Allied Health Dallas, TX	M.R.C	2013	Rehabilitation Counseling Psychology

Positions and Employment

2012-current Research Coordinator, Memory Research Unit, UT Southwestern Medical Center

Clinical Experience

2011 Supported Employment Intern
 2012 Neuropsychological Assessments Intern

Professional Memberships

2012 National Rehabilitation Association