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Research paper

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 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.

1. 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" (38U.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

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Table 1
Demographic Characteristics by MST Group.

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

Note. Nat. Guard = National Guard
*$p < .05$, **$p < .01$, ***$p < .001$.
[a] Individuals with missing data were excluded from chi-square analyses.

addition to their role in the maintenance of PTSD symptoms (Scher et al., 2017), 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 et al. (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 and 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 et al. (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