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Negative Posttraumatic Cognitions Among Military Sexual Trauma Survivors

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Abstract

Background—Unique aspects of military sexual trauma (MST) may result in specific maladaptive cognitions among survivors. Understanding which posttraumatic cognitions are particularly strong among MST survivors could help clinicians target and improve treatment for these individuals. This study explored the impact of experiencing MST on posttraumatic cognitions among veterans with posttraumatic stress disorder (PTSD).

Methods—Veterans enrolled in an Intensive Outpatient Program for PTSD ($N = 226$) were assessed for MST, PTSD severity, depression severity, and posttraumatic cognitions as part of a standard clinical intake. Multivariate analyses examined differences in posttraumatic cognitions between veterans who did and did not experience MST.

Results—MST survivors ($n = 88$) endorsed significantly stronger posttraumatic cognitions related to self-blame compared to non-MST counterparts ($n = 138$), even when accounting for current symptom severity. Specifically, MST predicted the following cognitions: “The event happened to me because of the sort of person I am,” “Somebody else would have stopped the event from happening,” “Somebody else would not have gotten into this situation,” and “There is something about me that made the event happen,” after controlling for severity of PTSD and depression.

Limitations—Study population was a treatment-seeking sample of veterans diagnosed with PTSD from a non-VA clinic. Veterans in MST group endorsed either sexual harassment, sexual

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Contributors

Kathryn Carroll, Ashton Lofgreen, Darian Weaver, and Alyson Zalta were involved in generating hypotheses, conducting statistical analyses, interpretation of the data, and drafting of the manuscript. Philip Held and Alyson Zalta were involved in data collection. Philip Held and Brian Klassen were involved in interpretation of the data and editing of the manuscript. Dale Smith was involved in conducting statistical analyses, interpretation of the data, and editing of the manuscript. Niranjana Karnik and Mark Pollack were involved in securing funding, interpretation of the data, and editing of the manuscript.

Disclosure Statement

Mark Pollack receives research funding from the National Institutes of Health, Edgemont Pharmaceuticals, and Janssen Pharmaceuticals; provides consultation to Aptinyx, Clintara, Edgemont Pharmaceuticals and Palo Alto Health Sciences; receives equity from Argus, Doyen Medical, Medavante, Mensante Corporation, Mindsite, and Targia Pharmaceuticals; and receives royalties from SIGH-A, SAFER interviews. All other authors declare that they have no conflicts of interest.

assault, or both. Sample size of males who endorsed MST ($n = 21$) may be too small to generalize to all males.

Conclusions—Beliefs related to self-blame may be important treatment targets for MST survivors.

Keywords

military sexual trauma; veterans; posttraumatic stress disorder; cognitions; depression

Introduction

Sexual violence within the U.S. Armed Forces is a widespread problem that has received increasing attention from clinicians, researchers, and the general public over the past two and a half decades. The Veterans Administration (VA) adopted the term military sexual trauma (MST) to describe the negative psychological impact of this problem. MST has been defined as “psychological trauma, which in the judgment of a . . . mental health professional, resulted from a physical assault of a sexual nature, battery of a sexual nature, or sexual harassment which occurred while the veteran was serving on active duty, active duty for training, or inactive duty training” (38 U.S.C. § 1720D). VA estimates indicate that approximately one in four female veterans and one in one hundred male veterans endorse experiencing MST, although prevalence estimates in the literature vary based on study methodology (Bostock and Daley, 2007; Hunter, 2007; Kimerling et al., 2007; Klingensmith et al., 2014). The experience of MST has been associated with a number of adverse mental and physical health problems, including posttraumatic stress disorder (PTSD), depression, and anxiety, as well as other mental and physical health problems (see Lofgreen et al., 2017 for review).

The development of negative posttraumatic cognitions (NPCs) following a traumatic event has been suggested to play a key mechanistic role in the genesis and maintenance of posttraumatic stress disorder (PTSD) and depression (Ehlers and Clark, 2000; Lo Savio et al., 2017). Specifically, the appraisal of the traumatic event, including one’s role in the event, and the overall meaning of the event for oneself, others, and the world, is postulated to determine the posttrauma trajectory, including subsequent mental health problems. For example, assuming inappropriate blame for the sexual assault or viewing oneself as incapable or permanently damaged as a result of the event is believed to contribute to the development of symptoms of PTSD and depression. Similarly, loss of one’s sense of safety, trust, power and control, and intimacy can lead to trauma-related symptoms (Resick et al., 2016). In addition to their role in the maintenance of PTSD symptoms, the alteration of NPCs has been shown to be an important mechanism of effective psychological treatments for PTSD (see Zalta, 2015 for a review).

Several studies indicate that NPCs may play an important role in the development and maintenance of PTSD for survivors of sexual trauma. Sexton and colleagues (2018) found that NPCs were significantly and positively correlated with self-reported PTSD symptoms. Among childhood sexual abuse survivors, dysfunctional beliefs measured by validated self-report scales were found to be correlated with higher PTSD symptoms as measured by both

self-report (Wenninger and Ehlers, 1998) and clinician administered (Owens and Chard, 2001) measures, with medium to large effect sizes. One study utilizing Cognitive Processing Therapy (CPT) demonstrated that reductions in NPCs from pre- to post-treatment were associated with reductions in PTSD for MST survivors (Holliday et al., 2014). Among civilian female assault survivors (both sexual and non-sexual assault) with PTSD, being treated with Prolonged Exposure (PE) therapy resulted in clinically significant, reliable, and lasting reductions in NPCs, and changes in NPCs accounted for 41% of the variance in residual PTSD symptoms after controlling for pretreatment PTSD symptoms (Foa & Rauch, 2004). Significant differences were also found between pretreatment and posttreatment severity of NPCs among survivors treated with CPT for sexual abuse (Owens et al., 2001).

Although the associations between NPCs and trauma-related disorders are well-documented, little is known about whether sexual traumas, such as MST, are associated with certain types of NPCs. One study, which examined the effects of prolonged exposure therapy in female assault survivors, found that reductions in NPCs about the self (e.g., “There is something wrong with me as a person”) were associated with decreased PTSD symptoms, but reductions in self-blame were not (Foa and Rauch, 2004). More recently, Sexton and colleagues (2018) showed that veterans with MST reported more severe NPCs compared to veterans with combat trauma. These findings held true across all four factors that were measured (negative view of the self, negative view of the world, self-blame, and negative beliefs about coping competence) and after controlling for gender, suggesting that MST may increase risk for NPCs. However, this study did not control for levels of psychopathology, which means that differences between the MST and combat samples in NPCs may have been driven by a difference in severity rather than the experience of MST itself.

Notably, no study to date has yet examined whether the experience of MST is associated with specific NPC items. In psychotherapies that use cognitive restructuring as a primary treatment technique, such as Cognitive Processing Therapy (Resick et al., 2016), clinicians have the opportunity to help select which cognitions will be directly targeted in session. Understanding whether specific NPCs are unique to MST survivors could identify important treatment targets for cognitive-behavioral interventions and aid clinicians in delivering effective treatment. The present study examined NPCs among treatment-seeking veterans with PTSD to determine if those who experienced MST were more likely to endorse specific beliefs compared to those who did not experience MST. We also evaluated whether the relationship between MST and specific posttraumatic cognitions remained after controlling for severity of PTSD and depression symptoms.

Methods

Participants and Procedure

The sample for the present study consists of 226 treatment-seeking adult male ($n = 155$) and female ($n = 71$) veterans who enrolled in an Intensive Outpatient Program (IOP) for PTSD between January 2016 and February 2018 at the Rush Road Home Program, a non-VA clinic. Patients attend the IOP in co-ed cohorts of up to 12 veterans with separate cohorts focusing on combat trauma or MST. Service members, veterans, and their family members are eligible to receive free mental health care regardless of discharge status. All veterans

were evaluated for PTSD using the Clinician Administered PTSD Scale for DSM-5 (CAPS-5; Weathers et al., 2013) as a part of the standard two-session intake process. The CAPS-5 is considered the gold standard for diagnosing PTSD. A diagnosis of PTSD is a pre-requisite for IOP admission, thus all sample participants met criteria for this diagnosis. Intakes were conducted by a variety of clinicians, including licensed clinical social workers, licensed professional counselors, and licensed clinical psychologists, and supervised postdoctoral fellows. Military and demographic characteristics of the sample are displayed in Table 1. Patients were assigned to either cohort (MST or combat) based on their index trauma as reported on the CAPS-5. It should be noted that patients in the MST cohorts may have experienced combat trauma and patients in the combat cohorts may have experienced MST. All study procedures were approved by the Institutional Review Board with a waiver of consent because all assessments were collected as part of routine clinical care procedures.

Measures

All measures used in the present study were collected as part of the standard intake clinical evaluation for each patient.

Military sexual trauma (MST)—Military sexual trauma (MST) was assessed using a 2-item screen: “While you were in the military, did you receive uninvited and unwanted sexual attention, such as touching, cornering, pressure for sexual favors, or verbal remarks?” and “While you were in the military, did someone ever use force or threat of force to have sexual contact with you against your will?” These items are used in VA settings to screen universally for sexual harassment and sexual assault, respectively (Kimmerling et al., 2007). Previous studies have confirmed that these items are highly sensitive (0.92 and 0.89, respectively) and specific (0.89 and 0.90; McIntyre et al., 1999). For the current study, the MST group was determined based on endorsement of either one of the two items, though the majority of people in the MST group endorsed both sexual harassment and sexual assault (85%). Positive screens on this measure correlate strongly with increased mental health service utilization and mental and physical health problems (Kimerling et al., 2007; Kimerling et al., 2008). The two items are highly correlated in the present sample ($r_s = .88, p < .001$).

Posttraumatic Cognitions Inventory (PTCI; Foa et al., 1999)—The PTCI is a 33-item self-report scale designed to measure NPCs related to self-blame, negative beliefs about self, and negative beliefs about others and the world. Items are scored on a 7 point Likert scale from 1 (*totally disagree*) to 7 (*totally agree*). Higher scores on the PTCI subscales indicate stronger NPCs. The PTCI has demonstrated strong reliability and validity and is regularly used to assess military populations with PTSD, including MST survivors (Foa et al., 1999, Holliday et al., 2014). Although a number of studies psychometric studies on the PTCI have yielded the originally published 3-factor solution (self-blame, negative view of self, negative view of the world; Foa et al., 1999; Andreu et al., 2017), a recent study found that a 4-factor solution (self-blame, negative view of self, negative view of the world, and negative beliefs about coping competence) was a better fit to the data among a large sample of treatment seeking veterans with MST and combat trauma (Sexton et al., 2018). The total PTCI score had high internal consistency in the current sample ($\alpha = .94$).

Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5; Weathers et al., 2013)—PTSD severity was assessed using the PCL-5. The PCL-5 is a 20 item self-report measure of PTSD symptom severity over the past month. Respondents were asked to rate their symptom severity on a 5 point Likert scale from 0 (*not at all*) to 4 (*extremely*) in relation to their index trauma with higher scores indicating greater PTSD severity. The PCL-5 has been shown to be a reliable and valid measure of PTSD symptom severity in veteran and military populations (Bovin et al., 2015; Wortmann et al., 2016). For the current analyses, symptoms assessing changes in cognitions as a result of the index trauma (i.e., items 9 and 10) were removed to reduce the potential for construct overlap between covariates and outcome variables. The remaining 18-items of the PCL-5 had high internal consistency in the current sample ($\alpha = .87$).

Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001)—The PHQ-9 is a widely-used self-report measure of depression symptoms occurring in the previous two weeks. Items are rated on a 4 point scale from 0 (*not at all*) to 3 (*nearly every day*) and summed to create a total score (ranging from 0 to 27), with higher scores reflecting greater severity of depression. The PHQ-9 has previously demonstrated excellent psychometric properties with prior veteran samples, including survivors of MST (Schuyler et al., 2017). For the current analyses, one item assessing cognitive symptoms of depression (i.e., item 6) was removed to reduce the potential for construct overlap between covariates and outcome variables. The remaining 8 items of the PHQ-9 had acceptable internal consistency in the current sample ($\alpha = .76$).

Data Analysis

Independent samples *t*-tests and χ^2 tests were used to examine group differences (MST vs. non-MST) on demographic variables including age, gender, education, marital status, race/ethnicity, branch of service, deployment history, and service era. Next, non-parametric Mann-Whitney *U* tests were used to determine mean differences in individual NPCs between those who endorsed experiencing MST and those who did not. Unlike *t*-tests, the Mann-Whitney *U* does not require the assumption of normal data distribution. Family-wise error correction for multiple comparisons was then conducted using Hochberg's step-up procedure (Hochberg, 1988). NPCs for which Hochberg's step-up procedure demonstrated significant between-group differences were further examined using ordinal logistic regression analyses to determine if the experience of MST predicted NPCs after accounting for the overall severity of PTSD and depression. We also evaluated whether any demographic and military characteristics were significantly associated with total PTCI scores; characteristics that were significantly associated with both MST and the PTCI were included in the multivariate analyses.

Results

Of 227 veterans who attended the IOP between January 2016 and February 2018, 88 (38.8%) endorsed experiencing MST and 138 (60.8%) reported that they did not experience MST. One veteran did not answer MST items and was dropped from further analysis ($N = 226$). All of the veterans who attended MST IOP cohorts endorsed MST ($n = 69$; 56 women

and 13 men). In the combat IOP cohorts, 19 of 138 veterans (13.8%; 11 women and 8 men) endorsed experiencing MST. Those exposed to MST were significantly older ($M = 42.47$, $SD = 10.46$) than those who did not endorse MST ($M = 39.04$, $SD = 7.91$; $t = -2.80$ (224), $p = .001$). Chi-square analyses also demonstrated differences in sex, marital status, race and ethnicity, sexual orientation, branch of service, deployment status and service era for those who did versus those who did not endorse MST (results displayed in Table 1). Those with MST were more likely to be female, to be from sexual or racial minority groups, and to have served pre-9/11. Those with MST were less likely to be married, to have served in the Army or Marines, and to have been deployed. None of these variables were associated with PTCI scores (all $p > .05$); therefore, none of these potential covariates were included in the multivariate models.

Results of Mann-Whitney U test and Hochberg's step-up procedure for all items are displayed in Table 2. Mann-Whitney U tests demonstrated that those who were exposed to MST had significantly stronger endorsement of seven of thirty-three PTCI items. Four of these seven items remained significant after correcting for family-wise error using Hochberg's step-up procedure (Hochberg, 1988). Specifically, those who endorsed MST had higher ratings on item 14: "The event happened to me because of the sort of person I am," item 18: "Somebody else would have stopped the event from happening," item 21: "Somebody else would not have gotten into this situation," and item 30: "There is something about me that made the event happen."

These four significant NPCs were further examined as outcome variables in separate multivariate ordinal logistic regression models. Each model included MST, PTSD symptoms, and depression symptoms as simultaneous predictors. MST remained a significant predictor of all four NPCs in the multivariate models (see Table 3).

Discussion

The present study examined whether the experience of MST was associated with specific NPC items among veterans with PTSD. This is the first study to date that has examined and identified specific problematic NPCs among survivors of sexual trauma in the military. Our findings showed that those who experienced MST were more likely to attribute causality for the trauma to personal failings compared to those who had not experienced MST. These results held after controlling for severity of PTSD and depression symptoms, indicating that differences in these beliefs are likely driven directly by the experience of MST rather than psychopathology resulting from MST. These findings are consistent with our understanding of MST and clinical expectations about how individuals may respond to these experiences. Military service members are trained to be self-reliant and able to protect themselves against the "enemy," and the military culture is known for promoting values of strength, self-sufficiency, and personal responsibility (Castro et al., 2015). The experience of MST significantly undermines this sense of self-sufficiency and may contribute to beliefs that others with the same military training would not be victimized, leading survivors to view victimization as a personal failure.

Notably, the cognitions that were different between those who did and did not experience MST (items 14, 18, 21, and 30) all fall under the PTCI self-blame subscale (Foa et al., 1999; Sexton et al., 2018). Only one of the self-blame items (item 1: “The event happened because of the way I acted”) did not demonstrate differences between those with and without MST in univariate analyses. We did not observe differences in items related to negative beliefs about self, coping, or the world after using a more conservative approach to univariate testing to correct for family-wise error. This suggests that trauma survivors with PTSD who have and have not experienced MST view themselves, the world, and their ability to cope after trauma similarly. This is consistent with Ehlers and Clark’s (2000) Cognitive Model of PTSD, which proposes that individuals who experience different types of traumas and develop PTSD all share a common way of processing the trauma that leads to a sense of serious, current threat. Believing that one is living in a dangerous world, perceiving oneself as incapable of coping with threats, and viewing oneself as permanently damaged or doomed to a bad future all increase one’s perceptions of vulnerability to threat.

Common myths about sexual assault (also known as “rape myths”) and the pervasiveness of “rape culture” in society may contribute to this sense of self blame, as they normalize victim blaming and create hostility towards victims (Burt, 1980). Military culture may further exacerbate this experience, as research has shown that a majority of individuals who experience MST report perceptions of institutional betrayal including endorsement that the military creates an environment in which MST is common, reporting is difficult or detrimental to the survivor, the response to reporting is inadequate, and individuals who experience MST are devalued (Monteith et al., 2016). These findings suggest the need for cultural change within the military in attitudes towards sexual trauma which, in the authors’ clinical experience, appear to facilitate the development of these harmful beliefs for many survivors. The notable toxicity of interpersonal trauma may also play a role in the development of these cognitions, as it has far-reaching effects on how an individual views themselves in relation to others. Our findings cannot speak to whether the beliefs more strongly endorsed by those who experienced MST versus those who did not experience MST are specific to sexual trauma that occurred in the military or whether they are more likely to be endorsed by sexual trauma survivors in general. Moreover, given the high overlap between experiences of sexual harassment and sexual assault in our sample, it is unclear whether these different experiences might affect NPCs differently. Notably, the literature on military sexual harassment alone is limited (Stander and Thomsen, 2016) and to our knowledge, no studies have examined the relationship between sexual harassment alone and NPCs. Future research is needed to elaborate how the military context affects experiences of sexual harassment/assault and resulting beliefs.

Although our results align with our understanding of civilian and military cultural views on sexual violence, our results are somewhat inconsistent with previous studies on NPCs among sexual trauma survivors. Sexton and colleagues (2018) showed that veterans with MST reported higher NPCs across all factors (self-blame, negative cognitions about self, negative cognitions about world, negative beliefs about coping competence) compared to veterans with combat trauma. Additionally, Foa and Rauch (2004) showed that among civilian female assault survivors, reductions in NPCs about the self were associated with decreased PTSD symptoms, but reduction in self-blame cognitions were not. It is most likely that these

differences are due to differences in the study samples and analytic approach. For example, Sexton and colleagues (2018) looked at differences in individuals based on their index trauma rather than looking at differences between those who had or had not experienced MST. Moreover, this study did not account for symptom severity, which may have been higher in the MST group, contributing to greater NPCs. Differences with the Foa and Rauch's (2004) study may speak to differences across civilian and military sexual assault. Further research is needed to evaluate how these factors affect the manifestation of NPCs and their role in successful treatment.

The results of this study suggest that there may be clinical value in assessing and targeting NPCs related to self-blame in treating PTSD and depression among MST survivors. Our previous work with an overlapping sample of participants showed that changes in NPCs predicted subsequent changes in PTSD and depression symptoms over the course of the IOP (Zalta et al., under review). A recent study by Holliday and colleagues (2018) examined whether changes in different NPC clusters (self-blame, negative cognitions about self, negative cognitions about others) predicted subsequent changes in PTSD symptoms during CPT for MST survivors. They found that only changes in self-blame cognitions predicted subsequent changes in PTSD symptoms, providing further evidence that changes in self-blame are critical to recovery for MST survivors. It is important to note that previous research has shown that both CPT and PE are effective in attenuating NPCs including self-blame (Holliday et al., 2014; Schumm et al., 2015; Zalta et al., 2014). Thus the current results provide further support that both CPT and PE are indicated for veterans with MST. Further research is needed to determine whether enhanced monitoring and targeting of self-blame beliefs may optimize outcomes among MST survivors or help to prevent relapse.

This study has several limitations. Our study population is a treatment-seeking sample from a clinic outside of the VA, so results may not generalize to all survivors of MST. Additionally, the sample was comprised of veterans who attended an Intensive Outpatient Program for PTSD; thus, all veterans in the present sample met the diagnostic criteria for PTSD. Collecting data from a wider sample which includes both treatment seeking and non-treatment seeking survivors of MST may be an appropriate next step in continuing to explore NPCs among survivors of MST. Notably, individuals in the MST and non-MST group differed based on a number of demographic and military characteristics. Although none of these variables were associated with total PTCI scores, it is possible that factors associated with the experience of MST (e.g., racial and sexual minority status) might influence the development of the specific NPCs identified in our study. Large-scale studies are needed to disentangle these effects and evaluate the role of intersectionality in the experience of MST survivors. Our measure of MST included individuals who experienced both sexual assault and sexual harassment. The majority of our sample experienced both forms of MST ($n = 75$; 85.2%), which meant that we could not conduct separate analyses by MST type. Additional research is needed to understand how different types of MST affect NPCs. Finally, the sample size of males ($n = 21$) who endorsed MST is indicative of the low numbers of male survivors who present to treatment for this type of trauma, and may be too small to generalize to male survivors of MST. Understanding potential differences in the experience of MST for men and women is an important direction for future study.

Despite these limitations, our study is the first to explore specific NPC items among male and female MST survivors. Understanding negative posttraumatic cognitions endorsed by survivors of MST may be an important step towards improving treatment outcomes for this vulnerable population. Future research should explore how the experience of MST contributes to higher endorsement of these identified NPCs, whether any protective factors may help to attenuate the development of these harmful beliefs, and whether targeting these NPCs in cognitive behavioral interventions does indeed improve treatment outcomes. Moreover, exploring the optimal methods and interventions for targeting these beliefs may help to enhance treatment selection and treatment outcomes for MST survivors.

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Highlights

- Military sexual trauma predicts specific negative cognitions in veterans with PTSD
- Specific cognitions were focused on self-blame
- Findings held after accounting for current psychopathology
- These beliefs may be key treatment targets for military sexual trauma survivors

Table 1

Demographic Characteristics by MST Group

Variable	MST (N = 88)		Non-MST (N = 138)		Total (N = 226)		χ^2 (df)
	n	%	n	%	n	%	
Gender							
Male	21	23.9	134	97.1	155	68.6	133.77 (1) ***
Female	67	76.1	4	2.9	71	31.4	
Education							
High School or less	5	5.7	22	15.9	27	11.9	6.13 (2) *
Some College	29	33.0	47	34.1	76	33.6	
College or Graduate degree	53	60.2	67	48.6	120	53.1	
Unknown ^a	1	1.1	2	1.4	3	1.3	
Marital Status							
Single	24	27.3	17	12.3	41	18.1	9.99 (2) **
Married/Domestic partner	35	39.8	79	57.2	114	50.4	
Divorced/Separated/Widowed	29	33.0	42	30.4	71	31.4	
Race/Ethnicity							
Caucasian/White	42	47.7	87	63.0	129	57.1	8.46 (3) *
African-American/Black	22	25.0	17	12.3	39	17.3	
Hispanic or Latino	17	19.3	28	20.3	45	19.9	
Other	7	8.0	6	4.3	13	5.8	
Sexual Orientation							
Heterosexual/Straight	73	83.0	137	99.3	210	92.9	20.25 (1) ***
Gay/Lesbian/Bisexual	14	15.9	1	0.7	15	6.6	
Unknown ^a	1	1.1	0	0.0	1	0.0	
Branch of Service							
Air Force (Active, Nat. Guard, Reserve)	16	18.2	3	2.2	19	8.4	37.14 (4) ***
Army (Active, Nat. Guard, Reserve)	46	52.3	106	76.8	152	67.3	
Marines	8	9.1	23	16.7	31	13.7	

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Variable	MST (N = 88)		Non-MST (N = 138)		Total (N = 226)		χ^2 (df)
	n	%	n	%	n	%	
Navy	16	18.2	6	4.3	22	9.7	50.02 (1)***
Coast Guard	2	2.3	0	0.0	2	0.9	
Deployment History							
Deployed	53	60.2	135	97.8	188	83.2	
Non-deployed	32	36.4	3	2.2	35	15.5	15.06 (1)***
Unknown	3	3.4	0	0.0	3	1.3	
Era							
Pre-9/11	17	19.3	5	3.6	22	9.7	
Post-9/11	71	80.7	133	96.4	204	90.3	

^a Individuals with missing data were excluded from chi-square analyses.

Note. Nat. Guard = National Guard

* $p < .05$,
** $p < .01$,
*** $p < .001$.

Table 2

Mann Whitney U tests of PTCL items by MST group

PTCL Item	MST (N = 88)			Non-MST (N = 138)			U	p
	Mdn	M	SD	Mdn	M	SD		
1: The event happened because of the way I acted	4.0	3.48	2.14	4.0	3.40	2.08	5909.50	.728
2: I can't trust that I will do the right thing	4.0	3.76	2.00	4.0	3.50	1.88	5634.50	.355
3: I am a weak person	4.0	3.80	1.96	3.0	3.25	1.94	5107.00	.041
4: I will not be able to control my anger and will do something terrible	4.0	3.66	1.89	4.0	3.78	1.79	5832.00	.612
5: I can't deal with even the slightest upset	4.0	3.82	1.69	4.0	3.83	1.67	6045.00	.954
6: I used to be a happy person but now I am always miserable	5.5	5.28	1.58	6.0	5.29	1.60	6028.50	.926
7: People can't be trusted	6.0	5.50	1.42	6.0	5.41	1.54	5943.00	.782
8: I have to be on guard all the time	6.0	5.97	1.22	6.0	5.91	1.21	5785.00	.527
9: I feel dead inside	5.0	4.66	1.76	5.0	4.81	1.81	5756.50	.503
10: You can never know who will harm you	6.0	5.61	1.58	6.0	5.56	1.44	5771.00	.515
11: I have to be especially careful because you never know what can happen next	6.0	5.60	1.44	6.0	5.65	1.28	6042.50	.949
12: I am inadequate	5.0	4.60	1.87	4.0	4.12	1.88	5182.50	.060
13: If I think about the event, I will not be able to handle it	5.0	4.56	1.69	4.0	3.99	1.75	4932.50	.016
14: The event happened to me because of the sort of person I am	4.0	3.86	2.10	2.0	2.64	1.79	4060.50	.000*
15: My reaction since the event mean that I am going crazy	4.0	4.05	1.93	3.0	3.43	1.93	5010.50	.025
16: I will never be able to feel normal emotions again	5.0	4.55	1.86	5.0	4.92	1.70	5377.00	.141
17: The world is a dangerous place	6.0	5.63	1.60	6.0	5.91	1.21	5698.00	.413
18: Somebody else would have stopped the event from happening	4.0	4.15	1.93	3.0	3.26	1.97	4514.50	.001*
19: I have permanently changed for the worse	5.0	4.65	1.79	5.0	4.68	1.70	6041.50	.948
20: I feel life an object, not like a person	5.0	4.57	1.82	4.0	4.25	1.88	5522.50	.245
21: Somebody else would not have gotten into this situation	4.0	4.05	1.91	3.0	3.08	1.94	4374.00	.000*
22: I can't rely on other people	6.0	5.27	1.76	5.0	4.96	1.70	5317.00	.108
23: I feel isolated and set apart from others	6.0	5.76	1.40	6.0	5.93	1.19	5781.50	.524
24: I have no future	4.0	3.74	1.78	4.0	3.99	1.86	5601.00	.319
25: I can't stop bad things from happening to me	4.0	4.47	1.81	4.0	4.22	1.79	5629.50	.349
26: People are not what they seem	6.0	5.28	1.48	5.0	5.22	1.34	5775.00	.525

PTCI Item	MST (N = 88)			Non-MST (N = 138)			U	p
	Mdn	M	SD	Mdn	M	SD		
27: My life has been destroyed by the trauma	6.0	5.14	1.79	5.0	4.98	1.77	5728.50	.465
28: There is something wrong with me as a person	5.0	4.68	1.92	5.0	4.80	1.71	5962.00	.815
29: My reactions since the event show that I am a lousy copier	5.0	4.47	2.03	5.0	4.65	1.84	5835.50	.617
30: There is something about me that made the event happen	4.0	4.07	2.26	2.0	2.67	1.72	3939.00	.000 *
31: I feel like I don't know myself anymore	5.5	4.98	1.84	6.0	5.14	1.71	5817.50	.587
32: I can't rely on myself	5.0	4.59	1.95	5.0	4.62	1.74	5989.50	.861
33: Nothing good can happen to me anymore	4.0	3.60	2.00	4.0	3.66	1.94	5933.00	.769

Note: MST = Military sexual trauma; PTCI = Posttraumatic Cognitions Inventory; Mdn = Median; Items are rated on a 1 (Totally disagree) to 7 (Totally agree) point scale.

* Significant after correction with Hochberg's step-up procedure (Hochberg, 1988).

Table 3

Ordinal Logistic Regression Models

Variable	14: The event happened because of the sort of person I am		18: Somebody else would have stopped the event from happening		21: Somebody else would not have gotten into this situation		30: There is something about me that made the event happen	
	β (SE)	OR	β (SE)	OR	β (SE)	OR	β (SE)	OR
MST Exposure	1.22 (0.25) ***	3.39	0.86 (0.25) ***	2.36	0.98 (0.25) ***	2.66	1.41 (0.26) ***	4.10
PCL-5	0.02 (0.02)	1.02	0.04 (0.02) *	1.04	0.03 (0.02) *	1.03	0.04 (0.02) *	1.04
PHQ-9	0.08 (0.04) *	1.08	0.00 (0.03)	1.00	0.04 (0.04)	1.04	0.09 (0.04) **	1.09

* $p < .05$,** $p < .01$,*** $p < .001$.