SELF-MUTILATIVE BEHAVIORS IN MALE VETERANS WITH POSTTRAUMATIC
STRESS DISORDER

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ABSTRACT

MATTHEW BRENT SACKS: Self-Mutilative Behaviors in Male Veterans with

Posttraumatic Stress Disorder

(Under the direction of Joseph Lowman)

The present paper examines self-mutilative behaviors (SMB) in a sample of male American veterans diagnosed with Posttraumatic Stress Disorder (PTSD). The study analyzed veterans' levels of PTSD symptomatology, depression, alcohol use, hostility, and impulsivity to determine which variables were related to SMB. Additionally, the antecedents and sequelae of SMB were examined to better understand the functions of these behaviors. A second type of "habit" behavior was examined as well: body-focused repetitive behaviors (BFRB). Findings indicated that veterans who did not engage in either type of habit behavior were older than those who engaged in SMB or BFRB. Veterans reporting SMB had higher levels of depression, hostility, and impulsivity compared to veterans who engaged in BFRB and those who engaged in no habit behaviors. Additionally, SMB was associated with higher levels of PTSD when compared to veterans who engaged in no habit behaviors. Results of a multinomial logistic regression analyses showed that age was the only variable which showed reliable enhanced prediction of group membership when controlling for all other variables. Examination of habit antecedents and sequelae showed support for the automatic-

positive reinforcement function of SMB. These findings are discussed in the context of research and treatment involving male veterans with PTSD who engage in SMB.

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BACKGROUND AND SIGNIFICANCE

Throughout the course of the current study self-mutilative behaviors (SMB) will be defined as the direct and deliberate destruction or alteration of one's own body tissue without suicidal intent (Gratz, 2001; Nock & Prinstein, 2005). Self-mutilative behaviors were first differentiated from actual suicidal acts by Menninger (1938), who viewed these mutilative behaviors as a nonfatal expression of the "self-destructive" impulse. Later research went on to differentiate between SMB and suicidal acts based on the individual's perception of the event and the proposed function of the behavior (Suyemoto, 1998). SMB typically refers to cutting, burning, or otherwise marking of one's own flesh, with the most frequently occurring type of behavior reported being self-cutting (Suyemoto, 1998; van der Kolk, Perry, & Herman 1991).

SMB Prevalence

Studies indicate that SMB is prevalent within the general population, as well as among inpatient and outpatient individuals. Previous research has shown that approximately 4% of the general adult population (Briere & Gil, 1998) and between 14 to 35% of college students have reported SMB (Favazza, DeRosear, & Conterio, 1989; Gratz, 2001). Klonsky, Oltmanns, and Turkheimer (2003) found that 4% of a sample of 1,986 military recruits reported a history of SMB. Studies have shown a 21% prevalence rate of SMB in adult clinical populations (Briere & Gil, 1998; Klonsky, et al., 2003). Other researchers argue that prevalence rates for SMB are deflated due to the frequency of cases of self-injury, without

suicidal intent, which are dismissed as attention ploys and not warranting mental health referrals (Romans et al., 1995). The presence of SMB has been identified more often in females than in males (Boudewyn & Liem, 1995; Langbehn & Pfohl, 1993; Makikyro et al., 2004; Suyemoto, 1998). Self-harm behaviors are considered serious actions as they have been linked to several negative outcomes, including an increased risk for successful suicide (Cooper et. al., 2005; Nelson & Grunebaum, 1971; Suominen, Isometsa, Haukka, & Lonnqvist 2004), as well as creating difficulties within interpersonal relationships and therapeutic clinical relationships (Favazza, 1998). Self-mutilative behaviors are common in many clinical populations including individuals diagnosed with borderline personality disorder (BPD), posttraumatic stress disorder (PTSD), dissociative disorders (Brown, Comtois, & Linehan, 2002; Gratz, 2001), and schizophrenia (Haw, Hawton, Sutton, Sinclair, & Deeks, 2005).

The term “parasuicidal behavior” refers to intentional and non-fatal acts of self-injury with or without suicidal intent (Kreitman, Philip, Greer, & Bagley, 1969). The category of parasuicidal behaviors encompasses SMB, as it also includes actions such as self-poisoning. Studies examining parasuicidal behavior have shown that half of those patients who present to emergency departments for parasuicide have a history of previous parasuicide (De Leo, Scocco, & Marietta, 1999; Hjelmeland, et al., 1998). Isometsa & Lonnqvist (1998) found that individuals who commit suicide are 44% more likely to have a history of parasuicidal behavior.

Functions of SMB

The functions of SMB have been the source of considerable inquiry and examination. Previous literature has largely centered on the theory that SMB serves to regulate emotions

(Brown, et al., 2002; Darche, 1990; Favazza, 1998; Haines, Williams, & Brain, 1995; Linehan, 1993a). However, more recent studies have moved from the theoretical to more functional approaches. Nock and Prinstein (2004) developed a four fold functional approach to SMB using an adolescent sample. The authors, utilizing findings from previous experimental studies on SMB (Iwata et al., 1994), found support for four primary functions of SMB that differed along two main dimensions: “contingencies that are automatic versus social and reinforcement that is positive versus negative” (Nock & Prinstein, 2004).

Together these two dimensions create four possible functions of SMB:

- *Automatic-negative reinforcement (A-N)*: refers to an individual’s use of SMB to reduce their experience of negative emotional states such as tension, sadness, or anxiety
- *Automatic-positive reinforcement (A-P)*: occurs when an individual engages in SMB in order to create some desired physiological or emotional state
- *Social-negative reinforcement (S-N)*: refers to an individual’s use of SMB to escape from or terminate interpersonal demands from other persons in their environment
- *Social-positive reinforcement (S-P)*- refers to an individual using SMB to elicit reactions and gain attention from others.

As previously stated, the automatic-negative reinforcement function of SMB is the most widely held view. Some experimental data has supported this claim, as Haines and colleagues (1995) demonstrated that individuals with a history of SMB showed a decrease in psychophysiological and subjective response during a self-mutilation imagery task, as compared to individuals with no history of SMB. Brown and colleagues (2002) found support for the automatic-positive reinforcement function of SMB, finding that persons with

BPD engaging in nonsuicidal SMB reported using these behaviors to regain “normal” feelings, to express anger, as well as to distract themselves. S-N has not been as commonly addressed in the literature, with most theorists focusing on the positively reinforcing social aspects of SMB (S-P). Nock and Prinstein (2004) found support for both the S-N and S-P functions of SMB within an adolescent clinical sample. The current study does not address the possible social functions of SMB due to measurement limitations.

Risk Factors for SMB

A review of the literature on SMB revealed numerous risk factors stemming specifically from childhood experiences. Some of the proposed risk factors for SMB which have been examined include emotional neglect, physical abuse, and sexual abuse experienced during childhood. Results on the connection between childhood physical and emotional neglect have been mixed, with some researchers finding both types of neglect to predict later SMB (van der Kolk et al., 1991) and others showing either partial support (Baral, Kora, Yuksel, & Sezgin, 1998), support for emotional neglect only (Dubo, Zanarini, Lewis, & Williams, 1997), or support with only female participants (Gratz, Conrad, & Roemer, 2002). Childhood physical abuse has also been studied as a risk factor for SMB, however empirical studies have been inconclusive (Gratz et al., 2002; Zweig, Hallie, & Guzder, 1994). The role that childhood sexual abuse (CSA) plays in SMB has received the most systematic examination (Gratz 2003), and suggests that there is indeed a relationship between traumatic childhood sexual abuse experiences and self-harm behaviors in adulthood (Boudewyn & Liem 1995; Favazza & Conterio, 1989; van der Kolk et. al., 1991). CSA has shown a stronger association with SMB than any other type of trauma experienced during childhood, with females reporting greater incidence of adult SMB than males (van der Kolk et. al.,

1991). Although there is substantial literature exploring childhood experiences and trauma as related to SMB, there is a lack of studies examining the specific relationship between SMB and traumas experienced in adulthood.

Posttraumatic Stress Disorder (PTSD)

Little is known about the association between traumatic events experienced during adulthood and self-harm behaviors. Most investigations into traumas which have been experienced later in life focus primarily upon actual suicidal behavior rather than less lethal SMB (Hyer, Woods, McCranie, & Boudewyns, 1990; Price, Risk, Haden, Lewis, & Spitznagel, 2004). Individuals who experience traumatic events during their childhood or in their adult years may go on to develop posttraumatic stress disorder (PTSD). 20 % of women and 8 % of men exposed to traumatic events will develop PTSD during the course of their lives (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). PTSD is characterized by three clusters of symptoms: (1) re-experiencing of trauma-related material, (2) avoidance and/or numbing, and (3) hyperarousal. Re-experiencing of traumatic events involves: a) intrusive memories, b) nightmares, c) reliving the experience(s) as if it were occurring at that moment (e.g., “flashbacks”), d) distressed reactions to reminders of the event(s), or e) physiological reactions to such reminders. Avoidance and numbing includes a) avoiding thoughts or feelings associated with the traumatic event(s), b) avoiding activities, places, or people which remind one of the event(s), d) inability to recall important aspects of the event(s), e) restricted range of affect, f) detachment from others, and g) diminished interest in significant activities. The third cluster of symptoms related to hyperarousal includes a) difficulty sleeping, b) irritability, c) problems concentrating, d) hypervigilance, and e) exaggerated startle response.

PTSD is associated with several negative outcomes including increased risk for suicidal ideation and suicidal behaviors (Ferrada-Noli, Asberg, Ormstad, Lundin, & Sundbom, 1998; Price et al., 2004). Major Depressive Disorder has been noted as a common comorbid diagnosis with PTSD for both men and women (Kimerling, Prins, Westrup, & Lee, 2004). The National Comorbidity Survey (NCS; Kessler et al., 1995) noted the presence of several comorbid diagnosis along with PTSD, including alcohol abuse/dependence, simple or social phobia, and conduct disorder. Rosenheck and Fontana (2001) noted that high risk behaviors such as suicide attempts, violence, and substance use persist among veterans with PTSD, even after treatment.

Several case studies have reported on individuals suffering from PTSD who displayed self-injurious behaviors (Greenspan & Samuel 1989; Lyons 1991; Pitman 1990). It appears that for each of these cases, SMB occurred within the context of PTSD symptomatology, serving as an automatic negative reinforcer (Greenspan & Samuel, 1989; Lyons 1991; Pitman, 1990). Pitman (1990) reported on the case of a male Vietnam veteran who would cut himself specifically to end feelings of depersonalization. While these case studies offer valuable information, it is clear that studies with a broader scope are necessary to assess and understand the occurrence of SMB within the context of adult trauma and PTSD.

Combat Related PTSD

Prevalence rates of PTSD amongst veterans have been examined based on the specific conflict in which the individual participated. Kulka and colleagues (1990) estimated that 13 to 17% of Vietnam theater veterans currently suffer from PTSD. Gulf War veterans of Desert Storm have shown a lower prevalence rate for PTSD of 1% (Barrett, et al., 2002). Recent attempts to examine PTSD in veterans from the Afghanistan and Iraq Conflicts have

estimated prevalence rates to be 11% in Afghanistan era veterans and 15 to 17% in Iraqi era veterans (Hoge et al., 2004). Combat related PTSD typically involves comorbid psychiatric disorders, chronic symptoms, as well as extreme social maladjustment (Turner, Beidel, & Frueth, 2005). Hoge and colleagues (2004) found that 35% of Iraq war veterans accessed mental health services in the year after returning home. Studies have also shown a strong correlation between level of combat exposure and increased rates of PTSD (Kaylor, King, & King 1987; Goldberg, True, Eisen, & Henderson, 1990). Byrne and colleagues (2004) investigated twins who served in Vietnam and found combat exposure to be the largest predictor of PTSD severity twenty years later. Traumatic events experienced before and after military service, including childhood traumas, have also been shown to be related to higher levels of PTSD severity (Clancy et al., in submission).

Military personnel as a whole have been shown to be at risk for suicide and self-inflicted injuries (Dycian, Fishman, & Bleich, 1994; Mahon, Tobin, Cusack, Kelleher, & Malone, 2005). The number of suicides among active duty U. S. Army soldiers and deployed National Guard and Reserve troops reached its highest level in 2005 (83 confirmed suicides) since 1993 (Baldor, 2006).

Affect and SMB

Theory and empirical research have shown support for the automatic-negative reinforcement function of SMB. Based on this literature, one would expect to see the presence of significant negative affective experiences within an SMB population. Previous research has shown an association between SMB and higher levels of depression and negative affect in adults (Klonsky et al., 2003; Neeleman, deGraaf, & Vollebergh, 2004; Sampson, Mukherjee, Ukoumunne, Mullan, & Bullock, 2004; Sar, Akyyz, Kundakci,

Kiziltan, & Dogan, 2004) and adolescents (Guertin, Lloyd-Richardson, Spirito, Donaldson, & Boergers, 2001). The presence of SMB has been noted in women experiencing post-partum depression (Clayton, 2004), depressed inmates placed in solitary confinement (Coid et al., 2003), and schizophrenic clients with a past depressive episode (Haw et al., 2005).

Alcohol Use and SMB

A review of the literature on alcohol use and SMB shows a consistent association between higher levels of alcohol use and reported SMB. The incidence of overall substance abuse and SMB within psychiatric inpatients samples has been observed (Langbehn & Pfohl, 1993; Roberts, Yeager, & Shriner, 2004; Sansone, Songer, & Miller, 2005). McCloud and colleagues (2004) found a 70% incidence of hazardous alcohol use among self-harming psychiatric inpatients. Associations between substance use and SMB have also been noted in adolescents (Hawton et al., 2003). Suominen and colleagues (2004) examined patients admitted to hospital emergency rooms due to SMB and found that male participants with a substance abuse disorder were more likely to die or commit suicide over the next five years. Alcohol abuse and alcohol dependence have shown high comorbidity rates (59% for men, 28% for women) for individuals diagnosed with PTSD (Kessler et al., 1995). Elevated levels of alcohol use have also been reported for male veterans with PTSD (Freeman & Roca, 2001).

Hostility and SMB

Another proposed function of SMB is that of hostility reduction, whereby individuals turn to self-mutilative behaviors due to an inability to fully express anger and hostility (Herpertz, Sass, & Favazza 1997; Soloff, Lis, Kelly, Cornelius, & Ulrich, 1994). This function has found empirical support within an adolescent sample (Ross & Heath, 2003).

Other studies have shown a more general association between SMB and higher levels of hostility (Safinofsky & Roberts, 1990). Sampson and colleagues (2004) found a relationship between SMB and hostility for adults admitted to an acute psychiatric ward, while Haines and colleagues (1995) found elevated levels of hostility in a sample of incarcerated males with a history of SMB.

Impulsivity and SMB

Impulsivity has also shown an association with SMB (Kingsbury, Hawton, & Steinhardt, 1999; Maser et al., 2002; Simeon, 2006). Parker and colleagues (2005) noted the poor impulse control evidenced by depressed patients who reported SMB. Crowell et al. (2005) studied adolescent girls with histories of parasuicidal behavior and observed physiological markers of impulsivity and emotional dysregulation. In a review of research on youths who engaged in SMB, Lowenstein (2005) noted that such individuals often showed signs of impulsivity. Mann, Waternaux, Haas, & Malone (1999) reported that impulsivity is more strongly associated with suicidal behaviors than depression severity.

Age and SMB

Existing literature shows a consistent pattern of results identifying the higher incidence of SMB among younger individuals. The WHO/EURO Study found that the greatest risk of hospital presentation for self-harm was in men aged 25-34, and in ages 15-24 for women (Schmidtke, Bille-Brahe, De Leo, & Kerkhof, 1996). Joyce and colleagues (2006) found that depressed patients younger than age 25 were more likely to report SMB than depressed patients older than 25. Similarly, Mann (2002) reported that compared with suicide, deliberate self-harm was more often associated with younger age. In their assessment of SMB across the lifespan for BPD inpatients, Sansone and colleagues (2002)

noted that SMB frequency increases until the age period of 18 to 24, but then remains relatively sustained until age 60 (participants in this study did not exceed age 60). Haw and colleagues (2001) interviewed patients admitted to a hospital who reported acts of deliberate self-harm. Their “representative” sample included a larger percentage of patients younger than 35 (65.3%), but did include individuals above the age of 55 as well.

Body-Focused Repetitive Behaviors (BFRB)

Self-mutilative behaviors have been differentiated from nervous “habit” behaviors such as nail biting, hair pulling, and teeth grinding, all of which have been considered to be repetitive and autonomic (Hansen, Tishelmen, Hawkins, & Doepke, 1990; Wilhelm et. al., 1999). Such behaviors are generally harmless for most people, however, recent research has focused on the maladaptive side of such habits. Studies have shown that these repetitive behaviors may lead to negative outcomes such as severe tissue damage, infections, scars, as well as negative psychological effects (Keuthen et al., 2000; Woods, Friman, & Tang 2001). The term body-focused repetitive behaviors (BFRB) has been used to refer to this sub-class of repetitious habit behaviors which are maladaptive and have negative consequences (Bohne et. al., 2002; Teng, Woods, Twohig, & Marcks 2002). BFRB is considered to be less dangerous and less pathological than SMB. Trichotillomania is one possible display of BFRB and is characterized by repetitive pulling of hair from one’s scalp and/or from other locations on the body. Studies utilizing collegiate samples suggest that BFRB is in fact prevalent and is more likely to occur in women than in men (Teng et. al., 2002). Teng and colleagues (2002) also found that college students engaging in BFRB were more likely to be anxious, depressed, and to exhibit BFRB while bored or disinterested in a current activity

than students with no history of BFRB. For the present paper, SMB and BFRB will be referred to collectively as “habit behaviors”.

It has been suggested that BFRB serves a similar function as SMB by reducing feelings of anxiety, depression, or boredom (Bohne et. al., 2002; Diefenbach, Mouton-Odum, & Stanley, 2002; Teng et. al., 2002). However, individuals who display BFRB report that while negative emotional states may sometimes be alleviated, these behaviors also can lead to increased feelings of shame, guilt, and regret (Teng et. al., 2002). Thus the functions of BFRB are not entirely clear and may serve multiple functions depending upon idiosyncratic contextual features.

Main Research Hypotheses

The present study sought to differentiate between individuals who engaged in SMB versus those who did not, within a selective sample of veterans meeting current diagnosis criteria for PTSD. This study examined differences on measures of PTSD severity, depression, alcohol use, hostility, and impulsivity between self-mutilators (SMB group), non-self mutilators who engaged in other habit behaviors (BFRB group), and veterans who did not engage in any habit behaviors (No Habit group). Based on findings from previous literature, *Hypothesis 1* predicted that the SMB group would report higher levels of PTSD severity, depression, alcohol use, hostility, and impulsivity.

The second portion of this study looked to specifically analyze the functions of SMB by examining physical, cognitive, negative affect, and contentment experiences reported before and after individuals engaged in self-mutilative behaviors. *Hypothesis 2a* predicted support for the A-N function of SMB for individuals whose most recent reported habit

behavior was self-mutilative. *Hypothesis 2b* predicted support for the A-P function of SMB for individuals who recently self-mutilated.

METHOD

Participants

Participants for this study came from a convenience sample of 753 treatment seeking military veterans evaluated at the Durham Veterans Affairs Medical Center (DVMC) PTSD Clinic between July 2000 and July 2004, consisting of 736 males and 17 females. Given that this number of females would not allow for proper statistical comparisons between genders, the seventeen women in the original sample were dropped from all analyses. Several new questionnaires and structured interviews were added to the intake assessments at the DVMC PTSD Clinic between 2000 and 2004, including three measures used in this study (HQ, CAPS and PAI; see descriptions below). To allow for consistent comparisons between groups, the 210 participants who did not complete these measures were dropped from all analyses.

All participants were screened for psychiatric disorders using the Structured Clinical Interview for DSM-IV – Clinician Version (SCID-CV; First, Spitzer, Gibbon, & Williams, 1997). From the remaining 543 males, 34 participants did not meet diagnostic criteria for current PTSD according to the SCID-CV and were dropped from the analyses. This data reduction resulted in a selective sample of 509 male veterans with PTSD. With respect to race, the sample consisted of 56.6% African Americans, 38.7% Caucasians, 2.4 % Hispanic, and 2.2% from other ethnic backgrounds. Participants completed the measures discussed

below as part of a comprehensive assessment administered upon their request for services from the PTSD Clinic at the DVMC.

Measures

Habit Questionnaire (HQ; Resnick & Weaver, 1994)

The HQ is an 11-item inventory that measured both BFRB (e.g., biting nails, grinding teeth) and SMB (e.g., burning self, cutting self). Participants were first asked if they had ever engaged in such behaviors (lifetime inquiry). If participants responded affirmatively to the item, they were then asked how often they had engaged in the behavior during the previous two weeks (current inquiry): 0= *not at all*, 1= *once*, 2= *two to four times*, and 3= *five or more times*. On the second half of the HQ, participants were asked to identify the behavior(s) which they engaged in most recently. They were asked when the most recent behavior(s) occur(ed): 1= *past two weeks*, 2= *past month*, 3= *past 6 months*, 4= *past year*, 5= *over a year ago*. The final sections of the HQ assessed the antecedent and consequent physical sensations, cognitions, and emotions experienced surrounding the most recent behavior(s).

Only one known study has reported using the HQ. Weaver, Chard, Mechanic, and Etzel (2004) created a composite measure of “self injurious behaviors” by summing the total score of all currently endorsed behaviors on the HQ, but removed two items due to low base rates (self-cutting and self-burning items); internal consistency for this summed score was 0.67.

Q-Sort #1: SMB / BFRB Group Membership

The Habit Questionnaire has not received extensive use in the field, and thus an underlying factor structure has yet to be established. Given the nature of this questionnaire

(non-continuous data with low base rates for key variables) and the stated purpose of the current study (not involving measurement assessment or validation), items on the HQ were grouped according to the results of a Q-Sort procedure, creating two separate groupings of behaviors: self-mutilative behaviors and body-focused repetitive behaviors [see Table 1]. Only participants who reported engaging in any of the SMB items in the previous two weeks were placed in the "SMB Group", while those who reported engaging in BFRB habits in the previous two weeks were placed in the "BFRB Group". Participants who did not report engaging in any of the behaviors listed on the HQ were placed in the "No Habit" group.

A Q-Sort was conducted by giving a randomized list of the eleven items of the HQ to a group of clinical psychologists and graduate students with knowledge of SMB. These individuals were instructed to sort the eleven items into two categories (SMB or BFRB) based on the stated definition of SMB behaviors as “the direct and deliberate destruction or alteration of one’s own body tissue without suicidal intent” (see Appendix B for Q-Sort instructions). Results from Q-Sort #1 showed an 89% agreement rate on the creation of the SMB and BFRB item categories [see Table 1].

Q-Sort #2: Habit Antecedents and Sequelae

The second portion of the Habit Questionnaire inquired about sensations, cognitions, and emotions experienced before and after the most recent habit event. Once again, the division of items on this section of the HQ was based on the results from a second Q-Sort. This Q-Sort was also conducted by giving a randomized list of these twenty-three items from the second portion of the HQ to a group of clinical psychologists and graduate students with knowledge of SMB. These individuals were instructed to sort the 23 items into four categories: 1) Physical, 2) Dissociative / Cognitive, 3) Negative Affect, and 4) Contentment.

Results from Q-Sort #2 showed a 99.25% agreement rate for items in the “Physical” and “Contentment” categories, but only a 74.4% agreement rate for items in the other two categories (two items had < 55% agreement). Given the fact that all disagreements on Q-Sort #2 for the Dissociative / Cognitive and Negative Affect categories involved placements within these same two categories, a combined category was created: “Cognitive / Negative Affect”, resulting in a total of three categories [see Table 2].

Beck Depression Inventory (BDI; Beck & Steer, 1987)

The BDI is a 21-item inventory that measured cognitive and vegetative symptoms of depression. The inventory has a split half reliability of .93. Correlations with clinician ratings of depression range from .62 to .65 (Beck & Steer, 1987).

Alcohol Use Disorders Identification Test (AUDIT; Babor, de la Fuente, Saunders, & Grant, 1992)

The AUDIT is a 10-item self-report screening measure for harmful alcohol consumption with an overall score of 0 (lowest) to 40 (highest) and scores on three sub-domains (hazardous alcohol use, presence or emergence of alcohol dependence, and harmful alcohol use). A cut-off of > 8 is used to detect hazardous or harmful alcohol consumption (Saunders et al., 1993; Fiellin et al., 2000). The measure was found to have a 95-100% sensitivity in a sample of problem drinkers (Babor et al., 1992), and has shown decent reliability ($\alpha = 0.84$; Alati et al., 2004).

Cook-Medley Hostility Scale (Cook-Medley; Barefoot, Dodge, Peterson, Dahlstrom, & Williams, 1989)

A short self-report form of the original Cook-Medley scale, consisting of 27 rationally and empirically derived items, yielded a total score as well as scores for cynicism,

hostile affect, and aggressive responding. The short form has shown decent construct validity for the primary hostility components of cynicism and mistrust (Barefoot, et al., 1989). The original scale was derived empirically from the Minnesota Multiphasic Personality Inventory and has demonstrated adequate validity (Smith & Frohm, 1985) and test-retest reliability (Barefoot, Dahlstrom, & Williams, 1983).

Personality Assessment Inventory (PAI; Morey, 1991)

The PAI is a 344-item self-report measure of personality and psychopathology. The PAI has demonstrated reliability and validity in use with both clinical and non-clinical adult populations (see Morey, 1991 for a review). The PAI contains a number of subscales, each of which relies on different questions with no overlap of the same questions between scales. Responses to items range from 0 (false) to 3 (always) indicating the degree to which each statement is true. Items are summed to derive subscale scores with higher scores reflecting more severe symptomatology. The current study will utilize the BOR-S subscale. The BOR-S subscale consists of 6 items and is a measure of self-harm, and of the tendency to act impulsively without attention to consequences (Morey, 1991).

Structural Clinical Interview for DSM-IV Axis I Disorders – Clinician Version (SCID-CV; First, et al., 1997)

The SCID-CV is a semi-structured interview for use by clinicians designed to assess Major Axis I disorders according to the Diagnostic and Statistical Manual (DSM-IV; APA, 1994). Clinicians are instructed to use the structured questions, but are allowed to ask additional questions for clarification purposes.

Clinician Administered PTSD Scale (CAPS; Blake et al., 1990)

The CAPS is a structured interview that assessed the 17 symptoms of PTSD identified in the DSM-IV (APA, 1994). The CAPS includes standardized questions which assess the frequency and intensity of PTSD symptoms, as well as standardized questions addressing subjective distress, and impairment in social and occupational functioning due to these PTSD symptoms. Symptoms are assessed for frequency and intensity in the preceding month, using a 5-point Likert scale (e.g., 0 indicates that the symptom does not occur or does not cause distress; 4 indicates that the symptom occurs nearly every day or causes extreme distress and discomfort). The CAPS has strong support for its reliability and validity (e.g., Weathers, Keane, & Davidson, 2001), and has been shown to be sensitive to the detection of PTSD. In the current study PTSD severity scores were generated using the CAPS total severity score for all 17 symptoms (frequency + intensity). Subscale scores were generated by combining frequency and intensity ratings for re-experiencing, avoidance, and hyperarousal subscales.

RESULTS

Missing Data

The data set was examined for missing data and data abnormalities prior to any statistical analysis. As discussed earlier, subjects who did not complete the HQ, CAPS or PAI, were removed from the data set. Examination of HQ items showed consistent patterns of missing data which suggested that certain participants believed that a non-response to items of the HQ was equivalent to reporting that the behavior or experience did not occur. These missing values were transformed to “0” for the HQ only. There were no other missing data points observed in the data set. To allow for a more parsimonious discussion of all results the reduced data set (N=509) was also used to test Hypotheses 2a & 2b.

Group Membership

Of the 509 veterans in the data set, 54.8% (n=279) reported engaging in one or more of the self-mutilative behaviors in the previous two weeks, 33.2% (n=169) reported engaging in one or more of the body-focused repetitive behaviors in the previous two weeks, and 12.0% (n=61) did not report engaging in either type of habit behavior in the previous two weeks. The SMB group was comprised of individuals who reported engaging in both SMB and BFRB habits within the past two weeks. Of these 279 subjects, only 12 individuals reported engaging in SMB habits, but not BFRB habits. As this subset of “SMB Only” individuals was so small, this group was included into the larger SMB group. The BFRB

group included individuals who reported engaging in only BFRB habits within the previous two weeks. Finally, the No Habit group included those subjects who did not report engaging in either type of habit within the previous two weeks.

Demographics

Table 3 shows mean ages for the reduced data set, broken down by habit group membership. A one-way between-groups analysis of variance was conducted to explore the relationship between age and group membership. There was a statistically significant difference at the $p < .05$ level in age for the three groups [$F(2,506)=7.623, p=.001$]. Post-hoc comparisons using the Tukey HSD test indicated that the mean age for the No Habit group ($M=57.15, SD=7.75$) was significantly higher than the mean age for both the SMB group ($M=53.46, SD=7.71$) and the BFRB group ($M=52.66, SD=7.91$). The SMB and BFRB groups did not differ significantly from one another.

Tables 4 and 5 show ethnicity and marital status information for the reduced data set, broken down by habit group membership; there were no significant differences between groups for ethnicity or marital status.

Table 6 shows mean scores on PTSD severity (CAPS), depression (BDI), alcohol use (AUDIT), hostility (Cook-Medley), and impulsivity (PAI-BORS) broken down by habit group membership. A series of one-way between-groups analysis of variance (ANOVA) procedures were conducted to explore the relationship between group membership and the five variables listed above. A Bonferroni corrected alpha level of $p < .01$ was set for this series of ANOVAs.

PTSD Severity

There was a statistically significant difference in overall CAPS scores between the three groups [$F(2,506)=4.94$, $p=.007$]. Post-hoc comparisons using the Tukey HSD test indicated that the mean CAPS score for the SMB group ($M=83.04$, $SD=19.19$) was significantly higher than both the BFRB Group ($M=78.88$, $SD=19.42$) and the No Habit group ($M=75.38$, $SD=22.17$). The BFRB and No Habit groups did not differ significantly from one another (See Figure 1).

In order to further examine the difference observed between groups on PTSD severity scores, another series of ANOVAs were conducted to explore the relationship between group membership and the three PTSD subscales of the CAPS: re-experiencing, hyperarousal, and avoidance. The Bonferroni correction for this series of ANOVAs was set at $p<.017$; results are presented in Table 7.

There were not statistically significant differences at the $p<.017$ level in any of the three CAPS subscale scores for the three groups: re-experiencing [$F(2,506)=3.98$, $p=.019$]; avoidance [$F(2,506)=2.65$, $p=.071$]; hyperarousal [$F(2,506)=3.90$, $p=.021$].

Depression

There was a statistically significant difference in BDI scores for the three groups [$F(2,506)=9.326$, $p<.001$]. Post-hoc comparisons using the Tukey HSD test indicated that the mean BDI score for the SMB group ($M=33.81$, $SD=11.43$) was significantly higher than both the BFRB group ($M=29.76$, $SD=10.59$) and the No Habit group ($M=29.03$, $SD=10.77$). The BFRB and No Habit groups did not differ significantly from one another (See Figure 2).

Alcohol Use

There was not a statistically significant difference in alcohol use scores for the three groups [$F(2,506)=1.524$, $p=.219$].

Hostility

There was a statistically significant difference in Cook-Medley scores for the three groups [$F(2,506)=6.793$, $p=.001$]. Post-hoc comparisons using the Tukey HSD test indicated that the mean hostility score for the SMB group ($M=18.51$, $SD=4.78$) was significantly higher than both the BFRB group ($M=17.12$, $SD=5.07$) and the No Habit group ($M=16.46$, $SD=5.04$). The BFRB and No Habit groups did not differ significantly from one another (See Figure 3).

Impulsivity

There was a statistically significant difference in PAI-BORS scores for the three groups [$F(2,506)=9.105$, $p<.001$]. Post-hoc comparisons using the Tukey HSD test indicated that the mean PAI-BORS score for the SMB group ($M=60.38$, $SD=14.08$) was significantly higher than both the BFRB group ($M=57.07$, $SD=12.72$) and the No Habit group ($M=52.90$, $SD=11.19$). The BFRB and No Habit groups did not differ significantly from one another (See Figure 4).

Correlations

The relationship between measures of PTSD severity, alcohol use, depression, hostility, and impulsivity were investigated using Pearson product-moment correlation coefficients. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. No violations were detected. Results of these correlations are presented in Table 8. All variables were significantly positively correlated with one another, except for the relationships between PTSD severity and alcohol use and PTSD severity and hostility; age was negatively correlated with all other variables, showing a significant negative correlation with PTSD severity.

Hypothesis 1

In order to test Hypothesis 1, a multinomial logistic regression (MLR) analysis was performed through SPSS NOMREG (SPSS for Windows, release 11.5.0, SPSS Inc., Chicago, IL) to assess prediction of membership in one of three categories of outcome (self-mutilating veterans, veterans with only body-focused repetitive behaviors, and veterans engaging in neither type of habit behavior), on the basis of eight predictors. This group of predictors included PTSD severity as assessed in the CAPS interview, broken down by re-experiencing symptoms (CAPS-B), avoidance symptoms (CAPS-C), and hyperarousal symptoms (CAPS-D), depression (BDI), alcohol use severity (AUDIT), hostility (Cook-Medley), impulsivity (PAI-BORS), and age.

As discussed earlier, those cases where the HQ, CAPS, and PAI were never administered were removed from the data set. Examination of the remaining data set showed no missing values. Regarding the assumptions of MLR, our observations were indeed independent, and the logit of our independent variables was linearly related to the dependent variable.

There was a good model fit (discrimination among groups) on the basis of the eight predictors, $\chi^2(1000, N = 509) = 913.044$, $p = .977$, Nagelkerke $\eta^2 = .118$ using a deviance criterion. Overall classification was unimpressive. On the basis of the 8 variables, correct classification rates were 90.0% for self-mutilating veterans, 21.3% for veterans with only body-focused repetitive behaviors, and 4.9% for veterans engaging in neither type of habit behavior; the overall correct classification rate was 57.0% (See Table 9). Thus we see that cases were over classified into the largest group: self-mutilating veterans.

Table 10 shows the contribution of the individual predictors to the model by comparing models with and without each predictor. Values in the “ χ^2 to remove” column of Table 10 are obtained by testing the improvement in model fit with and without each individual predictor (Tabachnick & Fidell, 2001). Bonferroni corrected alpha level was set at $p < .006$. Only one predictor, age, showed reliable enhanced prediction [$\chi^2(2, N = 509) = 14.621, p = .001$]. Mean age differences presented earlier showed that veterans in the No Habit group were significantly older than veterans in the SMB group or the BFRB group (See Table 3).

Hypotheses 2a and 2b

For Hypotheses 2a and 2b, the data set was reduced to include only those individuals who reported engaging in either type of habit behavior within the previous two weeks ($n = 418$). From this reduced sample, 43.1% ($n = 180$) reported that their most recent habit behavior was SMB, while 56.9% ($n = 238$) reported recently engaging in BFRB. Table 11 displays the percentage of individuals who reported experiencing physical, cognitive / negative affect, or contentment experiences broken down by habit group membership and time (“Before” or “After” the recent habit event). A series of chi-square tests were conducted to explore the relationship between group membership and reported habit antecedents and sequelae. While chi-square procedures assume independence of groups, McNemar’s test allows for the comparison of dependent proportions (Motulsky, 1995). Therefore, a series of McNemar’s tests were conducted in order to explore the relationship between time and reported habit antecedents and sequelae within groups. The Bonferroni corrected alpha level for both the chi-square and McNemar’s analyses was set at $p < .004$.

Physical Sensations

Before Habit Behavior

The proportion of individuals in the SMB group who reported experiencing physical sensations prior to engaging in a habit behavior was 52%, while the proportion of individuals in the BFRB group reporting physical sensations prior to engaging in a habit behavior was 36%. This difference in proportions (16%) was significant, $\chi^2(1, N = 418) = 10.17, p=.001$.

After Habit Behavior

47% of the SMB group reported experiencing physical sensations after engaging in SMB, compared to 31% of the BFRB group who reported physical sensations after BFRB. This difference in proportions (16%) was also significant, $\chi^2(1, N = 418) = 10.64, p=.001$.

Within Groups

There was a 5% decrease in the proportion of the SMB group that reported physical sensations before engaging in SMB (52%) compared to after SMB (47%); this difference in proportions was not significant, McNemar's $\chi^2(1, N = 180) = 1.53, p>.004$. The BFRB group also showed a 5% decrease in the proportion of individuals who reported physical sensations prior to engaging in BFRB (36%), compared to afterwards (31%); this difference in proportions was not significant, McNemar's $\chi^2(1, N = 238) = 2.32, p>.004$ (See Table 11).

Cognitive/Negative Affect

Before Habit Behavior

67% of the SMB group reported experiencing cognitive / negative affect antecedents while 51% of the BFRB group reported cognitive / negative affect antecedents. This difference in proportions (16%) was significant, $\chi^2(1, N = 418) = 10.08, p=.001$.

After Habit Behavior

The proportion of the SMB group reporting cognitive / negative affect sequelae was 63% while 43% of the BFRB group reported such experiences. This difference in proportions (20%) was also significant, $\chi^2(1, N = 418) = 16.17, p < .001$.

Within Groups

There was a 4% decrease in the proportion of the SMB group that reported cognitive / negative affect antecedents (67%) compared to cognitive / negative affect sequelae (63%); this difference in proportions was not significant, McNemar's $\chi^2(1, N = 180) = 1.328, p > .004$. The BFRB group showed a 9% decrease in the proportion of individuals who reported cognitive / negative affect antecedents (51%), compared to cognitive / negative affect sequelae (42%); this difference in proportions was not significant, McNemar's $\chi^2(1, N = 238) = 5.88, p > .004$ (See Table 11).

Contentment

Before Habit Behavior

There was a 6% difference between the proportion of the SMB group reporting contentment antecedents (11%) compared to the proportion of BFRB group members reporting contentment antecedents (5%). This difference in proportions was not significant, $\chi^2(1, N = 418) = 3.55, p = .033$.

After Habit Behavior

There was a 15% difference between the proportion of the SMB group who reported contentment sequelae (38%) compared to the proportion of the BFRB group who reported contentment sequelae (23%). This difference in proportions was significant, $\chi^2(1, N = 418) = 10.571, p = .001$.

Within Groups

There was a 27% increase in the proportion of the SMB group that reported contentment antecedents (11%) compared to contentment sequelae (38%); this difference in proportions was significant, McNemar's $\chi^2(1, N = 180) = 33.817, p < .0001$. The BFRB group showed an 18% increase in the proportion of individuals who reported contentment antecedents (5%), compared to contentment sequelae (23%); this difference in proportions was significant, McNemar's $\chi^2(1, N = 238) = 39.340, p < .0001$ (See Table 11).

Correlations

In order to examine the relationship between the set of habit antecedents and habit sequelae, a series of correlations was conducted. These variables were categorical in nature, therefore the tetrachoric correlation procedure was utilized because it allows for the estimation of the relationship between non-continuous variables (Cohen & Cohen, 1983). Tables 12 and 13 display the tetrachoric correlations for the SMB and BFRB groups respectively.

SMB Group

For the SMB group, there was a strong positive relationship between physical antecedents and physical sequelae [$r=.61, n=180, p<.01$], and a medium positive relationship between physical antecedents and cognitive / negative affect antecedents [$r=.48, n=180, p<.01$]. A strong positive relationship was observed between physical sequelae and cognitive / negative affect sequelae [$r=.65, n=180, p<.01$]; a medium positive correlation was observed between physical sequelae and contentment sequelae [$r=.32, n=180, p<.01$]. Cognitive / negative affect antecedents showed a medium positive relationship to cognitive / negative affect sequelae [$r=.42, n=180, p<.01$]. Finally, cognitive / negative affect sequelae showed a

medium positive relationship to contentment sequelae for the SMB group [$r=.47$, $n=180$, $p<.01$] (See Table 12).

BFRB Group

For the BFRB group, there were strong positive relationships between physical antecedents and physical sequelae [$r=.63$, $n=238$, $p<.01$], and between physical and cognitive / negative affect antecedents [$r=.63$, $n=238$, $p<.01$]. Physical antecedents also showed medium positive correlations with cognitive / negative affect sequelae [$r=.35$, $n=238$, $p<.01$] and with contentment sequelae [$r=.30$, $n=238$, $p<.01$]. There was a medium positive relationship between physical sequelae and cognitive / negative affect antecedents [$r=.36$, $n=238$, $p<.01$], a strong positive relationship between physical sequelae and cognitive / negative affect sequelae [$r=.54$, $n=238$, $p<.01$], and a strong positive relationship between physical sequelae and contentment sequelae [$r=.53$, $n=238$, $p<.01$]. Cognitive / negative affect antecedents showed a strong positive relationship to cognitive / negative affect sequelae [$r=.57$, $n=238$, $p<.01$], while cognitive / negative affect sequelae showed a medium positive relationship to contentment sequelae [$r=.41$, $n=238$, $p<.01$]. Lastly, contentment antecedents showed a strong positive relationship to contentment sequelae for the BFRB group [$r=.69$, $n=238$, $p<.01$] (See Table 13).

Post Hoc Analysis: Habit Questionnaire

Item #5 of the Habit Questionnaire (“Have you ever scratched or picked at skin so that it left a mark?”) was identified via Q-Sort #1 as an SMB item. To investigate the implications of classifying this item as SMB, all main analyses were run with item #5 re-categorized as BFRB.

Post Hoc Analysis: Group Membership

Based on the categorization of HQ item #5 as BFRB, 29.1 % (n=158) of the 509 veterans in the data set reported engaging in SMB in the previous two weeks, 58.0% (n=315) reported engaging in only BFRB in the previous two weeks, and 12.9% (n=70) reported engaging in neither type of behavior in the previous two weeks. Table 14 shows a comparison of group membership between the initial and Post Hoc habit groupings.

Additional Post Hoc Testing

A second series of one-way between-groups analysis of variance procedures were conducted to explore the relationship between group membership and PTSD severity, depression, alcohol use, hostility, impulsivity, and age. Results were not substantively different from those found with the initial analyses.

A second multinomial logistic regression analysis was performed and yielded equivalent results to the first logistic regression presented earlier. A second series of Chi-square and McNemar's tests were also conducted to explore the relationship between reported habit antecedents and sequelae within groups and between groups. Again, the results of these tests were equivalent to those found from the earlier set of analyses. Finally, another series of tetrachoric correlations were conducted to examine the relationship between the set of habit antecedents and habit sequelae. These correlations were also consistent with correlations presented earlier.

Post Hoc Analyses: Controlling for Age

While significant differences were observed between groups on measures of PTSD, depression, hostility, and impulsivity, it is possible that another variable may have influenced these observed differences. To examine the effect of age on these measures, a series of one-

way between-groups analysis of covariance (ANCOVA) procedures were conducted; due to unequal sample sizes, Type 1 Sums of Squares were calculated for each of the following ANCOVAs (Tabachnick & Fidell, 2001). Once again, Bonferroni corrected alpha level was set at $p < .01$. After adjusting for age, CAPS scores showed a trend towards significantly varying with habit group status [$F(2,506)=4.35, p=.01$]. The strength of the relationship between adjusted CAPS scores and habit group status was weak, with partial $\eta^2 = .02$. Age accounted for less than 2% of the variance in CAPS scores as well (see Table 15).

A second ANCOVA was run to examine the effect of age on BDI scores. After adjusting for age, there was still a significant difference between the three habit groups on BDI scores [$F(2,506)=9.07, p<.001$]. The strength of the relationship between adjusted BDI scores and habit group status was weak, with partial $\eta^2 = .04$. The strength of the relationship between age and BDI scores was also weak, partial $\eta^2 = .01$ (see Table 16).

To examine the effect of age on Cook-Medley scores, a third ANCOVA was conducted. After adjusting for age, there remained a significant difference between the three habit groups on Cook-Medley scores [$F(2,506)= 6.74, p=.001$]. The strength of the relationship between adjusted Cook-Medley scores and habit group status was weak, with partial $\eta^2 = .03$. The relationship between age and Cook-Medley scores was not significant. (see Table 17).

A final ANCOVA was run to examine the effect of age on PAI-BORS scores. After adjusting for age, there continued to be a significant difference between the three habit groups on PAI-BORS scores [$F(2,506)= 8.47, p<.001$]. The strength of the relationship between adjusted PAI-BORS scores and habit group status was also weak, with partial $\eta^2 =$

.03. The relationship between age and PAI-BORS scores was also not significant. (see Table 18).

DISCUSSION

The present study examined the nature of self-mutilative behaviors within a sample of male veterans diagnosed with post-traumatic stress disorder. While previous research has examined SMB within the context of other psychopathologies, the current work represents the first known large scale attempt to examine SMB within the specific population of male veterans with PTSD. Earlier studies have identified a 21% prevalence rate of SMB in adult clinical populations (Briere & Gil, 1998; Klonsky, et al., 2003). Our results indicated that male veterans with PTSD were much more likely to engage in self-mutilative behaviors, as 54.8% of the current sample reported engaging in SMB within the previous two weeks, and 65.8% reported engaging in SMB over the course of their lifetime.

Hypothesis 1

Consistent with previous research and Hypothesis 1, recent self-mutilators displayed significantly higher levels of depression, hostility, and impulsivity in comparison to veterans who reported only body-focused repetitive behaviors and veterans who reported no habit behaviors within the previous two weeks (See Table 6). In partial support of Hypothesis 1, self-mutilators showed significantly higher levels of PTSD severity in comparison to veterans who reported no habit behaviors; there were no other group differences in regards to PTSD severity. Although the SMB group reported higher levels of alcohol use compared to the other two groups, this difference was not significant ($p=.074$).

Results from the multinomial logistic regression showed that while there was a good model fit on the basis of the eight predictors, overall classification was poor and only one predictor, age, showed reliable enhanced prediction of group membership when controlling for all other variables ($p < .006$). Examination of age showed that veterans in the No Habit group were significantly older than veterans who engaged in SMB or BFRB; SMB and BFRB group members were not different from each other in regards to age (See Table 3).

PTSD Severity

In the present study, male veterans reporting recent SMB displayed higher levels of PTSD severity compared to veterans who did not engage in any habit behaviors in the previous two weeks; the SMB and BFRB groups did not differ. While these findings do not fully support Hypothesis 1, the relationship between SMB and greater PTSD severity was predicted based on previous reports of the greater incidence of SMB amongst individuals experiencing childhood traumas (Boudewyn & Liem 1995; Favazza and Conterio, 1989; van der Kolk et. al., 1991). It is important to recognize that all of the veterans in this sample carried a current diagnosis of PTSD. Thus a restricted range existed for our measure of PTSD symptomatology, increasing the difficulty of detecting significant differences between groups. Still, within this circumscribed group of traumatized veterans, SMB was related to higher levels of PTSD severity compared to individuals who reported no habit behaviors. We cannot accurately state that PTSD severity is a specific marker of SMB due to the significant positive correlations between PTSD severity and depression, impulsivity, and age (See Table 6). These relationships between variables make it difficult to precisely describe the association between PTSD and SMB. While ANCOVA results showed that age marginally affected CAPS score differences, the relationship between age and CAPS scores

was weak (partial $\eta^2 = .01$; see Table 15). It should also be noted that habit group status accounted for 1.3% of the variance in the sample's CAPS scores. Thus while SMB was related to higher CAPS scores, this relationship was weak. Future research should look to determine more explicitly how SMB functions within the context of PTSD.

Depression

Self-mutilating veterans reported significantly higher levels of depressive symptoms compared to veterans who engaged in BFRB, and to those who reported no habit behaviors within the previous two weeks. A post hoc examination of the data set showed that 73% of the SMB group carried a current diagnosis of Major Depressive Disorder or Bipolar Disorder, compared to 62.7% of the BFRB group, and 62.3% of the No Habit group. Previous research has shown a link between depression and PTSD in a veteran sample (Mozley, Miller, Weathers, Beckham, & Feldman, 2005), as well as an association between depression and SMB (Klonsky et al., 2003; Sampson et al., 2005). Given this literature, it is not surprising that high levels of depressive symptoms were noted in the current sample of traumatized veterans, some of whom reported SMB. Beck has previously suggested a 12/13 cut-off score for identifying depression in psychiatric patients, noting that scores of 30 or higher indicates severe depression (Beck & Beamesdefor, 1974). In the current sample, 57% (290) of the veterans scored 30 or higher on the BDI. Reported depressive symptoms did not predict group membership while controlling for other measures of psychopathology; depression scores were also significantly positively correlated with measures of PTSD severity, alcohol use, hostility, and impulsivity. Despite the observed differences on BDI scores among groups, only 3.5% of the variance in depression scores was accounted for by

habit group status. Further studies are needed to clarify the association between SMB, PTSD, and depression.

Hostility

As predicted by Hypothesis 1, male veterans that reported recent SMB displayed higher levels of hostility as compared to veterans who engaged in BFRB and to those who did not engage in any habit behaviors. Earlier studies have identified relationships between hostility and PTSD (Beckham, Roodman, Barefoot, & Haney, 1996; Chemtob, Hamada, Roitblat, & Muraoka, 1994; Crowson, Frueh, & Snyder, 2001; Holmes & Slap, 1998), between hostility, depression, and PTSD (Holtzheimer, Russo, Zatzick, Bundy, & Roy-Byrne, 2005) and between hostility and SMB (Safinofsky & Roberts 1990; Sampson et al., 2004). The mean Cook-Medley score of the current sample was 17.81 (SD=4.96) out of a maximum score of 27, indicating that the sample as a whole showed elevated levels of hostility. Hostility also showed significant positive correlations with depression, alcohol use, and impulsivity. Once again, habit group status accounted for only a small portion, 2.6%, of the variance in hostility scores. Further studies are necessary to elucidate the role that hostility plays within the context of PTSD, SMB, and depression.

Impulsivity

Self-mutilating veterans showed significantly higher levels of impulsivity compared to veterans who engaged in BFRB, and to those who reported no habit behaviors. Impulsivity has shown associations with PTSD (Joseph, Dalglish, Thrasher, & Yule, 1997; McFall, Fontana, Raskind, & Rosenheck, 1999), and with SMB (Kingsbury et al., 1999; Maser et al., 2002; Simeon, 2006). Kotler, Iancu, Efroni, and Amir (2001) found that individuals with PTSD evidenced higher levels of impulsivity, anger, and suicide risk. In

their examination of Vietnam era male veterans, Serocynski and colleagues (1999) showed a connection between genetic and environmental influences on impulsivity and reactive forms of aggression. In the present study, impulsivity demonstrated significant positive correlations with PTSD severity, alcohol use, depression, and hostility. Only 3.2% of the variance in impulsivity scores was accounted for by habit group membership. Thus while SMB was related to higher PAI-BORS scores, this relationship was weak. Future research is needed to clarify the way in which the traits of impulsivity and hostility, and symptoms of PTSD and depression interact and co-exist with self-mutilative behaviors.

Alcohol Use

There were no differences observed between groups in terms of reported alcohol use, with all three groups reporting hazardous / harmful levels of alcohol use. This finding is consistent with previous literature on the high incidence of alcohol use amongst male veterans with PTSD (Freeman & Roca 2001). An argument can be made that this null finding in alcohol use differences is due to the restricted range of high levels of alcohol use among individuals with PTSD. However, this null finding exists within the context of several other observed differences between veterans with and without SMB along dimensions where previous literature has shown strong associations. Therefore, we are justified in asserting that level of alcohol use does not differentiate between male veterans with PTSD who do or do not engage in SMB.

Age

Veterans who engaged in SMB or BFRB were significantly younger than those who did not engage in either type of habit behavior. This result was consistent with previous research examining the connection between SMB and younger individuals (Sansone et al.,

2002; Schmidtke et al., 1996). Results from the multinomial logistic regression indicated that despite the presence of other variables related to SMB, age uniquely predicted group membership within our sample of traumatized male veterans. Post hoc ANCOVA analyses showed that age was only significantly related to PTSD severity, but this effect size was relatively small (partial $\eta^2 = .02$).

The current study found that SMB was prevalent among older veterans, as 49.8% ($n=103$) of subjects above the age of 55 reported SMB within the previous two weeks. Previous research has observed self-harm behaviors among older individuals, noting the greater risk of completed suicide, and likelihood of repetition of such behaviors within this population (Hepple & Quinton, 1997; Lamprecht, Pakrasi, Gash, & Swann, 2005; Ruths, Tobiansky, & Blanchard, 2005). Shah, Hoxey, and Mayadunne (2000) observed an association between deliberate self-harm behaviors and increased general mortality rates in elderly inpatients. Future research should look to examine SMB in traumatized males, perhaps utilizing longitudinal designs. The results of such research could allow us to understand the emergence and prevalence of SMB across the lifespan of traumatized males.

Studies of BFRB have typically been conducted with collegiate samples and therefore do not comment on the effect of age (Bohne et al., 2002; Keuthen et al., 2000; Teng et al., 2002; Teng, Woods, Marcks, & Twohig, 2004). Our results indicated that younger veterans were more likely to engage in BFRB than to not engage in any habit behaviors. This finding also requires further examination in order to learn more about the relationship between age and the incidence of BFRB.

Hypotheses 2a & 2b

Hypotheses 2a and 2b sought to examine the utility of self-mutilative behaviors and predicted support for an automatic-negative reinforcement function (Hypothesis 2a) as well as support for an automatic-positive reinforcement function (Hypothesis 2b) for veterans whose most recent habit behavior was SMB. For the SMB Group, McNemar's test showed a significant increase (28%, $p < .0001$; see Table 11) from the proportion of veterans reporting contentment antecedents (10%) compared to those who reported contentment sequelae (38%). This finding supports Hypothesis 2b, the automatic-positive reinforcement function of SMB, as we have evidence of SMB creating a "desired physiological or emotional state". While higher percentages of veterans did report physical, cognitive, and negative affect experiences prior to engaging in SMB compared to after SMB, these differences were not significant ($p's > 0.10$; see Table 11). This pattern of results does not support Hypothesis 2a, the automatic-negative reinforcement function of SMB, as there was no observed reduction of "negative emotional states such as tension, sadness, or anxiety".

The current study's findings can be viewed as support for both the automatic-positive and automatic-negative reinforcement functions of SMB. While self-mutilative behaviors did result in a higher proportion of veterans reporting feelings of "Relief" and "Calm" after the behavior, it is not entirely clear how respondents interpreted these two items of the Habit Questionnaire. It may be the case that after engaging in SMB, an individual felt relieved and calm because they no longer were experiencing the same negative physiological and emotional states which had existed prior to the behavior. In this case, circling the "Relief" and "Calm" items on the HQ may have reflected the absence of negative states which had previously existed. The individual might have chosen to engage in SMB specifically because they anticipated that such behaviors would help them reduce negative feelings. Conversely,

individuals might have engaged in SMB to purposefully produce feelings of relief or calmness. We cannot fully respond to this criticism due to the inherent limitations of the HQ, and of the present methodology. However, the A-N function of SMB is not well supported due to the non-significant differences observed within the SMB group between proportions of veterans who reported physical or cognitive / negative affect experiences prior to SMB as compared to after SMB. If we accept the supposition that the significant difference in reported contentment feelings is due to an A-N function for SMB, we would expect to find a parallel significant reduction in physical and cognitive / negative affect experiences. This was not the case, therefore our findings more accurately support the automatic-positive reinforcement function of SMB.

There was a high degree of intercorrelations among habit antecedents and sequelae for the SMB group (see Table 12). Most notably, contentment sequelae was significantly and positively associated with physical sequelae and cognitive / negative affect sequelae. This finding suggests that veterans were likely to be globally activated subsequent to their engagement in SMB.

BFRB Group

For the BFRB Group, McNemar's test showed a significant increase (18%, $p < .0001$; Table 11) in the proportion of veterans reporting contentment antecedents (5%) compared to those who reported contentment sequelae (23%). Although a higher percentage of veterans reported physical sensations and cognitive / negative affect experiences prior to engaging in BFRB compared to after the behavior, these differences were not significant ($p's > 0.10$; Table 11). These results support the A-P function for BFRB and do not support the A-N function. This finding contradicts previous research which has posited an A-N function for BFRB

(Bohne et. al., 2002; Diefenbach et al., 2002; Teng et. al., 2002). While the current study was not comprehensive enough to fully refute the proposed A-N function of BFRB, our results indicate that traumatized male veterans were more likely to experience feelings of relief and calmness after engaging in this type of behavior. There was also a high degree of intercorrelations among habit antecedents and sequelae for the BFRB group (see Table 12). These intercorrelations were similar to the pattern observed for the SMB group, however, contentment antecedents were significantly and positively associated with contentment sequelae for the BFRB group only. Future studies should look to examine more thoroughly the function(s) of BFRB.

Between Groups Differences

Chi-square tests examined differences in proportional reporting of habit antecedents and sequelae between the SMB and BFRB Groups. A significantly higher percentage of veterans reported experiencing physical sensations and cognitive / negative affect experiences prior to engaging in SMB as compared to veterans who engaged in BFRB (p 's < .004; Table 11). A significantly higher proportion of individuals also reported experiencing physical sensations, cognitive / negative affect experiences, and feelings of contentment after engaging in SMB as compared to individuals who engaged in BFRB (p 's < .004; Table 11).

Within the present study's sample of traumatized male veterans, the two different types of habit behaviors appear to have a similar function, with both behavior types resulting in feelings of relief and calm. What differentiates recent SMB versus recent BFRB is that a larger proportion of those who engaged in SMB reported experiencing physical and cognitive / negative affect antecedents and sequelae, as well as contentment sequelae compared to veterans who engaged in BFRB. While these two types of behavior may have functioned in

a similar manner, it seems that those who reported SMB were more likely to be activated, emotionally and physiologically, preceding and subsequent to the behavior. These conclusions should be considered speculative due to the observed intercorrelations between many of the habit antecedents and sequelae for both groups.

Post Hoc Analyses

Our initial Q-Sort classified item #5 from the Habit Questionnaire as SMB. However, one can argue that this item would be more appropriately categorized as BFRB. Indeed, the terms “skin picking” and “scratching” have been identified as body-focused repetitive behaviors by several researchers (e.g., Teng et al., 2002; Twohig & Woods, 2001; Wilhelm et al., 1999). To address such a concern, Nock and Prinstein (2004, 2005) utilized a measure with more specific language (FASM: Functional Assessment of Self-Mutilation; Lloyd et al., 1997) in their investigation of SMB in adolescents. Items on the FASM included measurement of “Picking at a wound”, “Scraping skin to draw blood”, and “Picking areas of the body to the point of drawing blood”. Item #5 of the HQ falls ambiguously in between the SMB / BFRB distinction. A post hoc re-classification of item HQ #5 as a BFRB item showed that 29.7% of the sample engaged in SMB within the previous two weeks, and 44.2% reported SMB in their lifetime (Table 14). There were no other substantive differences between any of the post hoc analyses as compared to the statistical tests run with the original breakdown of HQ items.

There is a large discrepancy in the prevalence rates of SMB based on the categorization of HQ #5. Examination of this difference shows that 50% (n= 253) of the current sample reported skin picking behavior within the previous two weeks. 25% (n=128) of the sample reported skin picking and no other SMB habits within the previous two weeks.

It is the latter group of individuals which accounts for this discrepancy in rates of reported SMB. Unfortunately the nature of the present study and of the HQ measure does not allow for a more detailed assessment of our divergent prevalence rates.

Post hoc ANCOVA results confirmed that observed differences between groups on measures of depression, hostility, and impulsivity remained significant after controlling for the effect of age. The significant group difference observed for PTSD severity became a trend towards significance once age was controlled for.

Conclusions

This study was designed to examine the relationship between self-mutilative behaviors and PTSD severity, depression, alcohol use, hostility, and impulsivity, as well as to explore the functions of SMB within a sample of male veterans diagnosed with PTSD. Overall, this study revealed an association between SMB and heightened levels of PTSD symptomatology, depression, hostility, and impulsivity. Age was the only factor which uniquely predicted group membership (SMB, BFRB, or No Habit) within the presence of all other variables, with younger veterans more likely to report having engaged in SMB or BFRB than older veterans. The proposed automatic-positive reinforcement function of SMB was supported by our results, while no support was found for the proposed automatic-negative reinforcement function of SMB.

Despite the fact that age was the most discriminating factor regarding group membership, veterans who reported recent SMB were not different, in regards to age, than veterans who reported recent BFRB. The rising prevalence rates of self-harm behaviors within the past twenty years have been well documented (Conterio & Lader, 1998; Department of Health and Social Security, 1984; Friedman et al., 2006; Hawton, Fagg,

Simkin, Bale, & Bond, 1997, Hawton et al., 2003a; Hawton et al., 2003b; Walsh & Rosen, 1988), with many studies noting the increase in SMB among younger individuals in particular (Joyce et al., 2006; Mann, 2002; Sansone, et al., 2002; Schmidtke, et al., 1996). However, as Teng and colleagues (2004) have stated, there remains a need for the examination of BFRB within samples which are more representative of the population at large. Because BFRB research has primarily utilized collegiate populations we cannot accurately report the prevalence of this type of behavior over the course of the lifespan. Based on existing research we can hypothesize that future studies will find BFRB to be more prevalent amongst younger individuals, in a pattern similar to that of SMB. The current findings offer confirmation of this hypothesis, and suggest that both types of habit behaviors are prevalent in younger male veterans with PTSD.

Self-mutilative behaviors have been in the public conscious dating back to Sophocles (trans. 1967), who's character Oedipus blinded himself with his dead mother/lover's golden brooches. However, in recent years, there has been an increase in the depiction and discussion of self-mutilation across various media forms, including motion pictures (e.g. *Girl, Interrupted*; Brodie & Ryder, 1999), television soap operas (e.g. *Passions*; Tomlin, 2005), talk shows (e.g. *The Oprah Winfrey Show*; Winfrey, 2005), and internet chat rooms (*Self-Mutilators Anonymous*, 2006). Younger Americans are more likely than ever to be aware of, have knowledge of, or have the experience of self-mutilative behaviors. The present study's findings regarding age suggests that younger individuals are more likely to call upon this type of maladaptive behavior in response to negative feelings. The increased media attention and enhanced interconnectivity among younger Americans may account for the rise in the incidence of SMB, as more and more individuals are made aware of the

possible use of SMB as a method to regulate one's emotions. While the same logic can be applied to BFRB, the present study was not able to test either of these speculative hypotheses.

Veterans in the SMB group reported heightened levels of distress across a range of domains. These individuals may have engaged in SMB in an attempt to cope with severe levels of emotional and psychological pain. From an operant conditioning perspective, their use of SMB was positively reinforced via the subjective feelings of relief and calmness experienced afterwards, however, such feelings of contentment were transitory. Instead, these contentment experiences functioned only to reinforce the use of self-mutilative behaviors. This theory may also explain the persistence of BFRB within the current sample.

Clinicians working with individuals similar to the present population should consider specific intervention techniques to reduce SMB and to increase effective coping skills. DBT is a treatment which has been shown to be successful in the reduction of self-mutilation, anxiety, and depression (Bohus et al., 2004; Linehan, Schmidt, Craft, Kanter, & Comtois, 1999). While DBT was initially designed for individuals with Borderline Personality Disorder, it has also been effective in treating other populations (Gratz, Tull, & Wagner, 2005; Palmer et al., 2003). DBT presents a series of four modules including emotion regulation, distress tolerance, interpersonal effectiveness, and mindfulness. The psychoeducational information and cognitive-behavioral skills presented in these modules could be extremely useful for traumatized male veterans with a history of SMB. For example, DBT teaches an individual to deal with difficult emotions by 1) observing and acknowledging one's own emotional experience, 2) describing the emotional experience in order to gain a more complete understanding of it, and 3) participating in the experience,

without pushing it away or holding it too long (Linehan, 1993b). Such skills would offer clients alternative ways of dealing with negative feelings in a more adaptive fashion.

Problem solving based interventions have also been successful in the treatment of SMB (Townsend, 2001). Additionally, the prescribing of SSRIs (Selective Serotonin Reuptake Inhibitors) may be a helpful adjunct intervention for the SMB, PTSD, depression constellation.

More than half of the current sample of male veterans with PTSD (54.8%) reported SMB within the previous two weeks. This finding is unexpected and disconcerting, given previous reports of the lower incidence of SMB within psychiatric populations (~21%; Briere & Gil, 1998; Klonsky et al., 2003). As discussed earlier, the percentage of reported SMB in this sample is greatly reduced by the reclassification of an item inquiring about skin picking behavior (See Table 16). Based on these differences, we cannot accurately conclude that the percentage of the current sample reporting SMB is 54.8%, nor can we state that the percentage of reported SMB in this sample is 29.7% (see Table 9). Instead, we can only state that between 29.7% and 54.8% of the current sample of male veterans with PTSD engaged in SMB in the previous two weeks. Future research could attempt to narrow this range through the use of a more definitive measure of SMB. While the aforementioned FASM offers more exacting language in its survey of SMB, the HQ yields additional data on the antecedents and sequelae of SMB. A new composite measure of SMB could be created by using the language of the FASM items, and adding the functional assessment portion of the HQ. This portion of the HQ could be further modified to create continuous measures of SMB antecedents and sequelae. Such a measure would be able to more accurately verify the pervasiveness of SMB within the current population.

Limitations / Future Directions

Although specific limitations have been mentioned earlier, several other caveats should be recognized in the present study. First, given the large sample size of the current study ($n=509$) it was possible to detect group differences on measures of PTSD severity, depression, hostility, and impulsivity, despite the relatively small effect sizes (less than 4%) for each of these variables. While the observed differences between groups on each of these measures were statistically significant, the discrepancies do not appear to be clinically significant. The concepts of “clinical significance” (CS) and “minimally important differences” (MID) have been discussed elsewhere (Jacobson, Follette, & Revenstorf, 1984; Seggar, Lambert, & Hansen, 2002; Wise, 2004) and typically occur within the context of determining the importance of changes observed before and after some form of intervention (e.g., psychotherapies, psychotropic medications). Currently there is no recognized gold standard in the field of psychology to determine CS or MID. Norman, Sloan, and Wyrwich (2003) recently surveyed 38 studies and 62 effect sizes, and determined that a 0.5 standard deviation change consistently detected reliable differences for chronic medical patients. Utilizing this 0.5 SD criterion, only one of our observed group differences qualified as clinically significant: the difference between the SMB group’s PAI-BORS score ($M=60.38$) and the No Habit group’s PAI-BORS score ($M=52.90$). This finding implies that the most unique attribute of male veterans with PTSD who engage in SMB is their heightened level of impulsivity.

Given the retrospective nature of the measures used in this study, it was not possible to identify causality in the relationships previously discussed. Thus, while this study identified higher levels of PTSD severity, depression, hostility, and impulsivity among

veterans who engaged in self-mutilative behaviors, we cannot establish a causal link between these variables. This study cannot determine whether, for example, experiencing greater degrees of post-traumatic stress symptoms caused an individual to engage in self-mutilative behaviors, or if SMB led to an increase in PTSD symptomatology. The nature of the methods and measures used allows only for the reporting of differences observed between those who did and did not report SMB. Future research should look to establish just such a causal link by administering questionnaires before and after military deployment, for example. Such a longitudinal study would provide base line prevalence rates for SMB, and with multiple time points could explain the trajectory of SMB among veterans with and without PTSD.

This study is also limited by its use of a restricted sample of male veterans with a current diagnosis of PTSD. While our findings are applicable to the general population of traumatized male veterans, they may be relevant to other groups as well. Future research of SMB should look to include a more diverse sampling of male and female veterans and non-veterans with varying levels of PTSD severity, depression, alcohol use, hostility and impulsivity. The use of such an inclusive sample would allow for a more definitive understanding of the interrelationships between SMB, PTSD, depression, hostility, impulsivity, alcohol use, and age.

Another limitation of the current study involves the tetrachoric correlations conducted for the habit antecedents and sequelae. Results of the tetrachoric procedures showed that many of the habit antecedents and sequelae were intercorrelated for both the SMB and BFRB groups (See Tables 14 & 15). While tetrachoric correlations are appropriate for categorical data, they assume that continuous latent variables underlie the observed binary variables.

The correlations generated by the tetrachoric correlation procedure are not actually observed correlations, rather they are hypothetical correlations which depend upon the normality of these latent variables (Cohen & Cohen, 1983). While we have assumed such normality, we cannot accurately assess the validity of this claim due to the limitations of the HQ data.

Hypotheses 2a and 2b are based upon a portion of the Habit Questionnaire which asks respondents to retrospectively recall their physical, emotional, and mental states before and after engaging in a habit behavior. This methodology is suspect due to the transitory nature of emotional experience, and the fallibility of emotional memory (Cutler, Larsen, & Bunce, 1996; Gentzler & Kearns, 2006; Safer & Keuler, 2002). Thomas and Diener (1990) suggested that individuals may in fact reconceptualize their emotional experiences after an event, and that their recall of such events is based more upon this reconceptualization of the actual experience. Our conclusions regarding the functions of SMB and BFRB are based upon the ability of respondents to accurately recall their thoughts and feelings from discreet moments in the past. More than 25% of our sample reported physical, emotional, and cognitive antecedents and sequelae surrounding a specific behavioral event which had occurred over one month prior to their completion of the HQ. Future research in this area could offer a more definitive assessment of the functions of SMB and BFRB through the use of advanced data collection methods. Studies utilizing Palm Pilot technology have allowed researchers to assess the immediate, momentary thoughts, feelings, and actions of participants (Barrett & Barrett, 2001; Yip, 2005). Future studies could utilize this technology to gain more specific knowledge of the physical, emotional, and mental experiences surrounding self-mutilative behaviors.

As stated earlier, results of the multinomial logistic regression analyses showed that our model containing eight predictors (PTSD severity, depression, alcohol use, hostility, impulsivity, and age) was able to discriminate among the three groups (SMB, BFRB, No Habit). While this model showed significant predictive ability, Tabachnick and Fidell (2001) caution that such a result is probable given a very large sample size, and may not reflect a result of any “practical importance”. The Nagelkerke's η^2 statistic reported indicates the strength of association for a logistic regression model, and is considered to be an approximation of the Ordinary Least Squares η^2 statistic (Tabachnick & Fidell, 2001). The Nagelkerke's η^2 value¹ for the present model was 0.118, indicating a weak association between our set of eight predictors and group membership. Nagelkerke's η^2 statistic is not a direct measure of percent variance explained, however, this low value suggests that group membership was largely determined by factors not examined within the present study. While our results did show an association between SMB and severe / dangerous levels of PTSD, depression, alcohol use, as well as high levels of hostility and impulsivity, it is clear that these relationships were not the defining characteristics of SMB. Other measures of psychopathology, substance use, and personality were in fact collected from veterans seeking treatment at the Durham VA PTSD Clinic. Such measures were not included in the present study due to a lack of rationale for their inclusion. A future exploratory study should utilize this data to determine what factor or factors might be more strongly associated with the presence of SMB than those variables used in the current inquiry.

¹ Nagelkerke's η^2 is calculated to vary between 0 and 1, with higher values indicating a stronger association (Garson, 2006).

Table 1:
Habit Questionnaire Items by Q-Sort #1 Categories

Item Number	Item Description
Self-Mutilative Behavior (SMB) Items	
5	“Have you ever scratched or picked at skin so that it left a mark?”
8	“Have you ever deliberately cut yourself in any way?”
10	“Have you ever hit yourself?”
11	“Have you ever burned yourself with a cigarette, match or other way?”
Body-Focused Repetitive Behavior (BFRB) Items	
1	“Have you ever bitten your nails?”
2	“Have you ever chewed on your lips?”
3	“Have you ever bitten your cheeks?”
4	“Have you ever grinded or clenched your teeth?”
6	“Have you ever pulled any strands of hair on your head to the point of pulling them out completely?”
7	“Have you ever pulled out any hairs in your eyebrows (not by tweezing) or eyelashes?”
9	Have you ever punched a wall or other object?”

Table 2:

Habit Questionnaire Antecedents / Sequelae by Q-Sort #2 Categories

Item Number	Item Description
Physical Sensation Items	
1	“Shortness of breath”
2	“Dizziness or feeling faint”
3	“Rapid heart beat”
4	“Trembling or shaking”
5	“Sweating”
6	“Nausea or abdominal distress”
7	“Body numbness or tingling sensations”
8	“Hot flashes or chills”
9	“Choking”
10	“Chest pain or discomfort”
Cognitive / Negative Affect Items	
11	“Felt like it wasn’t really happening”
12	“Detached as if in a dream”
13	“Feared going crazy or losing control”
14	“Feared you were going to die”
15	“Emptiness or boredom”

Table 2 (continued):

Habit Questionnaire Antecedents / Sequelae by Q-Sort Categories

Item	Item Description
Number	
Cognitive / Negative Affect Items (continued)	
Contentment Items	
22	“Relief”
	“Calm”

Table 3:

Demographics: Age

Variable	Groups			
	SMB (n=279)	BFRB (n=169)	No Habit (n=61)	F
Age	53.46 (7.71) ^a	52.66 (7.91) ^a	57.15 (7.75) ^b	7.623 [*]

^{*} $p < .005$

^{a,b} superscripts indicate group differences based on Tukey HSD tests

Table 4:

Demographics: Ethnicity

Ethnicity	Groups		
	SMB (n=279)	BFRB (n=169)	No Habit (n=61)
White, not Hispanic	104 (36.9%)	70 (41.4%)	24 (39.3%)
Black, not Hispanic	161 (57.7%)	94 (55.6%)	33 (54.1%)
Hispanic	9 (3.2%)	2 (1.2%)	1 (1.6%)
Other	5 (1.8%)	3 (1.8%)	3 (4.9%)

$\chi^2(3, N = 509) = 5.16, p = .52$

Table 5:

Demographics: Marital Status

Marital Status	Groups		
	SMB (n=279)	BFRB (n=169)	No Habit (n=61)
Married	114 (40.9%)	78 (46.2%)	29 (47.5%)
Remarried	34 (12.2%)	24 (14.2%)	3 (4.9%)
Widowed	7 (2.5%)	3 (1.8%)	3 (4.9%)
Separated	24 (8.6%)	17 (10.1%)	5 (8.2%)
Divorced	71 (25.4%)	37 (21.9%)	14 (23.0%)
Never Married	29 (10.4%)	10 (5.9%)	7 (11.5%)

$\chi^2(5, N = 509) = 9.61, p = .48$

Table 6:

Means and Standard Deviations by Habit Group

Variable	Groups			F
	SMB (n=279)	BFRB (n=169)	No Habit (n=61)	
CAPS	83.04 (19.19) ^a	78.88 (19.42)	75.38 (22.17) ^b	4.943 [*]
(Total Score)				
AUDIT	9.29 (10.48)	7.57 (9.18)	8.80 (11.27)	1.524
BDI	33.81 (11.43) ^a	29.76 (10.59) ^b	29.03 (10.77) ^b	9.326 [*]
Cook Medley	18.51 (4.78) ^a	17.12 (5.07) ^b	16.46 (5.04) ^b	6.793 [*]
PAI-BORS	60.38 (14.08) ^a	57.07 (12.72) ^b	52.90 (11.19) ^b	9.105 [*]

^{*} $p < .01$

^{a,b} superscripts indicate group differences based on Tukey HSD tests

Table 7:

CAPS Subscales by Habit Group

CAPS Subscale	Groups			
	SMB (n=279)	BFRB (n=169)	No Habit (n=61)	F
Re-experiencing	21.81 (7.58)	20.21 (8.24)	19.13 (8.54)	3.980
Avoidance	34.42 (9.76)	33.11 (8.86)	31.57 (10.02)	2.652
Hyperarousal	26.81 (6.11)	25.56 (6.56)	24.68 (6.70)	3.902

* $p < .01$

Table 8:

Correlations

	CAPS (Total Score)	AUDIT	BDI	Cook Medley	PAI- BORS	Age
CAPS (Total Score)	--					
AUDIT	.08	--				
BDI	.40 [*]	.22 [*]	--			
Cook Medley	.09	.22 [*]	.33 [*]	--		
PAI-BORS	.17 [*]	.22 [*]	.34 [*]	.31 [*]	--	
Age	-.13 [*]	-.11	-.10	-.01	-.08	--

^{*} $p < .01$

Table 9:

Classification of Habit Status as a Function of Predictor Variables

Observed	Predicted			Percent Correct
	SMB	BFRB	No Habit	
SMB (n=279)	251	25	3	90.0%
BFRB (n=169)	132	36	1	21.3%
No Habit (n=61)	44	14	3	4.9%
Overall Percentage	83.9%	14.7%	1.4%	57.0%

Table 10:

Multinomial Logistic Regression of Habit Status

Variables	χ^2 to remove	df	Sig.	Model χ^2
CAPS-B	1.454	2	.483	
(Re-experiencing)				
CAPS-C	0.421	2	.810	
(Avoidance)				
CAPS-D	0.633	2	.729	
(Hyperarousal)				
BDI	4.507	2	.105	
AUDIT	3.464	2	.177	
Cook Medley	4.019	2	.134	
PAI-BORS	8.411	2	.015	
Age	14.621	2	.001*	
ALL VARIABLES				53.940

* $p < .006$

Table 11:

Habit Antecedents and Sequelae by Group and Time

Variable	Groups		χ^2
	SMB (n=180)	BFRB (n=238)	
Any Physical Sensation			
Before	.52	.36	10.17*
After	.47	.31	10.64*
McNemar's Test	1.53	2.32	
Any Cognitive / Negative Affect			
Before	.67	.51	10.08*
After	.63	.42	16.17*
McNemar's Test	1.07	5.88	
Any Contentment			
Before	.11	.05	4.56
After	.38	.23	10.57*
McNemar's Test	33.82*	39.34*	

* $p < .004$

Table 12:
Tetrachoric Correlations for SMB Group

	1	2	3	4	5	6
1. Physical Sensations (Before)	--					
2. Physical Sensations (After)	.61*	--				
3. Cognitive / Negative Affect (Before)	.48*	.30	--			
4. Cognitive / Negative Affect (After)	.18	.65*	.42*	--		
5. Contentment (Before)	.32	.08	-.06	.01	--	
6. Contentment (After)	.24	.32*	.18	.47*	.07	--

* $p < .01$

Table 13:

Tetrachoric Correlations for BFRB Group

	1	2	3	4	5	6
1. Physical Sensations (Before)	--					
2. Physical Sensations (After)	.63*	--				
3. Cognitive / Negative Affect (Before)	.63*	.36*	--			
4. Cognitive / Negative Affect (After)	.35*	.54*	.57*	--		
5. Contentment (Before)	.22	.29	.04	.25	--	
6. Contentment (After)	.30*	.53*	.36*	.41*	.69*	--

* $p < .01$

Table 14:

Post Hoc Grouping Comparison

	Groups		
	SMB	BFRB	No Habit
Initial (HQ # 5 = SMB)	279 (54.8%)	169 (33.2%)	61 (12.0%)
Post Hoc (HQ #5 = BFRB)	151 (29.7%)	297 (58.3%)	61 (12.0%)

Table 15:

Post Hoc Analysis of Covariance for PTSD Severity Scores Controlling for Age

Source	Sum of Squares	df	F	Sig.	η^2
Corrected Model	6450.53	3	5.639	.001	.032
Intercept	3318420.7	1	8702.746	.000	.945
Age	3131.98	1	8.21	.004	.016
Habit Group	3318.55	2	4.35	.013	.017
Error	192560.19	505			
Total	3517431.4	509			
Corrected Total	64404.87	508			

Table 16:

Post Hoc Analysis of Covariance for Depression Scores Controlling for Age

Source	Sum of Squares	df	F	Sig.	η^2
Corrected Model	2804.01	3	7.66	.00	.044
Intercept	517663.34	1	4243.77	.000	.894
Age	592.443	1	4.857	.028	.010
Habit Group	2211.56	2	9.07	.000	.035
Error	61600.864	505			
Total	64404.87	509			
Corrected Total	52609.14	508			

Table 17:

Post Hoc Analysis of Covariance for Hostility Scores Controlling for Age

Source	Sum of Squares	df	F	Sig.	η^2
Corrected Model	327.33	3	4.52	.004	.026
Intercept	161371.54	1	6685.89	.000	.930
Age	1.92	1	.08	.778	.000
Habit Group	325.41	2	6.74	.001	.026
Error	12188.741	505	24.14		
Total	173887.62	509			
Corrected Total	12516.07	508			

Table 18:

Post Hoc Analysis of Covariance for Impulsivity Scores Controlling for Age

Source	Sum of Squares	df	F	Sig.	η^2
Corrected Model	3532.57	3	6.64	.000	.038
Intercept	1734970.7	1	9787.78	.000	.951
Age	529.75	1	2.99	.084	.006
Habit Group	3002.82	2	8.47	.000	.032
Error	89515.73	505			
Total	1828019.0	509			
Corrected Total	93048.30	508			

Figure 1:

CAPS Total Severity Scores by Habit Groups

Figure 2:

BDI Scores by Habit Groups

Figure 3:
Cook-Medley Hostility Scores by Habit Groups

Figure 4:
PAI-BORS Scores by Habit Groups

Appendix A: Measures

HQ Habit Questionnaire

Habit Questionnaire

Sometimes when people are upset or even bored they get into habits such as biting their fingernails without even thinking about it. Some people may even do other kinds of physical actions when they are upset or bored like clenching their teeth or scratching or picking at their skin. These kinds of behaviors can become very automatic. However, these behaviors can add to one's distress and can lead to problems with a person's appearance and general health. Because these behaviors can be related to a variety of problems and stressful life experiences, we'd like to ask you about some of these behaviors. If a habitual behavior has never applied to you at any point, just check no in the space provided and move on to the next item. If a habitual behavior has applied to you at any time in your life, please check yes and then circle the frequency that it happened in the past two weeks.

1. Have you ever bitten your nails? Yes ____ No ____
IF YES, how often in the past two weeks have you done this?

Not at all Once Two to four times Five or more times
2. Have you ever chewed on your lips? Yes ____ No ____
IF YES, how often in the past two weeks have you done this?

Not at all Once Two to four times Five or more times
3. Have you ever bitten your cheeks? Yes ____ No ____
IF YES, how often in the past two weeks have you done this?

Not at all Once Two to four times Five or more times
4. Have you ever grinded or clenched your teeth? Yes ____ No ____
IF YES, how often in the past two weeks have you done this?

Not at all Once Two to four times Five or more times
5. Have you ever scratched or picked at skin so that it left a mark? Yes ____ No ____
IF YES, how often in the past two weeks have you done this?

Not at all Once Two to four times Five or more times
6. Have you ever pulled at any strands of hair on your head to the point of pulling them out completely? Yes ____ No ____
IF YES, how often in the past two weeks have you done this?

Not at all Once Two to four times Five or more times

7. Have you ever pulled out any hairs in your eyebrows (not by tweezing) or eyelashes?
Yes _____ No _____
IF YES, how often in the past two weeks have you done this?

Not at all Once Two to four times Five or more times

8. Have you ever deliberately cut yourself in any way? Yes _____ No _____
IF YES, how often in the past two weeks have you done this?

Not at all Once Two to four times Five or more times

9. Have you ever punched a wall or other object? Yes _____ No _____
IF YES, how often in the past two weeks have you done this?

Not at all Once Two to four times Five or more times

10. Have you ever hit yourself? Yes _____ No _____
IF YES, how often in the past two weeks have you done this?

Not at all Once Two to four times Five or more times

11. Have you ever burned yourself with a cigarette, match or other way? Yes _____ No _____
IF YES, how often in the past two weeks have you done this?

Not at all Once Two to four times Five or more times

Now there are a few more questions about moods and feeling that people may have before or after habitual behaviors. If none of these behaviors 1 – 11 applied to you, you are done with the questionnaire. If any behavior applied during your life please answer the next few questions on the next page.

Please think of **the most recent time** you engaged in a habitual behavior that you marked "yes."

- A. When did **this most recent** habitual behavior occur? (circle one)
 past 2 weeks past month past 6 months past year over a year ago
- B. Thinking of **this most recent time**, please circle the habitual behavior(s) involved. (Circle all that apply, but only for **this most recent time**. For example, circle both biting nails and picking skin, but only if these behaviors occurred at the same time and it was the most recent time.)

biting nails	chewing lips/cheek	grinding teeth
scratching/picking skin	pulling hair on head	pulling hair on brows/lashes
cutting	punching objects	hitting self
burning self		

- C. For **this most recent time**, think about the period of time right before doing the behavior, actually during the behavior, and right after the behavior and check off any feelings or moods below that you had at those times.

	BEFORE	DURING	AFTER
Shortness of breath	_____	_____	_____
Dizziness or feeling faint	_____	_____	_____
Rapid heart beat	_____	_____	_____
Trembling or shaking	_____	_____	_____
Sweating	_____	_____	_____
Nausea or abdominal distress	_____	_____	_____
Body numbness or tingling sensations	_____	_____	_____
Hot flashes or chills	_____	_____	_____
Choking	_____	_____	_____
Chest pain or discomfort	_____	_____	_____
Felt like it wasn't really happening	_____	_____	_____
Detached as if in a dream	_____	_____	_____
Feared going crazy or losing control	_____	_____	_____
Feared you were going to die	_____	_____	_____
Emptiness or boredom	_____	_____	_____
Guilt	_____	_____	_____
Irritability, frustration, or anger	_____	_____	_____
Sadness	_____	_____	_____
Fear	_____	_____	_____
Disgust	_____	_____	_____
Self-hatred	_____	_____	_____
Relief	_____	_____	_____
Calm	_____	_____	_____

BDI
Beck Depression Inventory

Instructions: 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. Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

1. 0 - I do not feel sad
 1 - I feel sad
 2 - I am sad all the time and I can't snap out of it
 3 - I am so sad or unhappy that I can't stand it

2. 0 - I am not particularly discouraged about the future
 1 - I feel discouraged about the future
 2 - I feel I have nothing to look forward to
 3 - I feel that the future is hopeless and that things cannot improve

3. 0 - I do not feel like a failure
 1 - I feel I have failed more than the average person
 2 - As I look back on my life, all I can see is a lot of failures
 3 - I feel I am a complete failure as a person

4. 0 - I get as much satisfaction out of things as I used to
 1 - I don't enjoy things the way I used to
 2 - I don't get real satisfaction out of anything anymore
 3 - I am dissatisfied or bored with everything

5. 0 - I don't feel particularly guilty
 1 - I feel guilty a good part of the time
 2 - I feel quite guilty most of the time
 3 - I feel guilty all of the time

6. 0 - I don't feel I am being punished
 1 - I feel I may be punished
 2 - I expect to be punished
 3 - I feel I am being punished

7. 0 - I don't feel disappointed in myself
 1 - I am disappointed in myself
 2 - I am disgusted with myself
 3 - I hate myself

BDI (continued)

8. 0 - I don't feel I am any worse than anybody else
 1 - I am critical of myself for my weaknesses or mistakes
 2 - I blame myself all the time for my faults
 3 - I blame myself for everything
9. 0 - I don't have any thoughts of killing myself
 1 - I have thoughts of killing myself, but I would not carry them out
 2 - I would like to kill myself
 3 - I would kill myself if I had the chance
10. 0 - I don't cry any more than usual
 1 - I cry now more than I used to
 2 - I cry all the time now
 3 - I used to be able to cry, but now I can't cry even though I want to
- 11 0 - I am no more irritated now than I ever am
 1 - I get annoyed or irritated more easily than I used to
 2 - I feel irritated all the time now
 3 - I don't get irritated at all by the things that used to irritate me
12. 0 - I have not lost interest in other people
 1 - I am less interested in other people than I used to be
 2 - I have lost most of my interest in other people
 3 - I have lost all of my interest in other people
13. 0 - I make decisions about as well as I ever could
 1 - I put off making decisions more than I used to
 2 - I have greater difficulty in making decisions than before
 3 - I can't make decisions at all anymore
14. 0 - I don't feel I look any worse than I used to
 1 - I am worried that I am looking old or unattractive
 2 - I feel that there are permanent changes in my appearance that make me look unattractive
 3 - I believe I look ugly
15. 0 - I can work about as well as before
 1 - It takes an extra effort to get started at doing something
 2 - I have to push myself very hard to do anything
 3 - I can't do any work at all

BDI (continued)

16. 0 - I can sleep as well as usual
1 - I don't sleep as well as I used to
2 - I wake up one to two hours earlier than usual and find it hard to get back to sleep
3 - I wake up several hours earlier than I used to and cannot get back to sleep
17. 0 - I don't get more tired than usual
1 - I get tired more easily than I used to
2 - I get tired from doing almost anything
3 - I am too tired to do anything
18. 0 - My appetite is no worse than usual
1 - My appetite is not as good as it used to be
2 - My appetite is much worse now
3 - I have no appetite at all anymore
19. 0 - I haven't lost much weight, if any, lately
1 - I have lost more than 5 pounds
2 - I have lost more than 10 pounds
3 - I have lost more than 15 pounds
- 19a. I am purposely trying to lose weight by eating less. YES___ NO___
20. 0 - I am no more worried about my health than usual
1 - I am worried about physical problems such as aches and pains; or upset stomach; or constipation
2 - I am very worried about physical problems and it's hard to think of much else
3 - I am so worried about my physical problems that I cannot think about anything else
21. 0 - I have not noticed any recent change in my interest in sex
1 - I am less interested in sex than I used to be
2 - I am much less interested in sex now
3 - I have lost interest in sex completely

AUDIT

Alcohol Use Disorders Identification Test

Please circle the answer that is correct for you

1. How often do you have a drink containing alcohol?
 Never Monthly or less Two to four times a month Two to three times a week Four or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?
 1 or 2 3 or 4 5 or 6 7 to 9 10 or more
3. How often do you have six or more drinks on one occasion?
 Never Less than monthly Monthly Weekly Daily or almost daily
4. How often during the last year have you found that you were not able to stop drinking once you had started?
 Never Less than monthly Monthly Weekly Daily or almost daily
5. How often during the last year have you failed to do what was normally expected from you because of drinking?
 Never Less than monthly Monthly Weekly Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
 Never Less than monthly Monthly Weekly Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?
 Never Less than monthly Monthly Weekly Daily or almost daily
8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?
 Never Less than monthly Monthly Weekly Daily or almost daily
9. Have you or someone else been injured as a result of your drinking?
 No Yes, but not in the last year Yes, during the last year
10. Has a relative or friend, or a doctor or other health worker been concerned about your drinking or suggested you cut down?
 No Yes, but not in the last year Yes, during the last year

Cook-Medley Cook-Medley Hostility Scale

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Cook-Medley Questionnaire

Please answer the following questions to the best of your ability. Circle "T" for "true" if you agree with a statement, or circle "F" for "false" if you do not agree with a statement.

1. I have often had to take orders from someone who did not know as much as I did.	T	F
2. I think a great many people exaggerate their misfortunes in order to gain the sympathy and help of others.	T	F
3. It takes a lot of argument to convince most people of the truth.	T	F
4. I think most people would lie to get ahead.	T	F
5. Most people are honest chiefly because they are afraid of being caught.	T	F
6. Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it.	T	F
7. No one cares much what happens to you.	T	F
8. It is safer to trust nobody.	T	F
9. Most people make friends because friends are likely to be useful to them.	T	F
10. Most people inwardly dislike putting themselves out to help other people.	T	F
11. I have often met people who were supposed to be experts who were no better than I.	T	F
12. People generally demand more respect for their own rights than they are willing to allow for others.	T	F
13. A large number of people are guilty of bad sexual conduct.	T	F
14. It makes me impatient to have people ask my advice or otherwise interrupt me when I am working on something important.	T	F
15. Some of my family have habits that bother and annoy me very much.	T	F
16. People often disappoint me.	T	F
17. I am not easily angered.	T	F
18. There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done.	T	F
19. When people do me a wrong I feel I should pay them back if I can, just for the principle of the thing.	T	F
20. I don't blame people for trying to grab everything they can get in this world.	T	F

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21. I can be friendly with people who do things which I consider wrong.

T F

22. I do not blame a person for taking advantage of people who leave themselves open to it.

T F

23. I would certainly enjoy beating criminals at their own game.

T F

24. I have at times had to be rough with people who were rude or annoying.

T F

25. I am often inclined to go out of my way to win a point with someone who has opposed me.

T F

26. I do not try to cover up my poor opinion or pity of people so that they won't know how I feel.

T F

27. I strongly defend my own opinions as a rule.

T F

CAPS Clinician Administered PTSD Scale

CAPS-DX Page

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

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?

ADMINISTER CHECKLIST, THEN REVIEW AND INQUIRE UP TO THREE EVENTS. IF MORE THAN THREE EVENTS ENDORSED, DETERMINE WHICH THREE EVENTS TO INQUIRE (E.G., FIRST, WORST, AND MOST RECENT EVENTS; THREE WORST EVENTS; TRAUMA OF INTEREST PLUS TWO OTHER WORST EVENTS, ETC.)

IF NO EVENTS ENDORSED ON CHECKLIST: (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?)

EVENT #1

What happened? (How old were you? Who else was involved? How many times did this happen? Life threat? Serious injury?)

How did you respond emotionally? (Were you very anxious or frightened? Horrified? Helpless? How so? Were you stunned or in shock so that you didn't feel anything at all? What was that like? What did other people notice about your emotional response? What about after the event – how did you respond emotionally?)

Describe (e.g., event type, victim, perpetrator, age, frequency):

A. (1)

Life threat? NO YES [self ___ other ___]

Serious injury? NO YES [self ___ other ___]

Threat to physical integrity? NO YES [self ___ other ___]

A. (2)

Intense fear/help/horror? NO YES [during ___ after ___]

Criterion A met? NO PROBABLE YES

EVENT #2

<p>What happened? (How old were you? Who else was involved? How many times did this happen? Life threat? Serious injury?)</p>	<p>Describe (e.g., event type, victim, perpetrator, age, frequency):</p>
<p>How did you respond emotionally? (Were you very anxious or frightened? Horrified? Helpless? How so? Were you stunned or in shock so that you didn't feel anything at all? What was that like? What did other people notice about your emotional response? What about after the event – how did you respond emotionally?)</p>	<p><u>A. (1)</u> Life threat? NO YES [self ___ other ___] Serious injury? NO YES [self ___ other ___] Threat to physical integrity? NO YES [self ___ other ___] <u>A. (2)</u> Intense fear/help/horror? NO YES [during ___ after ___] Criterion A met? NO PROBABLE YES</p>

EVENT #3

<p>What happened? (How old were you? Who else was involved? How many times did this happen? Life threat? Serious injury?)</p>	<p>Describe (e.g., event type, victim, perpetrator, age, frequency):</p>
<p>How did you respond emotionally? (Were you very anxious or frightened? Horrified? Helpless? How so? Were you stunned or in shock so that you didn't feel anything at all? What was that like? What did other people notice about your emotional response? What about after the event – how did you respond emotionally?)</p>	<p><u>A. (1)</u> Life threat? NO YES [self ___ other ___] Serious injury? NO YES [self ___ other ___] Threat to physical integrity? NO YES [self ___ other ___] <u>A. (2)</u> Intense fear/help/horror? NO YES [during ___ after ___] Criterion A met? NO PROBABLE YES</p>

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-five questions altogether. Most of them have two parts. First, I'll ask if you've ever had a particular problem, and if so, about how often in the past month. Then I'll ask you how much distress or discomfort that problem may have caused you.

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

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

<p><u>Frequency</u> Have you ever 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>Intensity</u> 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> F _____ I _____ Sx: Y N</p> <p><u>Lifetime</u> F _____ I _____ Sx: Y N</p>
<p><u>Description/Examples</u></p>		

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

<p><u>Frequency</u> Have you ever 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>Intensity</u> 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>QV (specify) _____</p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p> <p><u>Lifetime</u> F _____ I _____ Sx: Y N</p>
<p><u>Description/Examples</u></p>		

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

<p>Frequency Have you ever 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>Description/Examples</p>	<p>Intensity 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>QV (specify) _____</p>	<p>Current F _____ I _____ Sx: Y N</p> <p>Lifetime F _____ I _____ 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>Frequency Have you ever gotten upset when something reminded you of (EVENT)? (Has anything ever triggered bad feelings related to [EVENT]? 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>Description/Examples</p>	<p>Intensity 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>QV (specify) _____</p>	<p>Current F _____ I _____ Sx: Y N</p> <p>Lifetime F _____ I _____ Sx: Y N</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>Frequency Have you ever had any physical reactions when something reminded you of (EVENT)? (Did your body ever react in some way when something reminded you of [EVENT]?) Can you give me some examples? (Did your heart race or did your breathing change? What about sweating or feeling really tense or shaky?) 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>Description/Examples</p>	<p>Intensity How strong were (PHYSICAL REACTIONS)? How long did they last? (Did they last even after you were out of the situation?)</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>QV (specify) _____</p>	<p>Current F _____ I _____ Sx: Y N</p> <p>Lifetime F _____ I _____ Sx: Y N</p>
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Criterion C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:

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

<p>Frequency Have you ever tried to avoid thoughts or feelings about (EVENT)? (What kinds of thoughts or feelings did you try to avoid?) What about trying to avoid talking with other people about it? (Why is that?) How often in the past month?</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>Description/Examples</p>	<p>Intensity How much effort did you make to avoid (THOUGHTS/FEELINGS/CONVERSATIONS)? (What kinds of things did you do? What about drinking or using medication or street drugs?) [CONSIDER ALL ATTEMPTS AT AVOIDANCE, INCLUDING DISTRACTION, SUPPRESSION, AND USE OF ALCOHOL/DRUGS] How much did that interfere with your life?</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>QV (specify) _____</p>	<p>Current F _____ I _____ Sx: Y N</p> <p>Lifetime F _____ I _____ Sx: Y N</p>
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7. (C-2) efforts to avoid activities, places, or people that arouse recollections of the trauma

<p><u>Frequency</u> Have you ever tried to avoid certain activities, places, or people that reminded you of (EVENT)? (What kinds of things did you avoid? Why is that?) 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 (ACTIVITIES/PLACES/PEOPLE)? (What did you do instead?) 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>QV (specify) _____</p>	<p><u>Current</u></p> <p>F _____ I _____ Sx: Y N</p> <p><u>Lifetime</u></p> <p>F _____ I _____ Sx: Y N</p>
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8. (C-3) inability to recall an important aspect of the trauma

<p><u>Frequency</u> 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>QV (specify) _____</p>	<p><u>Current</u></p> <p>F _____ I _____ Sx: Y N</p> <p><u>Lifetime</u></p> <p>F _____ I _____ Sx: Y N</p>
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9. (C-4) markedly diminished interest or participation in significant activities

<p><u>Frequency</u> Have you been less interested in activities that you used to enjoy? (What kinds of things have you lost interest in? Are there some things you don't do at all anymore? Why is that?) [EXCLUDE IF NO OPPORTUNITY, IF PHYSICALLY UNABLE, OR IF DEVELOPMENTALLY APPROPRIATE CHANGE IN PREFERRED ACTIVITIES] In the past month, how many activities have you been less interested in? (What kinds of things do you still enjoy doing?) When did you first start to feel that way? (After the [EVENT]?)</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? (Would you enjoy [ACTIVITIES] once you got started?)</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>QV (specify) _____</p> <p>Trauma-related? _____ definite probable unlikely</p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p> <p><u>Lifetime</u> F _____ I _____ Sx: Y N</p>
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10. (C-5) feeling of detachment or estrangement from others

<p><u>Frequency</u> 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><u>Intensity</u> 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>QV (specify) _____</p> <p>Trauma-related? _____ definite probable unlikely</p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p> <p><u>Lifetime</u> F _____ I _____ Sx: Y N</p>
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11. (C-6) restricted range of affect (e.g., unable to have loving feelings)

<p>Frequency Have there been times when you felt emotionally numb or had trouble experiencing feelings like love or happiness? What was that like? (What feelings did you have trouble experiencing?) How much of the time in the past month have you felt that way? When did you first start having trouble experiencing (EMOTIONS)? (After the [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>Intensity How much trouble did you have experiencing (EMOTIONS)? (What kinds of feelings were you still able to experience?) [INCLUDE OBSERVATIONS OF RANGE OF AFFECT DURING INTERVIEW]</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>QV (specify) _____</p> <p>Trauma-related? <u>definite</u> <u>probable</u> <u>unlikely</u></p>	<p>Current F _____ I _____ Sx: Y N</p> <p>Lifetime 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>Frequency 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? (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>Intensity How strong was this feeling that your future will be cut short? (How long do you think you will live? How convinced are you that you will die prematurely?)</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>QV (specify) _____</p> <p>Trauma-related? <u>definite</u> <u>probable</u> <u>unlikely</u></p>	<p>Current F _____ I _____ Sx: Y N</p> <p>Lifetime F _____ I _____ Sx: Y N</p>
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Criterion D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:

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

<p><u>Frequency</u> Have you had any problems falling or staying asleep? How often in the past month? When did you first start having problems sleeping? (After the [EVENT]?)</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>Sleep onset problems? Y N Mid-sleep awakening? Y N Early a.m. awakening? Y N Total # hrs sleep/night _____ Desired # hrs sleep/night _____</p>	<p><u>Intensity</u> How much of a problem did you have with your sleep? (How long did it take you to fall asleep? How often did you wake up in the night? Did you often wake up earlier than you wanted to? How many total hours did you sleep each night?)</p> <p>0 No sleep problems 1 Mild, slightly longer latency, or minimal difficulty staying asleep (up to 30 minutes loss of sleep) 2 Moderate, definite sleep disturbance, clearly longer latency, or clear difficulty staying asleep (30-90 minutes loss of sleep) 3 Severe, much longer latency, or marked difficulty staying asleep (90 min to 3 hrs loss of sleep) 4 Extreme, very long latency, or profound difficulty staying asleep (> 3 hrs loss of sleep)</p> <p>QV (specify) _____</p> <p>Trauma-related? _____ definite probable unlikely</p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p> <p><u>Lifetime</u> F _____ I _____ Sx: Y N</p>
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14. (D-2) irritability or outbursts of anger

<p><u>Frequency</u> Have there been times when you felt especially irritable or showed strong feelings of anger? Can you give me some examples? How often in the past month? When did you first start feeling that way? (After the [EVENT]?)</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? (How did you show it?) [IF REPORTS SUPPRESSION:] (How hard was it for you to keep from showing your anger?) 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>QV (specify) _____</p> <p>Trauma-related? _____ definite probable unlikely</p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p> <p><u>Lifetime</u> F _____ I _____ Sx: Y N</p>
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15. (D-3) difficulty concentrating

<p><u>Frequency</u> 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>QV (specify) _____</p> <p>Trauma-related? _____ definite probable unlikely</p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p> <p><u>Lifetime</u> F _____ I _____ Sx: Y N</p>
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16. (D-4) hypervigilance

<p><u>Frequency</u> Have you been especially alert or watchful, even when there was no real need to be? (Have you felt as if you were constantly on guard?) Why is that? How much of the time in the past month? When did you first start acting that way? (After the [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 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>QV (specify) _____</p> <p>Trauma-related? _____ definite probable unlikely</p>	<p><u>Current</u> F _____ I _____ Sx: Y N</p> <p><u>Lifetime</u> F _____ I _____ Sx: Y N</p>
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17. (D-5) exaggerated startle response

<u>Frequency</u> Have you had any strong startle reactions? When did that happen? (What kinds of things made you startle?) How often in the past month? When did you first have these reactions? (After the [EVENT]?) 0 Never 1 Once or twice 2 Once or twice a week 3 Several times a week 4 Daily or almost every day <u>Description/Examples</u>	<u>Intensity</u> How strong were these startle reactions? (How strong were they compared to how most people would respond?) How long did they last? 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") QV (specify) _____ Trauma-related? _____ definite probable unlikely	<u>Current</u> F _____ I _____ Sx: Y N <u>Lifetime</u> F _____ I _____ Sx: Y N
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Criterion E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than 1 month.

18. [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?)	_____ total # months delay in onset With delayed onset (≥ 6 months)? NO YES
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19. [CURRENT] How long have these (PTSD SYMPTOMS) lasted altogether? [LIFETIME] How long did these (PTSD SYMPTOMS) last altogether?	Duration more than 1 month?	<u>Current</u> NO YES	<u>Lifetime</u> NO YES
	Total # months duration Specify acute (< 3 months) or chronic (≥ 3 months)	_____ acute _____ chronic	_____ acute _____ chronic

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

20. [CURRENT] Overall, how much have you been bothered by these (PTSD SYMPTOMS) you've told me about? [CONSIDER DISTRESS REPORTED ON EARLIER ITEMS] [LIFETIME] Overall, how much were you bothered by these (PTSD SYMPTOMS) you've told me about? [CONSIDER DISTRESS REPORTED ON EARLIER ITEMS]	0 None 1 Mild, minimal distress 2 Moderate, distress clearly present but still manageable 3 Severe, considerable distress 4 Extreme, incapacitating distress	<u>Current</u> _____ <u>Lifetime</u> _____
21. [CURRENT] Have these (PTSD SYMPTOMS) affected your relationships with other people? How so? [CONSIDER IMPAIRMENT IN SOCIAL FUNCTIONING REPORTED ON EARLIER ITEMS] [LIFETIME] Did these (PTSD SYMPTOMS) affect your social life? How so? [CONSIDER IMPAIRMENT IN SOCIAL FUNCTIONING REPORTED ON EARLIER ITEMS]	0 No adverse impact 1 Mild impact, minimal impairment in social functioning 2 Moderate impact, definite impairment, but many aspects of social functioning still intact 3 Severe impact, marked impairment, few aspects of social functioning still intact 4 Extreme impact, little or no social functioning	<u>Current</u> _____ <u>Lifetime</u> _____

<p>22. [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]</p> <p>IF NO: Have these (PTSD SYMPTOMS) affected any other important part of your life? How so?</p> <p>[LIFETIME – IF NOT ALREADY CLEAR] Were you working then?</p> <p>IF YES: Did these (PTSD SYMPTOMS) affect 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]</p> <p>IF NO: Did these (PTSD SYMPTOMS) affect any other important part of your life? 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>	<p><u>Current</u></p> <p>_____</p> <p><u>Lifetime</u></p> <p>_____</p>
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Global Validity Rating

<p>23. 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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Global Severity Rating

<p>24. 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.</p>	<p>0 Asymptomatic</p> <p>1 Mild, minimal distress or functional impairment</p> <p>2 Moderate, definite distress or functional impairment but functions satisfactorily with effort</p> <p>3 Severe, considerable distress or functional impairment, limited functioning even with effort</p> <p>4 Extreme, incapacitating distress or pervasive impairment</p>	<p><u>Current</u></p> <p>_____</p> <p><u>Lifetime</u></p> <p>_____</p>
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Current PTSD Symptoms

Criterion A met (traumatic event)?	NO	YES
_____ # Criterion B sx (≥ 1)?	NO	YES
_____ # Criterion C sx (≥ 3)?	NO	YES
_____ # Criterion D sx (≥ 2)?	NO	YES
Criterion E met (duration ≥ 1 month)?	NO	YES
Criterion F met (distress/impairment)?	NO	YES

CURRENT PTSD (Criteria A-F met)? NO YES

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?

Lifetime PTSD Symptoms

Criterion A met (traumatic event)?	NO	YES
_____ # Criterion B sx (≥ 1)?	NO	YES
_____ # Criterion C sx (≥ 3)?	NO	YES
_____ # Criterion D sx (≥ 2)?	NO	YES
Criterion E met (duration ≥ 1 month)?	NO	YES
Criterion F met (distress/impairment)?	NO	YES

LIFETIME PTSD (Criteria A-F met)? NO YES

25. Guilt over acts of commission or omission

<p>Frequency Have you felt guilty about anything you did or didn't do during (EVENT)? Tell me more about that. (<i>What do you feel guilty about?</i>) How much of the time have you felt that way in the past month?</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>Description/Examples</p>	<p>Intensity How strong were these feelings of guilt? How much distress or discomfort did they cause?</p> <p>0 No feelings of guilt 1 Mild, slight feelings of guilt 2 Moderate, guilt feelings definitely present, some distress but still manageable 3 Severe, marked feelings of guilt, considerable distress 4 Extreme, pervasive feelings of guilt, self-condemnation regarding behavior, incapacitating distress</p> <p>QV (specify) _____</p>	<p>Current F _____ I _____ Sx: Y N</p> <p>Lifetime F _____ I _____ Sx: Y N</p>
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26. Survivor guilt [APPLICABLE ONLY IF MULTIPLE VICTIMS]

<p>Frequency Have you felt guilty about surviving (EVENT) when others did not? Tell me more about that. (<i>What do you feel guilty about?</i>) How much of the time have you felt that way in the past month?</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%) 8 N/A</p> <p>Description/Examples</p>	<p>Intensity How strong were these feelings of guilt? How much distress or discomfort did they cause?</p> <p>0 No feelings of guilt 1 Mild, slight feelings of guilt 2 Moderate, guilt feelings definitely present, some distress but still manageable 3 Severe, marked feelings of guilt, considerable distress 4 Extreme, pervasive feelings of guilt, self-condemnation regarding survival, incapacitating distress</p> <p>QV (specify) _____</p>	<p>Current F _____ I _____ Sx: Y N</p> <p>Lifetime F _____ I _____ Sx: Y N</p>
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27. a reduction in awareness of his or her surroundings (e.g., "being in a daze")

<p><u>Frequency</u> Have there been times when you felt out of touch with things going on around you, like you were in a daze? What was that like? [DISTINGUISH FROM FLASHBACK EPISODES] How often has that happened in the past month? [IF NOT CLEAR:] (Was it due to an illness or the effects of drugs or alcohol?) When did you first start feeling that way? (After the [EVENT]?)</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 this feeling of being out of touch or in a daze? (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 reduction in awareness 1 Mild, slight reduction in awareness 2 Moderate, definite but transient reduction in awareness, may report feeling "spacy" 3 Severe, marked reduction in awareness, may persist for several hours 4 Extreme, complete loss of awareness of surroundings, may be unresponsive, possible amnesia for the episode (blackout)</p> <p>QV (specify) _____</p> <p>Trauma-related? _____ definite probable unlikely</p>	<p><u>Current</u> F ____ I ____ Sx: Y</p> <p><u>Lifetime</u> F ____ I ____ Sx: Y</p>
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28. derealization

<p><u>Frequency</u> Have there been times when things going on around you seemed unreal or very strange and unfamiliar? [IF NO:] (What about times when people you knew suddenly seemed unfamiliar?) What was that like? How often has that happened in the past month? [IF NOT CLEAR:] (Was it due to an illness or the effects of drugs or alcohol?) When did you first start feeling that way? (After the [EVENT]?)</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 (DEREALIZATION)? 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 derealization 1 Mild, slight derealization 2 Moderate, definite but transient derealization 3 Severe, considerable derealization, marked confusion about what is real, may persist for several hours 4 Extreme, profound derealization, dramatic loss of sense of reality or familiarity</p> <p>QV (specify) _____</p> <p>Trauma-related? _____ definite probable unlikely</p>	<p><u>Current</u> F ____ I ____ Sx: Y</p> <p><u>Lifetime</u> F ____ I ____ Sx: Y</p>
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29. depersonalization

<p>Frequency</p> <p>Have there been times when you felt as if you were outside of your body, watching yourself as if you were another person? [IF NO:] (What about times when your body felt strange or unfamiliar to you, as if it had changed in some way?) What was that like? How often has that happened in the past month? [IF NOT CLEAR:] (Was it due to an illness or the effects of drugs or alcohol?) When did you first start feeling that way? (After the [EVENT]?)</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>Description/Examples</p>	<p>Intensity</p> <p>How strong was (DEPERSONALIZATION)? 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 depersonalization 1 Mild, slight depersonalization 2 Moderate, definite but transient depersonalization 3 Severe, considerable depersonalization, marked sense of detachment from self, may persist for several hours 4 Extreme, profound depersonalization, dramatic sense of detachment from self</p> <p>QV (specify) _____</p> <p>Trauma-related? _____ definite probable unlikely</p>	<p>Current</p> <p>F _____ I _____</p> <p>Sx: Y N</p> <p>Lifetime</p> <p>F _____ I _____</p> <p>Sx: Y N</p>
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30. homicidality

<p>Frequency</p> <p>Have there been times when you felt like seriously harming or even killing someone? Is this different from how you were before (EVENT)? How often have you felt this way in the past month?</p> <p>0 Never 1 Once or twice 2 Once or twice per week 3 Several times per week 4 Daily or almost every day</p> <p>Description/Examples:</p>	<p>Intensity</p> <p>At their worst, how strong were these feelings of wanting to kill someone?</p> <p>0 No homicidal ideation 1 Mild, only slight homicidal ideation 2 Moderate, definite homicidal ideation, but no actual homicidal intent 3 Severe, strong homicidal ideation, has seriously considered homicide, but has not formulated definite plan 4 Extreme, very strong homicidal feelings, has formulated plan or acted with homicidal intent</p> <p>QV (specify) _____</p>	<p>Current</p> <p>F _____ I _____</p> <p>Sx: Y N</p> <p>Lifetime</p> <p>F _____ I _____</p> <p>Sx: Y N</p>
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CAPS-DX SUMMARY SHEET

Name _____ ID#: _____ Interviewer _____ Study: _____ Date: _____

A. Traumatic event:

B. Reexperiencing symptoms	CURRENT		LIFETIME	
	<i>Freq</i>	<i>Int</i>	<i>Freq</i>	<i>Int</i>
(1) intrusive recollections				
(2) distressing dreams				
(3) acting or feeling as if event were recurring				
(4) psychological distress at exposure to cues				
(5) physiological reactivity on exposure to cues				
NUMBER OF CRITERION B SYMPTOMS (NEED 1)				

C. Avoidance and numbing symptoms	CURRENT		LIFETIME	
	<i>Freq</i>	<i>Int</i>	<i>Freq</i>	<i>Int</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				
NUMBER OF CRITERION C SYMPTOMS (NEED 3)				

D. Hyperarousal symptoms	CURRENT		LIFETIME	
	<i>Freq</i>	<i>Int</i>	<i>Freq</i>	<i>Int</i>
(13) difficulty falling or staying asleep				
(14) irritability or outbursts of anger				
(15) difficulty concentrating				
(16) hypervigilance				
(17) exaggerated startle response				
NUMBER OF CRITERION D SYMPTOMS (NEED 2)				

E. Duration of disturbance	CURRENT		LIFETIME	
(19) duration of disturbance at least one month	NO	YES	NO	YES

F. Significant distress or Impairment in functioning	CURRENT		LIFETIME	
(20) overall distress				
(21) impairment in social functioning				
(22) impairment in occupational functioning				
AT LEAST ONE ≥ 2?	NO	YES	NO	YES

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

<i>Global ratings</i>	<i>CURRENT</i>		<i>LIFETIME</i>	
(23) global validity			----	
(24) global severity				

<i>Associated features</i>	<i>CURRENT</i>		<i>LIFETIME</i>	
	<i>Freq</i>	<i>Int</i>	<i>Freq</i>	<i>Int</i>
(25) guilt over acts of commission or omission				
(26) survivor guilt				
(27) reduction in awareness of surroundings				
(28) derealization				
(29) depersonalization				

Appendix B:
Q-Sort Instructions

Q-Sort #1
SMB / BFRB Group Membership

The Q-Sort is being done for a study which is utilizing archival data, so this task is not about measure construction, because I have no ability to alter the questions, but rather I am interested in separating the items into categories; the study is looking at “self-mutilative” behaviors in a clinical population. Self-mutilative behaviors are defined as “the direct and deliberate destruction or alteration of one’s own body tissue without suicidal intent”.

Below is a list of questions referring to behaviors which many individuals report engaging in. Your task is to read each question, and decide whether that item refers to a self-mutilative behavior (SMB) based on the definition given above, or a non self-mutilative behavior (Not). Please categorize every item below:

	Item Description	Category (SMB or Not)
1	Have you ever pulled at any strands of hair on your head to the point of pulling them out completely?	1)
2	Have you ever hit yourself?	2)
3	Have you ever scratched or picked at skin so that it left a mark?	3)
4	Have you ever deliberately cut yourself in any way?	4)
5	Have you ever pulled out any hairs in your eyebrows (not by tweezing) or eyelashes?	5)
6	Have you ever bitten your nails?	6)
7	Have you ever bitten your cheeks?	7)
8	Have you ever punched a wall or other object?	8)
9	Have you ever burned yourself with a cigarette, match or other way?	9)
10	Have you ever chewed on your lips?	10)
11	Have you ever grinded or clenched your teeth?	11)

Q-Sort #2
Habit Antecedents and Sequelae

This second Q-Sort is for the same study using a different part of the same measure. For this portion of the measure, participants are asked to check off “any feelings or moods” which they experienced before, during, or after engaging in any of the behaviors from Q-Sort #1.

Below is this list of items from the measure. Your task is to read each item, and decide which category the item belongs in: 1) Physical Sensation, 2) Dissociative / Cognition, 3) Negative Affect, or 4) Contentment. Please categorize every item below by placing an “X” in the appropriate category box, place each item in ONLY one category:

	Item Description	Physical Sensation	Dissociative / Cognition	Negative Affect	Contentment
1	Disgust				
2	Rapid heart beat				
3	Guilt				
4	Body numbness or tingling sensations				
5	Choking				
6	Feared you were going to die				
7	Shortness of breath				
8	Nausea or abdominal distress				
9	Feared going crazy or losing control				
10	Chest pain or discomfort				
11	Calm				
12	Dizziness or feeling faint				
13	Detached as if in a dream				
14	Trembling or shaking				
15	Emptiness or boredom				
16	Irritability, frustration, or anger				
17	Self-hatred				
18	Fear				
19	Sweating				
20	Hot flashes or chills				
21	Relief				
22	Felt like it wasn't really happening				
23	Sadness				

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