

The Association of Exposure to Military Sexual Trauma and Romantic Relationship Satisfaction Among Partnered Men Service Members/Veterans: The Influence of Compulsive Sexual Behavior

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Civilian literature shows a strong, consistent association between exposure to sexual violence and poor romantic relationship satisfaction. The impact of sexual violence that occurred during military service, or military sexual trauma (MST), on romantic relationship satisfaction among partnered men service members/veterans (SM/Vs) is understudied. However, a recent study conducted in women observed that MST that involved an assault was associated with poorer relationship satisfaction through higher sexual dysfunction and lower sexual satisfaction. The current study extended the literature by examining sexual function as a mediator of the association of exposure to MST and romantic relationship satisfaction among partnered men SM/Vs (N = 499). Participants completed self-report measures of MST exposure, romantic relationship satisfaction, erectile dysfunction, and compulsive sexual behavior, as well as a demographic inventory. The average score on relationship satisfaction was in the distressed range. Sixty-four participants (12.83%) reported MST exposure. MST exposure was related to lower relationship satisfaction through higher compulsive sexual behavior. The model explained 16% of the variance in relationship satisfaction. The indirect effect of erectile dysfunction was nonsignificant. Current findings are consistent with research in women SM/Vs: the association of MST and romantic relationship satisfaction appears to be indirect, through the effects of sexual function. Couples' therapy may be most effective if it addresses sexual health concerns among men MST survivors, particularly engagement in compulsive sexual behaviors. Due to low endorsement of MST that involved assault, the impact of MST severity could not be examined.

Keywords: Relationship Satisfaction; Military Sexual Trauma; Sexual Dysfunction; Men; Service Members; Veterans

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Among military service members and veterans (SM/Vs), there is a substantial body of evidence showing that more severe posttraumatic stress disorder (PTSD) symptoms or a diagnosis of PTSD is associated with lower romantic relationship (see meta-analysis, Taft, Watkins, Stafford, Street, & Monson, 2011). The cardinal symptom of PTSD is exposure to a Criterion A stressor (American Psychiatric Association, 2013). To date, few studies have examined how unique traumas specifically relate to romantic relationship satisfaction among partnered SM/Vs. Indeed, not all traumatic events, such as deployment or combat exposure, are associated with poorer romantic relationship satisfaction or

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probable PTSD diagnoses (e.g., Creech, Swift, Zlotnick, Taft, & Street, 2016; Hoge et al., 2004). That said, more recent research conducted in a sample of partnered female SM/Vs observed that interpersonal traumas, such as those that included sexual violence, were associated with poorer individual and interpersonal outcomes, such as higher PTSD symptoms, lower romantic relationship satisfaction, and poorer sexual health relative to non-sexual traumas (Blais, Zalta, & Livingston, 2020; DiMauro, Renshaw, & Blais, 2018). In addition to men representing the largest cohort of military SM/Vs, the majority of these men are married (Department of Defense, 2018), and are likely to be the identified patient in couples' therapies for PTSD (see review, Kugler, Andresen, Bean & Blais, 2019), making it is critical to expand our understanding of how unique traumas relate to interpersonal function in men SM/Vs. This information may inform the development of treatment targets and goals in couples' therapy.

An interpersonal trauma that is particularly relevant to SM/Vs includes sexual harassment or violence that occurred during military service. These events are referred to as "military sexual trauma (MST)" by the Department of Veterans Affairs (VA; U. S. Government, 2014). According to findings reported in the *National Health Study for a New Generation of US Veterans*, 4% of men SM/Vs reported MST (Barth et al., 2016). Data on relationship satisfaction among men who have been exposed to MST are quite limited. However, theories of relationship function and civilian data suggest that exposure to sexual violence can reduce intimacy in romantic relationships (e.g., Davis & Petretic-Jackson, 2000; Georgia et al., 2017; Whiffen & Oliver, 2004), which in turn, lowers romantic relationship satisfaction. Indeed, in order to cope with the psychological sequelae of sexual violence, survivors may avoid sexual contact or engage in sexual contact for passive reasons (e.g., wanting to please their partner; Maltz, 2002). In line with these theories and research, a recent study observed that the association between MST and romantic relationship satisfaction in women SM/Vs was indirect. That is, exposure to MST that involved assault (relative to harassment-only) was associated with higher sexual dysfunction and lower sexual satisfaction, and higher sexual dysfunction and lower sexual satisfaction, in turn, were associated with lower relationship satisfaction (Blais, 2019). Though not specific to MST, partnered male veterans who were Prisoners of War and diagnosed with PTSD reported greater problems with intimacy relative to those who were not diagnosed with PTSD (Cook, Riggs, Thompson, Coyne, & Sheikh, 2004). Moreover, among mental health diagnoses common among SM/Vs (e.g., PTSD, depression), veterans with PTSD had the greatest risk for a sexual dysfunction diagnosis; risk that increased 3-fold in the presence of a PTSD diagnosis (Breyer et al., 2014). Such results suggest that trauma exposure in men may increase relationship distress through difficulties with intimacy. The primary aim of the current study is to explore the association of exposure to MST and romantic relationship satisfaction among partnered men SM/Vs and determine if one mechanism is disrupted sexual function.

Disrupted sexual function in men can take many forms, including the presence of a clinical disorder or maladaptive behaviors related to sexual activity. Among men SM/Vs reporting PTSD, diagnoses, or problems with erectile dysfunction were prominent (see review, Tran, Dunckel, & Teng, 2015; Wilcox, Redmond, & Hassan, 2014). Erectile dysfunction may relate to poorer sexual function due to difficulties initiating or maintaining intimacy (e.g., Dowswell et al., 2011), which is a key hallmark of romantic relationships. Men with erectile dysfunction may also feel shame or embarrassment for these difficulties and in order to cope, they may avoid sexual contact, which can lead to strains in their romantic relationship (e.g., Helmer et al., 2015). Similarly, compulsive sexual behavior (CSB), which is defined as failure to control repetitive and intense preoccupation or engagement with urges, fantasies, and behaviors that are sexual (World Health Organization, nd), may erode relationship satisfaction among male survivors of MST. In particular,

CSB may lead to strains on romantic relationships due to differing expectancies of sexual activity, preoccupation with sex, or interest in sexual activities that are aversive to one's partner. Two studies observed that CSB was reported by up to 17% of men SM/Vs (Blais, 2020; Smith et al., 2014) and was higher among men reporting exposure to MST (Blais, 2020). The current study will examine erectile dysfunction and CSB as metrics of disrupted sexual function.

The current study extends the literature exploring the impact of exposure to MST on romantic relationship satisfaction among men SM/Vs. Specifically, this study will explore erectile dysfunction and CSB as possible mediators of the association between MST exposure and romantic relationship satisfaction after accounting for covariates. Consistent with previous research conducted in a sample of women SM/Vs (Blais, 2019), it was hypothesized that exposure to MST would be associated with poorer sexual function (i.e., higher erectile dysfunction, CSB), and poorer sexual function, in turn, would be associated with lower relationship satisfaction. To be consistent with a previous research (e.g., Blais, 2019), covariates included age, marital status, and relationship duration. Posttraumatic stress disorder symptom severity was also included as a covariate given the evidence that PTSD is associated with exposure to MST (e.g., Kimerling et al., 2007) and poorer relationship outcomes among partnered SM/Vs (see review, Taft et al., 2011).

METHOD

Participants included men who reported current or past military service, and who indicated that they were in a romantic relationship at the time of study participation. Overall, 556 men consented to participate in the study, and 499 (89.75%) reported being in a relationship. These individuals comprise the current sample. Of the 499 participants, 384 (76.95%) reported they were married (as opposed to partnered or engaged but not married; $n = 115$; 23.05%). The average age of participants was 39.05 ($SD = 10.76$), and the average duration of romantic relationships was 9.90 ($SD = 9.10$) years. The majority of the sample indicated they were White ($n = 415$; 83.17%; these individuals did not report any other race or ethnicity), heterosexual ($n = 469$, 93.99%), reported service in the Army ($n = 274$; 54.91%), made \$50,000+/year ($n = 328$; 65.73%), and had deployed as part of their service ($n = 326$; 65.33%). The majority reported that they were discharged from the military at the time of study participation ($n = 332$, 66.5%).

Procedure

Participants were recruited via online advertisements placed on Facebook. Individuals who wished to participate completed screening questions confirming male sex, past or current military service, and appropriate consenting age. Those who met screening criteria were presented with a Letter of Information, which described the study purposes. Men wishing to participate indicated their consent by advancing to survey questions (as opposed to exiting the survey). All screening items and study measures were administered via Qualtrics. Participants were offered \$15 as compensation for their time. The IRB at Utah State University approved this study.

Measures

An inventory designed by the author assessed demographic and military service characteristics including age, race, sexual orientation, income, marital status, relationship duration, branch of service, and deployment history.

Dependent variable

Romantic relationship satisfaction was measured with the *Couples Satisfaction Index – 4 (CSI-4)*; Funk & Rogge, 2007), a four-item index measuring overall relationship satisfaction. A sample question includes “Please indicate the degree of happiness, all things considered, of your relationship.” Items are scored using a Likert scale with varying anchors, which ranged from 0 to 5 or 0 to 6. The four items are summed for a total score, which ranges from 0 to 21. Lower scores indicate lower relationship satisfaction, and scores <13.5 signal distressed relationships (Funk & Rogge, 2007). The *CSI-4* demonstrates adequate convergent validity with alternate measures of romantic relationship satisfaction (Funk & Rogge, 2007). Cronbach’s alpha in the current sample was adequate (Cronbach’s $\alpha = .87$).

Independent variable

Exposure to MST was assessed the *VA MST Screening Questionnaire*, which includes two dichotomously scored questions that query about exposure to uninvited/unwanted sexual attention and sexual violence during military service. Endorsement of either item indicates a positive history of MST exposure (dummy code = 1; no history of MST = 0).

Mediators

Compulsive sexual behavior was measured using the *Sexual Compulsivity Scale* (Kalichman et al., 1994), a 10-item self-report measure assessing engagement and preoccupation with sexually compulsive behaviors. Items are scored on a scale from 1 (*not at all like me*) to 4 (*very much like me*) and are then summed for a total score that ranges from 10 to 40, with higher scores indicating more severe CSB. Several thresholds for problematic levels of CSB have been suggested, including scores that are at least one standard deviation above the sample mean (Kalichman & Rompa, 2011), scores ≥ 24 (Parsons et al., 2001), or scores that meet or exceed the 80th percentile of all scores observed in the sample (Kalichman & Cain, 2004). The scale has adequate reliability and validity (Kalichman et al., 1994). In the current study, Cronbach’s alpha was .89.

Erective dysfunction was measured using the *Sexual Health Inventory for Men (SHIM)*; Rosen et al., 1999; also referred to as the *International Index of Erectile Dysfunction-5*), a 5-item self-report measure that assesses erectile dysfunction. Participants rate their agreement with each statement using a scale from 0 to 5 or 1 to 5. Anchors on items vary. Scores are then summed for a total score that ranges from 1 to 25. Higher scores are indicative of lower erectile dysfunction and scores ≤ 21 suggest some difficulty with erections. For ease of interpretation with regard to MST exposure, CSB, and relationship satisfaction, the total score was reverse scored so that higher scores are indicative of higher erectile dysfunction (thus, the expected correlation with CSB and MST exposure will be positive and the expected correlation with relationship satisfaction will be negative). Cronbach’s alpha in the current study was .94.

Covariates

Age, marital status, and relationship duration, which were assessed in the demographic inventory described above, were included as covariates. PTSD severity was also included as a covariate and was assessed using the *PCL-5* (Weathers et al., 2013). The *PCL-5* is a 20-item self-report inventory that measures severity of PTSD symptoms over the past month. Items are scored using a Likert Scale that ranges from 0 (*not at all*) to 4 (*extremely*). Items are summed for a total severity score that ranges from 0 to 80. Higher scores indicate greater distress. Scores of ≥ 31 have been suggested as a potential cutoff score to identify a probable PTSD diagnosis among those who were exposed to trauma

(Bovin et al., 2016). Given the self-report nature of the data, exposure to a Criterion A event could not be confirmed.

Analytic Plan

Sample characteristics were calculated using descriptives. Bivariate associations between romantic relationship satisfaction, CSB, erectile dysfunction, exposure to MST, and covariates were assessed using correlations and analyses of variance where appropriate. Path analysis with 10,000 bootstrapping samples was used to examine the mediating role of CSB and erectile dysfunction on the association of exposure to MST and romantic relationship satisfaction. A dummy variable representing exposure to MST (yes = 1; no = 0) was included as the exogenous variable and romantic relationship satisfaction was entered as the endogenous variable. Direct paths were specified from exposure to MST to romantic relationship satisfaction and proposed mediators of CSB and erectile dysfunction. Direct paths from CSB and erectile dysfunction were specified to romantic relationship satisfaction. CSB and erectile dysfunction were allowed to covary. Covariates had direct paths specified to CSB, erectile dysfunction, and relationship satisfaction. A covariance was specified between exposure to MST and PTSD severity. Age and relationship duration were allowed to correlate and marital status and relationship duration were allowed to correlate. Indirect effects from exposure to MST to relationship satisfaction through CSB and erectile dysfunction were specified. A mediated relationship is identified by a significant indirect effect. Fully standardized estimates are reported. Model fit was evaluated by fit statistics suggested by Hu and Bentler (1999), including estimates of $\geq .95$ for CFI and TLI and $\leq .08$ for RMSEA. Missing data in descriptives and bivariate associations were handled using pairwise deletion. Missing data in the adjusted model were estimated using full information maximum likelihood. All analyses were conducted in MPlus (Muthén & Muthén, 1998–2017).

RESULTS

Sample Characteristics

The average score on the *CSI-4* was in the distressed range (Funk & Rogge, 2007; see Table 1). Sixty-four (12.83%) reported exposure to MST. Of those 64, 11 (17.19%) indicated that their MST involved assault. Due to the low endorsement of MST that involved assault, the current study was unable to covary for MST severity (harassment-only vs assault) as has been done in other studies (e.g., Blais, 2019). The average score on the measure of erectile dysfunction, before reverse scoring, was slightly below the suggested cutoff of 21 ($M = 20.21$, $SD = 5.87$; Rosen et al., 1999). As noted above, there are several suggested cutoffs for identifying problematic levels of CSB, including scores that are at least one standard deviation above the sample mean (Kalichman & Rompa, 2011), scores ≥ 24 (Parsons et al., 2001), or scores that meet or exceed the 80th percentile of all scores observed in the sample (Kalichman & Cain, 2004). One standard deviation above the mean in the current sample was 21.02 and 59 (11.82%) participants reported scores at or above this threshold. Forty-five participants (9.02%) scored ≥ 24 , and scores at the 80th percentile fell between scores of 18 to 19. As such, on average, the sample was experiencing some level of relational distress and very mild erectile dysfunction, and 9–12% of the sample was experiencing some notable level of CSB. Finally, those that reported exposure to MST reported scores suggestive of a probable PTSD diagnosis (Bovin et al., 2016; see Table 2). The covariance coverage between any two single items was 70.1% (history of MST and PTSD severity) to 99.2% (age and relationship duration). For any single item, the values ranged from 76.8% (PTSD severity) to 100% (marital status). Among the

variables of interest (exposure to MST, CSB, erectile dysfunction, and relationship satisfaction), the values ranged from 84.4% (erectile dysfunction) to 87.4% (relationship satisfaction).

Bivariate Associations

The group that reported exposure to MST was not significantly different from the group that did not report exposure to MST with regard to scores on the *CSI-4*. However, the group that reported no exposure to MST scored above the threshold for distressed relationships (*CSI-4* scores > 13.5) and the group that reported exposure to MST scored below the threshold for distressed relationships (*CSI-4* scores < 13.5; see Table 2). The group that reported exposure to MST reported significantly higher erectile dysfunction, CSB, and PTSD relative to the group that reported no MST (see Table 2). Higher CSB, erectile dysfunction, and PTSD severity were associated with lower relationship satisfaction with medium effect sizes (see Table 1). Higher CSB was associated with higher erectile dysfunction with a small-to-medium effect size. Higher CSB and erectile dysfunction were associated with higher PTSD symptoms with medium-to-large effect sizes. Higher erectile dysfunction was associated older age and longer relationship duration with small-to-medium effect sizes (see Table 1).

Path Analysis and Mediation Testing

The path model in Figure 1 was just identified and explained 16% of the variance (CFI = 1.00, TLI = 1.00, and RMSEA = 0.00). Exposure to MST was associated with higher CSB, but unrelated to erectile dysfunction and relationship satisfaction. Higher CSB and erectile dysfunction were associated with lower relationship satisfaction. Despite the lack of a significant association between exposure to MST and romantic relationship satisfaction, which is not required for mediation testing (Kenny, 2018), exposure to MST was related to lower relationship satisfaction indirectly through higher CSB (indirect effect: $-.05$, $SE: .01$, 95% confidence interval [CI] = $-.09, -.02$, $p = .01$). The indirect effect of erectile dysfunction on the association of exposure to MST and relationship satisfaction was nonsignificant (indirect effect: $-.02$, $SE: .01$, 95% CI = $-.05, -.001$, $p = .17$).

TABLE 1

Means, Standard Deviations, and Bivariate Associations of Relationship Satisfaction, Erectile Dysfunction, Compulsive Sexual Behavior, and Linear Covariates

	<i>M (SD)</i>	1.	2.	3.	4.	5.	6.
1. Relationship satisfaction	13.32 (4.48)	—					
2. Erectile dysfunction	5.78 (5.87)	-.25***	—				
3. Compulsive sexual behavior	15.33 (5.69)	-.29***	.20***	—			
4. Age	39.05 (10.76)	-.05	.33***	.03	—		
5. Relationship duration (years)	9.90 (9.10)	-.03	-.18***	.01	.61***	—	
6. PTSD severity	23.02 (20.92)	-.35***	.36***	.43***	.01	-.02	—

Note. The measure of erectile dysfunction was reverse scored for ease of interpreting bivariate and adjusted associations. Higher scores correspond to higher erectile dysfunction.

*** $p \leq .001$.

** $p \leq .01$.

* $p \leq .05$.

TABLE 2

Means, Standard Deviations, and Group Comparisons of Military Sexual Trauma (MST), Relationship Satisfaction, Erectile Dysfunction, Compulsive Sexual Behavior, and Linear Covariates

	No MST M (SD)	Exposed to MST M (SD)	Test of Difference
Relationship Satisfaction	13.67 (4.31)	12.61 (5.08)	$t(397) = 1.72, p = .09$
Erectile Dysfunction	5.29 (5.68)	7.23 (5.96)	$t(382) = -2.42, p = .02$
Compulsive Sexual Behavior	1.45 (0.51)	1.84 (0.65)	$t(74) = -4.38, p = .001$
Age	38.38 (10.60)	40.71 (12.37)	$t(77) = -1.40, p = .17$
Relationship Duration (Years)	9.50 (9.00)	11.34 (9.97)	$t(424) = -1.47, p = .14$
PTSD Severity	19.49 (18.64)	33.59 (23.67)	$t(73) = -4.32, p = .001$

Note. The measure of erectile dysfunction was reverse scored for ease of interpreting bivariate and adjusted associations. Higher scores correspond to higher erectile dysfunction.

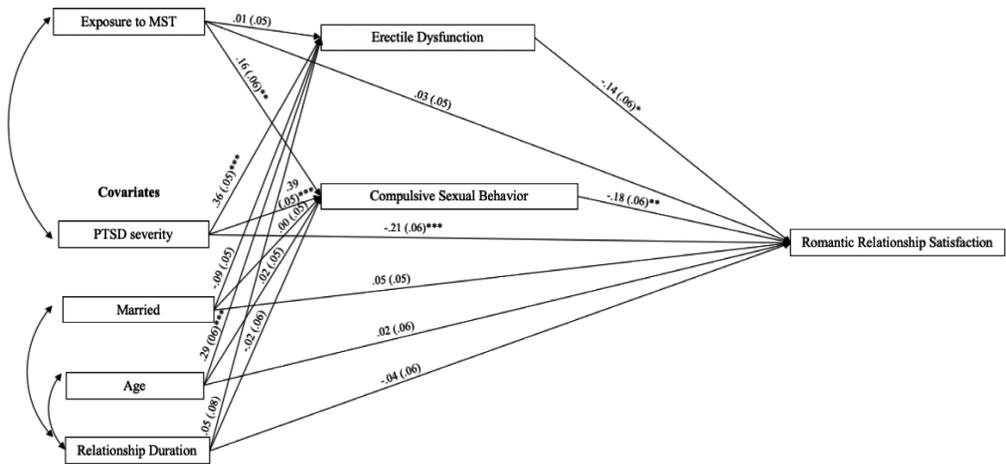


FIGURE 1. Path Model of Relationship Satisfaction, MST Exposure, Erectile Dysfunction, Compulsive Sexual Behavior, and Covariates ($R^2 = .16, p < .001$). Note. MST = military sexual trauma. Standardized estimates and standard errors are presented. The reference categories for a positive history of MST exposure (dummy code = 1) is no MST exposure (dummy code = 0) and married (dummy code = 1) is not married (dummy code = 0). Relationship duration is measured in years. Erectile dysfunction and compulsive sexual behavior were allowed to covary. The measure of erectile dysfunction was reverse scored for ease of interpretation. *** $p \leq .001$. ** $p \leq .01$. * $p \leq .05$.

DISCUSSION

The current study sought to extend the literature on the association between exposure to sexual violence during the military, or MST, and romantic relationship satisfaction among partnered men SM/Vs. Though exposure to MST was not directly associated with lower relationship satisfaction as hypothesized, the current study observed that exposure to MST was associated with higher CSB, and higher CSB, in turn, was associated with lower relationship satisfaction. Such results suggest that the association between exposure to MST and relationship satisfaction is indirect, through the effect of higher sexual dysfunction. The findings are consistent with a recent study conducted in partnered women SM/Vs, which observed that the association of exposure to MST, particularly events that involved assault (relative to harassment-only), was associated with lower relationship satisfaction through higher sexual dysfunction (Blais, 2019). Finally, and

contrary to hypotheses, higher erectile dysfunction did not mediate the association of exposure to MST and romantic relationship satisfaction, despite higher erectile dysfunction being significantly correlated with lower relationship satisfaction.

These findings have important implications for screening and intervention aimed at identifying and treating distressed relationships among sexual violence survivors who have served in the military. When conceptualizing couple-level distress and formulating treatment plans for couples in which one member is a survivor of MST, it may be important to screen for the presence of CSB. Recent studies show that up to 17% of convenience samples of men SM/Vs reported scores suggestive of problematic CSB (Blais, 2020; Smith et al., 2014), and exposure to MST was a salient risk factor for current CSB (Blais, 2020). Screening for CSB among MST survivors may help identify one trigger for relationship strain, which may ultimately serve as a treatment target. Treatment for relationship distress among MST survivors may then focus on reducing symptoms of sexual dysfunction, particularly CSB. Unfortunately, few interventions specifically address the sexual sequelae of sexual violence (Dickenson & Blais, 2021), and providers often feel ill-equipped to deal with such issues (see review, Tran et al., 2015), suggesting that helping survivors of MST overcome issues with sexual compulsion and, in turn, improving their relationship satisfaction, may be challenging.

That said, several couples' therapy interventions for SM/Vs with histories of trauma and PTSD have been shown to be effective (see review, Kugler et al., 2019). Providers treating those with histories of sexual violence experienced during military service may consider focusing on helping these individuals see their sexual dysfunction as part of the traumatic reaction, and while avoiding sexual contact may decrease painful reminders of MST (Maltz, 2002), it may also prevent survivors from experiencing safe and rewarding sexual experiences that help them heal from MST. Additional therapeutic targets for SM/Vs have been suggested, and include helping survivors (re)build confidence, self-worth, and interpersonal effectiveness (Ellis, 2017), which in sexual trauma survivors, may be instrumental in helping these individuals select healthy partnerships that lowers risk of revictimization (e.g., Kearns & Calhoun, 2010; Van Bruggen, Runtz, & Kadlec, 2006).

Though romantic relationship satisfaction was the primary outcome measure in this study, individual treatments may also be beneficial in addressing the sexual sequelae of MST, particularly among SM/Vs who are sexually active but not partnered or those who are seeking out a monogamous relationship. For example, *Warrior Renew* (Katz, 2016) is an individual treatment that addresses the sequelae of MST. The foci of this treatment protocol include addressing disruptions in intimacy, improving communication, and helping survivors of MST identify maladaptive patterns that negatively impact interpersonal relationships.

Contrary to hypotheses, exposure to MST was not associated with lower relationship satisfaction due to greater difficulties obtaining or maintaining an erection after accounting for CSB and covariates. It is possible that men experiencing erectile dysfunction find alternate ways to connect with their partner, including sensual touch or other aspects of intimate, nonsexual behavior. It is further possible that those in the current sample experiencing erectile dysfunction had adequate treatment for the issue, including the use of medications or penile pumps (e.g., Baltaci, Aydos, Kosar, & Anafarta, 1995; Mobley, Khera, & Baum, 2017). Thus, while these men might experience problems with erections, they may have adequate coping strategies to manage any interpersonal disruption.

Due to low endorsement of MST that involved assault, the current study was not able to determine if assault MST was more strongly associated with poorer interpersonal outcomes relative to MST that involved harassment. Previous research conducted in women SM/Vs observed that assault MST was associated with poorer relationship satisfaction and higher sexual dysfunction but harassment-only MST was not (Blais, 2019; Blais,

Brignone, Fargo, Livingston, & Andresen, 2019). Future research in men SM/Vs would strengthen this area of inquiry by exploring how severity of MST impacts personal and interpersonal function. There is evidence that men and women veterans respond differently to MST, such that women experience a higher risk for distress (Tannahill et al., 2020). Such findings suggest there may be important gender differences, which could inform screening and treatment.

Future research in the area of CSB in SM/Vs is needed. To date, only three studies were identified that examined CSB in SM/Vs (i.e., Blais, 2020; Kraus et al., 2017; Smith et al., 2014), and all were focused on correlates and predictors, which leaves a gap in our understanding about the etiological underpinnings of this issue. For example, it is possible that men engage in CSB due to the reinforcing nature or pleasure of engaging in sexual activity. Alternatively, it is possible that endocrine function could be responsible for higher engagement in CSB. The causes of CSB have not yet been widely established. This gap may prevent the psychological community treating military SM/Vs from being most effective when attempting to treat this issue in therapy. That said, the broader psychological community also lacks an empirically based understanding of CSB, though several models have been postulated, including cognitive behavioral, addiction-based, impulsivity-based, and biopsychosocial models (Coleman et al., 2018; Derbyshire & Grant, 2015).

Though the current study was circumscribed to the study of exposure to sexual violence that occurred during military service, findings are consistent with studies of sexual violence that occurred outside of the military and sexual function (Rellini & Meston, 2007; Stephenson et al., 2012) and relationship satisfaction (e.g., Berthelot et al., 2014; Georgia et al., 2017; Godbout et al., 2009; Whisman, 2006), but some of these studies are circumscribed to women survivors of sexual violence (e.g., Rellini & Meston, 2007; Stephenson et al., 2012). That said, there is evidence that sexual violence that occurred during military service is associated with greater distress and dysfunction relative to sexual trauma that occurred outside of the military context (Creech & Orchowski, 2016; Himmelfarb et al., 2006), suggesting that MST is uniquely associated with interpersonal distress. The impact of MST on sexual function and relationship satisfaction among men SM/Vs is particularly limited, highlighting an important area of future investigation.

The current study is not without limitations. Analyses were based on data that was collected in a cross-sectional manner, which limits the ability to draw causal explanations between these variables. Data were also based on self-report and were not collected from a sample of SM/Vs experiencing clinical levels of distress. PTSD severity was included as a covariate but due to the self-report nature of the data, exposure to an actual Criterion A stressor could not be confirmed. Thus, it is possible that the PTSD scores in the current study represent scores from those who did and did not experience a traumatic event. Inclusion of those who did not experience a Criterion A event may make the estimate observed in the current study lower than what would be observed in a clinical sample. Recruitment was limited to those using social media and a review of the demographics indicates some homogeneity with regard to race, sexual orientation, and marital status. As such, this sample may not generalize to other groups.

Notwithstanding, the current study provides novel information on how exposure to MST relates to interpersonal function among men SM/Vs. The findings show that the exposure to MST is indirectly related to lower romantic relationship satisfaction through engagement in higher CSB but not erectile dysfunction. Clinicians treating individuals reporting relationship distress should consider the relative contributions of MST exposure and sexual dysfunction.

CONFLICT OF INTEREST

The author has no conflict of interest to disclose. The views expressed herein are those of the author and do not represent the official views of the institution at which the author is employed.

REFERENCES

- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Association.
- Baltaci, S., Aydos, K., Kosar, A., & Anafarta, K. (1995). Treating erectile dysfunction with a vacuum tumescence device: A retrospective analysis of acceptance and satisfaction. *British Journal of Urology*, *76*, 757–760. <https://doi.org/10.1111/j.1464-410x.1995.tb00769.x>.
- Barth, S. K., Kimerling, R. E., Pavao, J., McCutcheon, S. J., Batten, S. V., Dursa, E. et al. (2016). Military sexual trauma among recent veterans: Correlates of sexual assault and sexual harassment. *American Journal of Preventive Medicine*, *50*(1), 77–86. <https://doi.org/10.1016/j.amepre.2015.06.012>.
- Berthelot, N., Godbout, N., Hébert, M., Goulet, M., & Bergeron, S. (2014). Prevalence and correlates of childhood sexual abuse in adults consulting for sexual problems. *Journal of Sex & Marital Therapy*, *40*(5), 434–443. <https://doi.org/10.1080/0092623X.2013.772548>.
- Blais, R. K. (2019). Lower sexual satisfaction and function mediate the association of assault military sexual trauma and relationship satisfaction in partnered female service members/veterans. *Family Process*, *59*(2), 586–596. <https://doi.org/10.1111/famp.12449>.
- Blais, R. K. (2020). Screening positive for military sexual harassment or assault is associated with higher compulsive sexual behavior in men military service members/veterans. *Military Medicine*. Epub ahead of print.
- Blais, R. K., Brignone, E., Fargo, J. D., Livingston, W. S., & Andresen, F. J. (2019). The importance of distinguishing between harassment and assault military sexual trauma during screening. *Military Psychology*, *31*, 227–232. <https://doi.org/10.1080/08995605.2019.1598218>.
- Blais, R. K., Zalta, A. K., & Livingston, W. S. (2020). Interpersonal trauma and sexual function and satisfaction in women service members/veterans: The mediating role of negative affect. *Journal of Interpersonal Violence*. Epub ahead of print.
- Bovin, M. J., Marx, B. P., Weathers, F. W., Gallagher, M. W., Rodriguez, P., Schnurr, P. P. et al. (2016). Psychometric properties of the PTSD checklist for diagnostic and statistical manual of mental disorders-fifth edition (PCL-5) in veterans. *Psychological Assessment*, *28*, 1379–1391. <https://doi.org/10.1037/pas0000254>.
- Breyer, B. N., Cohen, B. E., Bertenthal, D., Rosen, R. C., Neylan, T. C., & Seal, K. H. (2014). Sexual dysfunction in male Iraq and Afghanistan War veterans: Association with posttraumatic stress disorder and other combat-related mental health disorders: A population-based cohort study. *Journal of Sexual Medicine*, *11*, 75–83. <https://doi.org/10.1111/jsm.12201>.
- Coleman, E., Dickenson, J. A., Girard, A., Rider, G. N., Candelario-Pérez, L. E., Becker-Warner, R. et al. (2018). An integrative biopsychosocial and sex positive model of understanding and treatment of impulsive/compulsive sexual behavior. *Sexual Addiction & Compulsivity*, *25*, 125–152. <https://doi.org/10.1080/10720162.2018.1515050>.
- Cook, J. M., Riggs, D. S., Thompson, R., Coyne, J. C., & Sheikh, J. I. (2004). Posttraumatic stress disorder and current relationship functioning among WWII Ex-PoWs. *Journal of Family Psychology*, *18*, 36–45. <https://doi.org/10.1037/0893-3200.18.1.36>.
- Creech, S. K., & Orchowski, L. M. (2016). Correlates of sexual revictimization among women veterans presenting to primary care. *Traumatology*, *22*(3), 165–173. <https://doi.org/10.1037/trm0000082>.
- Creech, S. K., Swift, R., Zlotnick, C., Taft, C., & Street, A. E. (2016). Combat exposure, mental health, and relationship functioning among women veterans of the Afghanistan and Iraq wars. *Journal of Family Psychology*, *30*(1), 43–51. <https://doi.org/10.1037/fam0000145>.
- Davis, J. L., & Petretic-Jackson, P. A. (2000). The impact of child sexual abuse on adult interpersonal functioning: A review and synthesis of the empirical literature. *Aggression and Violent Behavior*, *5*, 291–328.
- Department of Defense (2018). *2018 demographics: Profile of the military community*. Retrieved from <https://download.militaryonesource.mil/12038/MOS/Reports/2018-demographics-report.pdf>.
- Derbyshire, K. L., & Grant, J. E. (2015). Compulsive sexual behavior: A review of the literature. *Journal of Behavioral Addictions*, *4*, 37–43. <https://doi.org/10.1556/2006.4.2015.003>.
- Dickenson, J., & Blais, R. K. (2021). Reconsidering the sexual context of non-consensual sexual interactions. In G. Herdt, M. Marzullo & N. Polen-Petit (Eds.), *Forecasting sexual literacy policy*. New York: Anthem Press.
- DiMauro, J., Renshaw, K. D., & Blais, R. K. (2018). Sexual vs. non-sexual trauma, sexual satisfaction and function, and mental health in female veterans. *Journal of Trauma and Dissociation*, *19*, 403–416. <https://doi.org/10.1080/15299732.2018.1451975>.

- Dowswell, G., Ismail, T., Greenfield, S., Clifford, S., Hancock, B., & Wilson, S. (2011). Men's experience of erectile dysfunction after treatment for colorectal cancer: Qualitative interview study. *BMJ*, *343*, d5824. <https://doi.org/10.1136/bmj.d5824>.
- Ellis, K. (2017). A brief overview of the effect of war injuries on sexual health and intimacy. In E. C. Ritchie (Ed.), *Intimacy post-injury: Combat trauma and sexual health* (pp. 1–5). New York: Oxford University Press.
- Funk, J. L., & Rogge, R. D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. *Journal of Family Psychology*, *21*(4), 572–583. <https://doi.org/10.1037/0893-3200.21.4.572>.
- Georgia, E. J., Roddy, M. K., & Doss, B. D. (2017). Sexual assault and dyadic relationship satisfaction: Indirect associations through intimacy and mental health. *Violence Against Women*, *28*(8), 936–951. <https://doi.org/10.1177/1077801217727371>.
- Godbout, N., Sabourin, S., & Lussier, Y. (2009). Child sexual abuse and adult romantic adjustment: Comparison of single- and multiple-indicator measures. *Journal of Interpersonal Violence*, *24*(4), 693–705. <https://doi.org/10.1177/0886260508317179>.
- Helmer, D. A., Beaulieu, G., Powers, C., Houlette, C., Latini, D., & Kauth, M. (2015). Perspectives on sexual health and function of recent male combat veterans of Iraq and Afghanistan. *Sexual Medicine*, *3*(3), 137–146. <https://doi.org/10.1002/sm.2.62>.
- Himmelfarb, N., Yaeger, D., & Mintz, J. (2006). Posttraumatic stress disorder in female veterans with military and civilian sexual trauma. *Journal of Traumatic Stress*, *19*(6), 837–846. <https://doi.org/10.1002/jts.20163>.
- Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. L. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *New England Journal of Medicine*, *351*, 13–22.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*, 1–55. <https://doi.org/10.1080/10705519909540118>.
- Kalichman, S. C., Adair, V., Rompa, D., Multhauf, K., Johnson, J., & Kelly, J. (1994). Sexual sensation-seeking: Scale development and predicting AIDS-risk behavior among homosexually active men. *Journal of Personality Assessment*, *62*, 385–397. https://doi.org/10.1207/s15327752jpa6203_1.
- Kalichman, S. C., & Cain, D. (2004). The relationship between indicators of sexual compulsivity and high risk sexual practices among men and women receiving services from a sexual transmitted infection clinic. *Journal of Sex Research*, *41*, 235–241. <https://doi.org/10.1080/00224490409552231>.
- Kalichman, S. C., & Rompa, D. (2011). *The Sexual Compulsivity Scale*: Further development and use with HIV-Positive persons. *Journal of Personality Assessment*, *76*(3), 379–395. https://doi.org/10.1207/S15327752JPA7603_02.
- Katz, L. S. (2016). Warrior renew: An integrative treatment for military sexual trauma with an emphasis on interpersonal factors. In *Treating military sexual trauma* (pp. 235–253). New York: Springer Publishing Company.
- Kearns, M. C., & Calhoun, K. S. (2010). Sexual revictimization and interpersonal effectiveness. *Violence and Victims*, *25*(4), 504–517. <https://doi.org/10.1891/0886-6708.25.4.504>.
- Kenny, D. A. (2018). *Mediation*. Retrieved from <http://davidakenny.net/cm/mediate.htm>.
- Kimerling, R., Gima, K., Smith, M. W., Street, A., & Frayne, S. (2007). The Veterans Health Administration and military sexual trauma. *American Journal of Public Health*, *97*, 2160–2166. <https://doi.org/10.2105/AJPH.2006.092999>.
- Kraus, S. W., Martino, S., Potenza, M. N., Park, C., Merrel, J. D., & Hoff, R. A. (2017). Examining compulsive sexual behavior and psychopathology among a sample of postdeployment US male and female military veterans. *Military Psychology*, *29*, 143–156. <https://doi.org/10.1037/mil0000147>.
- Kugler, J., Andresen, F., Bean, R., & Blais, R. K. (2019). Couple-based interventions for PTSD among military veterans: An empirical review. *Journal of Clinical Psychology*, *75*, 1737–1755. <https://doi.org/10.1002/jclp.22822>.
- Maltz, W. (2002). Treating the sexual intimacy concerns of sexual abuse survivors. *Sexual & Relationship Therapy*, *17*, 321–327. <https://doi.org/10.1080/1468199021000017173>.
- Mobley, D. F., Khera, M., & Baum, N. (2017). Recent advances in the treatment of erectile dysfunction. *Postgraduate Medical Journal*, *93*, 679–685. <https://doi.org/10.1136/postgradmedj-2016-134073>.
- Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus user's guide* (8th ed.). Los Angeles, CA: Muthén & Muthén.
- Parsons, J. T., Bimbi, D. S., & Halkitis, P. N. (2001). Sexual compulsivity among gay/bisexual male escorts who advertise on the internet. *Sexual Addiction & Compulsivity*, *8*, 101–112. <https://doi.org/10.1080/10720160127562>.
- Rellini, A., & Meston, C. (2007). Sexual function and satisfaction in adults based on the definition of child sexual abuse. *The Journal of Sexual Medicine*, *4*(5), 1312–1321. <https://doi.org/10.1111/j.1743-6109.2007.00573.x>.
- Rosen, R. C., Cappelleri, J. C., Smith, M. D., Lipsky, J., & Peña, B. M. (1999). Development and evaluation of an abridged, 5-item version of the International Index of Erectile Function (IIEF-5) as a diagnostic tool for

- erectile dysfunction. *International Journal of Impotence Research*, *11*, 319–326. <https://doi.org/10.1038/sj.ijir.3900472>.
- Smith, P. H., Potenza, M. N., Mazure, C. M., Mckee, S. A., Park, C. L., & Hoff, R. A. (2014). Compulsive sexual behavior among male military veterans: Prevalence and associated clinical factors. *Journal of Behavioral Addiction*, *3*, 214–222. <https://doi.org/10.1556/JBA.3.2014.4.2>.
- Stephenson, K. R., Hughan, C. P., & Meston, C. M. (2012). Childhood sexual abuse moderates the association between sexual functioning and sexual distress in women. *Child Abuse & Neglect*, *36*(2), 180–189. <https://doi.org/10.1016/j.chiabu.2011.09.015>.
- Taft, C. T., Watkins, L. E., Stafford, J., Street, A. E., & Monson, C. M. (2011). Posttraumatic stress disorder and intimate relationship problems: A meta-analysis. *Journal of Consulting And Clinical Psychology*, *79*(1), 22–33. <https://doi.org/10.1037/a0022196>.
- Tannahill, H., Livingston, W. S., Fargo, J. D., Brignone, E., Gundlapalli, A. V., & Blais, R. K. (2020). Gender moderates the association of military sexual trauma and risk for psychological distress in VA-enrolled veterans. *Journal of Affective Disorders*, *268*, 215–220. <https://doi.org/10.1016/j.jad.2020.03.017>.
- Tran, J. K., Dunkel, M. A., & Teng, E. J. (2015). Sexual dysfunction in veterans with posttraumatic stress disorder. *Journal of Sexual Medicine*, *12*, 847–855. <https://doi.org/10.1111/jsm.12823>.
- U.S. Government (2014). *Veterans' benefits: Counseling and treatment for sexual Trauma*, 38 USC §1720D. Washington, DC: U.S. Government.
- Van Bruggen, L. K., Runtz, M. G., & Kadlec, H. (2006). Sexual revictimization: the role of sexual self-esteem and dysfunctional sexual behaviors. *Child Maltreatment*, *11*(2), 131–145. <https://doi.org/10.1177/1077559505285780>.
- Weathers, F. W., Litz, B. T., Keane, T. M., Palmieri, P. A., Marx, B. P., & Schnurr, P. P. (2013). *The PTSD checklist for DSM-5 (PCL-5)*. Boston, MA: National Center for PTSD. <https://doi.org/10.1037/t02622-000>.
- Whiffen, V. E., & Oliver, L. E. (2004). The relationship between traumatic stress and marital intimacy. In D. Catherall (Ed.), *Handbook of stress, trauma and the family*. New York: CRC Press.137–157.
- Whisman, M. A. (2006). Childhood trauma and marital outcomes in adulthood. *Personal Relationships*, *13*(4), 375–386. <https://doi.org/10.1111/j.1475-6811.2006.00124.x>.
- Wilcox, S. L., Redmond, S., & Hassan, A. M. (2014). Sexual functioning in military personnel: Preliminary estimates and predictors. *Journal of Sexual Medicine*, *11*, 2537–2545. <https://doi.org/10.1111/jsm.12643>.
- World Health Organization (nd). *Sexual health issues*. Retrieved from <https://www.who.int/sexual-and-reproductive-health/sexual-health-issues>.