Special Issue: Military Sexual Trauma

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James A. Haley Veterans’ Hospital Polytrauma Rehabilitation Center

Activated in 1972, the James A. Haley Veterans’ Hospital is a teaching hospital located in Tampa, Florida. JAHVH provides a full range of patient care services, with state-of-the-art technology, as well as education and research. Comprehensive health care is provided through primary care, tertiary care, and long-term care in areas of medicine, surgery, psychiatry, psychology, physical medicine and rehabilitation, spinal cord injury, neurology, oncology, dentistry, geriatrics, and extended care. JAHVH is one of five Polytrauma Rehabilitation Centers in the VA system of care, which provides comprehensive medical and rehabilitative services to veterans and returning military who sustained injuries to multiple body sites and/or systems resulting in cognitive, psychological, and functional disability. In 2008, the Department of Veterans Affairs established an interagency agreement with the Department of Education to include the VA Polytrauma Rehabilitation Centers in the Traumatic Brain Injury Model Systems project, which is a longitudinal, multicenter research initiative designed to investigate and improve rehabilitation and functional outcomes among individuals who have sustained traumatic brain injuries. The hospital is also a training site for students in medicine, nursing, psychology, and other allied health care professions.

http://www.tampa.va.gov/about/index.asp

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Being My Own Virgil: My Journey Through *Inferno* From Military Sexual Trauma

Anonymous

This article provides a first-hand experience of military sexual abuse and trauma. The course of the abusive events unfolded over a span of 12 months. The abuse started almost immediately and continued over time, despite direct comments to stop, report to others, and other attempts by the victim at obtaining help to stop the abuse. The fact that the victim did not manifest the expected behaviors of a victim of abuse led many either to not see the effects or not view the effects as having significant impact on the victim. At different choice points, both colleagues and senior personnel either blamed the victim or refused to concern themselves with the events or get involved. Although the military system eventually understood and resolved the situation, it was a long, arduous, and painful process for the victim.

*Keywords:* military sexual trauma, sexual assault, military sexual assault, posttraumatic growth

I am a survivor of military sexual trauma. The first time I was sexually assaulted I was in my place of work wearing my uniform. It was my first day on a new job in a new organization. My abuser, who would become a constant figure in my life for the next few years, outranked me by several grades and had been in the military for many years. Due to the nature of our jobs, he was considered a “peer”—our profession in the military respects rank but also acknowledges that rank does not necessarily equal experience. Although I was new to the military, I had several years of previous professional experience in the private sector. In fact, because of my earlier professional experience, I was expected to help the higher ranking officers become more competent in their professional skills. In turn, they were supposed to help me develop a better sense of military bearing.

**My View of My Clinical Duty**

In the military I work primarily with individuals (active duty, retirees, government workers, and dependents) who are struggling with psychological and/or behavioral disorders, trauma survivors, or those with very serious and complicated medical and psychological presentations. Although I work with a different population now (i.e., military service members), this is the same job I had before entering the military. My job requires me to have extraordinary amounts of empathy, or the ability to understand the felt experience of another’s mental and emotional state. In other words, I’m akin to Virgil from Dante’s *Inferno*; I am by a person’s side as we travel through the very depths of their psyche and explore the hellish experiences that have led them to be sitting in my office in pain.

I am there as a guide and to prevent the person from becoming lost or trapped in one of his or her own personal circles of hell, and, together, we take a journey that is life-changing for the patient. Although I feel the emotions and understand the cognitions, I am also detached enough not to be swallowed by their pain. As long as the patient is willing and actively engaged in treatment, I see my job as being the consistent, compassionate, understanding, and empathetic guide during the descent and journey through to the other side.

**The Assaults**

The first time I was sexually assaulted, I almost didn’t believe it had happened. It was quick, and it seemed innocent enough. My abuser had grabbed my chest because he was “confused” about something on my uniform. In the moment I immediately began to question myself—“Did that just happen? Is he supposed to grab me like that?” Since it was my first day, I casually yet firmly removed his hand and told him not to touch me. He laughed, apologized, and made a comment that my uniform surprised him. He told me I needed to “chill out,” and he seemed honestly surprised I had reacted that way toward him. Based on how he reacted toward my request and the way he looked at me, I had this innate feeling that he was dangerous. Despite my intuition screaming at me to do something to protect myself, I told him “Hey, everyone makes mistakes. Just don’t let it happen again.” I didn’t realize at that moment that what he had just done was considered abuse, and I couldn’t have predicted that this behavior would last for a year.

I was in my uniform, in the work place on government property every time my abuser sexually assaulted me. I emphasize this point because many people who hear about sexual assault seem to immediately wonder about the setting, what the victim was wear-
ing, and whether alcohol was involved. I also emphasize these situational details because, arguing against these initial questions, it should be obvious that military uniforms (specifically camouflage) are not particularly flattering or “sexy,” and in no way do military uniforms “invite” or “tempt” an individual to violate the physical body rights of another. I was not in a club or walking down the street at 0200 hours. I was in the workplace, which is the same place I see patients and conduct meetings with researchers and clinicians.

The next question that is normally asked of me about the experience is, “well, why didn’t you speak up?” I did. I spoke directly to my abuser, and I spoke with colleagues. A few days after the first incident took place, I described it to one of my female coworkers. She has a similar background to me (i.e., prior professional experience, but no military experience). She immediately told me she felt his behavior was inappropriate, but we were not able to figure out a solution. For example, even though I directly confronted my abuser, should I still report it? Was this sexual harassment or sexual assault? Should I take precautions to prevent being alone in the workplace with my abuser? We decided to table the decision at the time, but, hindsight being 20/20, I wish we would have found answers to these questions.

Over time the sexual assaults became more aggressive. After the first incident, he had laughed when I confronted him, but during subsequent assaults, he would scream at me and threaten me. He told me that once he left his (our) current command, he would be in a position of authority over me and he would destroy my career (e.g., he would rate me poorly on evaluations, counseling statements to indicate that I was trouble). He threatened that if I did not let him have access to my social media accounts, then he would create rumors that I was having sex with enlisted soldiers or with my married male friends. Although these accusations would be completely unfounded, he told me that being accused would be “enough” to ruin my future.

Each time an assault would occur, I would immediately talk to a coworker, whether male or female, who had more military experience and time in service than I had. I had been told that these “peers” would help guide me in all military issues, so I naturally assumed they would be the ones who could help me change and handle this emerging problem situation.

My Journey Through Inferno

My experience with military sexual trauma did not allow me to have my own Virgil for reasons that will be explained throughout this narrative. I had to be both Dante and Virgil, which may be a result of my training and experience in my own job. However, I invite all the readers of this article to act as my Virgil as I describe what I endured.

First Circle: Limbo

My limbo was the period of time during which I tried to address the situation within my department without reporting the abuse to a military service official outside my department. About 9 months into the abuse, I learned through departmental gossip of another survivor from the same abuser. I learned from her that he had a documented past of such abuse of other junior colleagues or subordinates. I also learned the shocking information that almost all of my direct superiors, who were all civilians, had some knowledge of this (as he had confessed this during an interview), but did not understand the gravity of what he had done previously. It was a further shock and shame on the military to learn that many experienced and senior military officers (i.e., my aforementioned “peers”) were aware of the earlier situations, yet none of them wanted to educate the civilian leadership, nor did they want to help their coworker, friend, or sister-in-arms.

When I reached out to this survivor, who was a female service member as well, I learned that there were resources that I had the right to use. I learned that I could choose how to report this behavior, which was initially reassuring to me. I decided that since the Department of Defense had allocated a significant budget for helping survivors in these situations, then surely I would be able to locate and utilize these helping services and resources easily. After all, I was on a military base, and I am in a profession that helps people. Unfortunately, the resources were not easy to locate—no weblinks on our website, no working numbers to the reporting personnel (e.g., sexual assault response coordinator [SARC] or sexual assault prevention and response office [SAPR]), and if working numbers were found, the military service member that had worked in that capacity had moved to another base (i.e., permanent change of station, PCS) and the position was empty. I was stuck in limbo.

Second Circle: Lust

As I continued my descent into the inferno, I was continually confronted by the lust of my abuser. Each time an assault would occur, I would seek out someone (i.e., from my peer group) who might be able to help and ask, “Hey—X touched me/grabbed me/tried to put his hand under my shirt. What do I do?” The following responses greeted me at every turn.

- “Wow, I’m sorry. How about we get you a bigger uniform so he can’t see your figure?”
- “Ohh . . . maybe if you didn’t wear make-up then he wouldn’t find you attractive.”
- “That sucks, but hey—everyone knows he is creepy and does stuff like this all the time. I guess he just picked you this year. Sorry man.”
- “A few of us figured he’d try to mess with you since you’re the only single one. You should try to get some dependents or something, maybe he’ll leave you alone then?” (Note: dependents means children or a spouse).
- “You know, if you weren’t so nice then he wouldn’t find you approachable. You need to stop being a team player.”
- “Let me give you an OPD [officer professional development]—women in the military are either bitches or whores. You aren’t a bitch so I guess you chose your path by default.”

The last one is probably my “favorite” as it was said in front of a group of coworkers from all service branches. Regardless, these coworkers chose to blame how I looked or my status as single in the military. My perceived sexuality, sexual experience, and appearance became the focus for several individuals, not the behavior of my abuser.
Third Circle: Gluttony

My descent into “gluttony” was due to two main things: my direct supervisor’s “addiction” to my productivity and my “over-indulgence” in how I appeared physically. My direct supervisor had made a special request to have me work for him because of my abilities before joining the military. By all accounts during this 12-month period, I was always “squared away”—and my professional abilities and skills improved ahead of my peers during this time. I was never tearing or struggling professionally. I was not acting and behaving in the way they expected of a victim of military sexual trauma. My ability to survive, and possibly grow, from these abuse experiences probably resulted in coping mechanisms I had learned earlier, as well as my professional training and experience.

Although I got a significant amount of work done, it did not meet the same quality of work that I had always held myself to prior to the abuse. I was constantly fatigued. When I would get home from work on a day with no sexual assault, I would sit on my couch and watch reality TV until I was tired. I would avoid doing work I had brought home with me, which led to decreased productivity. On the days I was sexually assaulted I would go home and just lie in my bed and wait until the feelings of shame, anger, sadness, and frustration would pass, or until I fell asleep for a few hours. I always woke up exhausted. I was surviving, but I was paying a price.

Speaking of my general attention to my personal appearance, I continued to appear to others as I have always appeared—professional, funny, positive, upbeat, and a team player. In fact, when I finally disclosed the abuse to one of my civilian supervisors who is an expert on trauma, she responded by saying, “Wow, but you’re so nice, pretty and funny! I wouldn’t have guessed because you’re so put together, and you’re always making jokes and cheering others up.” Not only did she, an expert in trauma, she responded by saying, “Wow, but you’re so nice, pretty and funny! I wouldn’t have guessed because you’re so put together, and you’re always making jokes and cheering others up.” Not only did she, an expert in trauma, she responded by saying, “Wow, but you’re so nice, pretty and funny! I wouldn’t have guessed because you’re so put together, and you’re always making jokes and cheering others up.”

Fourth Circle: Greed

My experience in this circle centered on several things. First, my disclosure to other coworkers resulted in the following.

- “That sucks . . . so did you finish doing X assignment? You know I need that by tomorrow.”

Fifth Circle: Anger

Anger was always gurgling under the surface, even if I refused to acknowledge its existence. Denial is a very powerful defense mechanism, and I was able to deny my feelings of anger toward my civilian leadership, my military colleagues, my abuser, and myself for a very long time. Approximately 11 months into the 12-month ordeal, I first expressed some anger following my initial reporting of the abuse to an investigating officer. At first my report was handled as an administrative investigation, despite the fact that I repeated many times that he had sexually assaulted me on numerous occasions.

The first time I expressed real anger, the kind that burned within my body, was when I reported the abuse during a staff meeting, which included every staff member that was in some way connected to our department (approximately 70 people). This staff meeting occurred 3 months after the abuse had ended, but the investigation into the abuse had started to accelerate. During this meeting, the head supervisor stood up and was vague about the investigation, and he kept repeating that it was “sexual harassment,” which is not as serious an issue, and that individuals should be able to “stand up and tell someone that you don’t want to date them or sleep with them.” I felt pure anger, and I felt I needed to say something.

I disclosed to the group that I had been sexually assaulted many times by the individual. My head supervisor was minimizing the events, as well as saying it was my fault because I did not “stand up” and speak my mind to my abuser. The reaction of others? One supervisor hugged me, one was outraged, and one started the victim blaming. Out of over 70 people who knew me well, fewer than five were willing to stick by my side publicly following the disclosure. I was angry because I felt abandoned and ignored, and it was hard to swallow these powerful emotions. By the time I left the room that day, I had pulled myself together and refused to acknowledge my anger further—that day and for the duration of the year-long investigation and legal experience.

Sixth Circle: Heresy

At this stage I fell into a struggle with certain individuals who felt the need to try to force me to accept their beliefs about the situations. Some of these individuals were also survivors of abuse from the abuser. I felt like a heretic when I challenged their automatic thoughts regarding the situation. I questioned myself. I wondered if something was wrong with me for not just standing in solidarity with them. And, at times, I felt something was wrong with me for not being as angry or struggling as much as they were. Even through this period of abuse, lack of support, and the lengthy
investigation, I was still able to enjoy many aspects of life, even though I was frequently fatigued and upset.

Command intervened and ordered my abuser not to come to the department offices (standard for this sort of investigation); thus I was able to begin to enjoy doing my work. I was able to work well with my coworkers, including the ones that were not supportive, and I didn’t find my interpersonal relationships to be affected. Some days I felt that maybe I shouldn’t be this well-adjusted and the other survivors, with whom I occasionally talked for support, would agree with my observation and wonderings.

I also felt that the other victims in the case were being heretics. They blamed everyone and everything for the abuse and the slow crawl of the investigations. We often had to meet with lawyers or investigators, so we spent a significant amount of time together. It was exhausting to be in a room with them as they blamed the military, our command, our civilian leadership and supervisors, the coworkers, and the individuals who were involved in victim services and the investigation. It felt annoying and trite that they could not see past the blame and work on being happy themselves, regardless of the investigative and punitive outcomes. It felt like heresy because the conceptualization of the military is that we stand together and we have each other’s “6” (i.e., we have each other’s back). I finally had to resolve within myself that I didn’t have to share the same emotions or beliefs as the other survivors.

Seventh Circle: Violence

My intuitive reaction from the initial incident with my abuser was the foreshadow to his potential and real danger. As he became more aggressive in his assaults, it gave me more data to support my initial reaction that he was dangerous. Despite this, I did not know I had fallen into the seventh circle until the legal portion of the experience was coming to an end. At some point, approximately 1–2 months after the investigation began, my abuser made threats that he, if left unescorted and not banned from entering department buildings, would attempt to hurt or kill me (or another victim) and then kill himself at our place of work.

He made these statements to multiple people, including our military chain of command, during the initial 1–2 months of the investigation. I found out 11 months later that my abuser had made threats when my command gave me a military protective order (MPO; i.e., restraining order). There was little explanation for why I was receiving one except that it was “for my protection” and is a necessity to military victims when their abuser is found guilty and being discharged from the military. As I was leaving the commander’s office, I made a comment regarding how bewildered I felt about receiving this MPO at the (then) present time. A civilian administrator in the office politely told me that I should have received the MPO when he originally made the threats. Although notified unofficially, I still have not been officially notified about these threats.

Eighth Circle: Fraud

My abuser was a fraud in the military. He knew how to work the system, and he worked his magic in very impressive ways. It is easy to accept that he was a fraud; all of the evidence supports that statement. However, it was not easy for me to be labeled a “fraud” by his lawyer during the board hearing—a court-like system in which a military review panel hears testimony, reviews evidence, and can ask questions to any individual involved, and makes a decision regarding whether the accused will be discharged from the military and the designation of discharge (e.g., honorable discharge, less than honorable discharge).

My abuser’s lawyer argued that the whole situation was functionally my fault for existing and being in the military. He argued that if I hadn’t been in the military, we would not have having the investigation and hearing. In addition, he argued that if I were truly being abused then I wouldn’t have continued to work with my abuser. Although I explained that I had no choice regarding that matter, as we had the same supervisor and I kept being placed on projects with him because of my skill set, my abuser’s lawyer was relentless. How dare I, someone with such little military experience and rank, report my abuser, who had many years in service and was supposed to be promoted in rank?

My abuser’s lawyer kept trying to paint me as a fraud, a liar, and a seducer. He argued that my pain and suffering were fraudulent because of my appearance and my “armor” of being well-put-together. He argued that surely someone living in fear would not be that pretty and professional all the time. It took every ounce of self-control I had not to lunge at either my abuser or his lawyer, both of whom sat 6 feet away from me during the military hearing.

Ninth Circle: Treachery

I had experienced many acts of treachery, both against me and against the other victims during my experience, all of which came with powerful emotions. For most of these acts, I was able to use my “normal” coping mechanisms, such as humor and sublimation, to recover and grow from the experience. Some of the acts of treachery were so public that it took me several weeks to process my emotions. For instance, the initial designation of the investigation was administrative rather than criminal, which meant that the outcome would not result in a court martial and jail time for my abuser. This was further supported by our discussions with the military prosecutors (i.e., the Judge Advocate General) when we were told that if they had been given all of the information in the beginning of their investigation, it would have taken a different course.

I also found out that some of my coworkers had refused to speak with investigators to aid in the criminal investigation because they were more concerned about their careers. That felt, to me, like the ultimate betrayal, as my fellow service members abandoned me because they did not want to be “associated” with a sexual assault case. In the darkest moments of the overall experience, it felt as if I had been discarded by and was worthless to my command. The ninth circle was the hardest because it meant I had to confront all of these emotions and cognitions, accept that the events had happened, accept others’ reactions and behavior regarding the case, and then move on.

The End of My Inferno

My inferno “ended” the day the military decided to separate my abuser from service, which was nearly 2 years after I was first sexually assaulted. I received this information from the prosecutors and my wonderful Special Victims Counsel (SVC), i.e., lawyers appointed to military sexual trauma survivors to help them through
the legal proceedings. The text message was one sentence long, but it meant finality. That night was the first time I slept soundly and awoke rested since I had first been assaulted 2 years earlier. Although this journey is technically not complete, as my abuser is still fighting the outcome (and trying to “wait it out” to 20 years of time in service), the hard part of the journey is over. I made it to the other side.

My journey through the inferno was heartbreaking, difficult, and at times seemingly unending, but in the end it did not change my core beliefs about myself, others, and the world. I had to be both Dante and Virgil to make it through this journey physically and psychologically healthy, and, because of that, I am incredibly grateful for every person who has trained me in my profession. I would have been worse off having not had the intellectual and research knowledge about trauma, coping, and recovering within me as I faced my own trauma and had to grow from the experience.

You, dear reader, may wonder why I decided to write about my journey. First, it is important for professionals to understand that this behavior continues to happen, even in environments where many believe (or hope) that professionals would not engage in this sort of behavior. Second, it is therapeutic to write about this experience. This is the first time I have ever sat down and written a narrative other than the sworn statements I made. And finally, I hope this challenges any conceptualizations about victims and how they should act or behave during these situations. People would never have known what I endured had I not chosen to disclose my experience because I was the antithesis of the common conceptualization of what it means to be a victim. Maybe this will finally help challenge our professional and personal beliefs regarding survivors of military sexual trauma and perhaps we can continue to change the way survivors are treated.

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If you are interested in reviewing manuscripts for APA journals, the APA Publications and Communications Board would like to invite your participation. Manuscript reviewers are vital to the publications process. As a reviewer, you would gain valuable experience in publishing. The P&C Board is particularly interested in encouraging members of underrepresented groups to participate more in this process.

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Sexual Intimate Partner Violence as a Form of MST: An Initial Investigation

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Military sexual trauma (MST) is known to impact women’s health, but little is known about the occurrence of MST perpetrated by a past or current intimate partner. This study identified the occurrence of intimate partner violence (IPV)-related MST in a sample of female veterans. We also examined the associations between MST history (no MST history, IPV-related MST, and MST by a nonintimate partner) and mental and physical health symptoms. Participants were 369 female veteran patients of Department of Veteran Affairs (VA) facilities in the New England region of the United States who completed a larger 2012 mail survey that included validated assessments of MST, posttraumatic stress disorder (PTSD Checklist) and depressive symptoms (CES-D), and general physical and mental health functioning (Short Form-36). Approximately half (49%) of the women in this sample reported a history of MST, of which 27 (15%) were categorized as IPV-related MST. Few differences in health measures were observed among women with IPV-related MST compared with women who experienced MST by a nonintimate partner or women with no MST history. However, women who experienced IPV-related MST had similarly severe health symptoms as women who reported MST by a nonintimate partner and more severe PTSD symptoms than women without a history of MST. Some women veterans have experienced MST at the hands of an intimate partner and face health impacts. This topic warrants additional attention in clinical and research efforts.

Keywords: betrayal trauma theory, depression, physical health, posttraumatic stress disorder, sexual abuse

MST is a particularly common stressor experienced by female veterans. Data from VA patients indicate that about 22% of female veterans disclose experiences of MST to a VA health care provider (Kimerling, Gima, Smith, Street, & Frayne, 2007). Prevalence of MST among female Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) veterans seeking VA care ranges from 12% to 49% (Kimerling et al., 2010; Scott et al., 2014). Several researchers have shown strong associations between MST and mental

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Editor’s Note. This is one of thirteen articles in a special issue on Military Sexual Trauma.

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health problems, particularly posttraumatic stress disorder (PTSD) and depression symptoms or diagnosis (Kang, Dalager, Mahan, & Ishii, 2005; Kimerling et al., 2010; Shipered, Pineles, Gradus, & Resick, 2009; Street, Stafford, Mahan, & Hendricks, 2008). In addition, there is evidence that MST may be more strongly associated with negative mental health consequences than other forms of sexual trauma (Forman-Hoffman, Mengeling, Booth, Torner, & Sadler, 2012; Himmelfarb, Yaeger, & Mintz, 2006; Luterek, Bittinger, & Simpson, 2011). In addition to increased adverse health behaviors (Frayne, Skinner, Sullivan, & Freund, 2003), MST has also been associated with chronic medical conditions like obesity, hypertension, and respiratory disorders (Frayne et al., 1999; Kimerling et al., 2007), and gynecologic health symptoms and reproductive conditions, including pregnancy complications and endometriosis (Campbell, Lichy, Sturza, & Raja, 2006; Frayne et al., 1999).

Although MST is prevalent and contributes to adverse health outcomes among veterans, it is possible that health outcomes may differ according to whether or not the MST perpetrator is an intimate partner. According to betrayal trauma theory, the impact of traumatic experiences varies according to the degree of betrayal involved, such that negative traumatic sequelae may be greater when a higher degree of betrayal is involved (e.g., when the perpetrator is an intimate partner compared with a stranger or acquaintance; Freyd, 1996). Studies attempting to parse out the effects of sexual violence perpetrated by intimate partners versus others remain fairly sparse, particularly in military populations; however, some differences in trauma sequelae based on the survivor-perpetrator relationship have been found in civilian samples (Campbell, Dworkin, & Cabral, 2009). For example, Plichta and Falik (2001) reported higher likelihoods of depression, anxiety, and poor health related to sexual violence by a spouse, partner, or known assailant rather than a stranger. Temple, Weston, Rodriguez, and Marshall (2007) also found that intimate partner sexual assault was associated with more mental health conditions than assaults perpetrated by nonintimate partners. These findings indicate that the survivor–perpetrator relationship is important when considering the impact of sexual assault, and highlight the importance of examining the impact of MST perpetrated by an intimate partner.

Although there is evidence that many instances of MST are perpetrated by other Service members (Rock, Lipari, Cook, & Hale, 2011), we are not aware of published data that have examined the occurrence of MST perpetrated by an intimate partner. Intimate partner violence (IPV) against women, including sexual forms of IPV, is a serious and complex public health problem in the United States (US; Center for Disease Control and Prevention, 2014). IPV is associated with an increase in physical health symptoms and conditions (Bonomi et al., 2006; Campbell et al., 2002; Coker et al., 2002; Dillon, Hussain, Loxton, & Rahman, 2013). Additionally, there is a robust association between IPV experiences and elevated risk for mental health problems, such as PTSD, depression, substance use disorders, and suicide attempts (Iverson, Dick, et al., 2013; Jaquier, Hellmuth, & Sullivan, 2013; Trevillion, Oram, Feder, & Howard, 2012). Several researchers suggest that IPV may be a particularly prevalent stressor among women who have served in the military (Gerber, Iverson, Dichter, Klap, & Latta, 2014). Although high levels of IPV are documented among both women who are actively serving in the military and those who are veterans (Campbell et al., 2003; Dichter, Cerulli, & Bossarte, 2011; Murdoch & Nichol, 1995), most studies examining IPV among these populations either did not measure sexual IPV or did not report separately on rates of sexual IPV during military service (Campbell et al., 2003; Forgye & Badger, 2010; Iverson, King, et al., 2013; Rosen, Parmley, Knudson, & Fancher, 2002). Thus, to date, little is known specifically about the occurrence and health correlates of sexual IPV during military service, hereafter referred to as IPV-related MST.

To contribute to this important area for inquiry, the objectives of this study are to (a) identify the occurrence of IPV-related MST in a sample of female VA patients and (b) examine the associations between IPV-related MST, MST by a nonintimate partner, and no MST history with mental and physical health symptoms and functioning. We hypothesized that IPV-related MST would be common among female VA patients, and that those who experienced IPV-related MST would report poorer physical and mental health than those who did not report a history of MST. We also hypothesized that those who experienced IPV-related MST would report worse health status than those with MST by a nonintimate partner.

Method

Participants

Participants in this study were 369 women who were sampled from the larger population of women veteran VA patients in the New England region of the US in approximately fiscal year 2011. Women were invited to participate in a parent study aimed at understanding female veterans’ experiences with IPV (Iverson, King, et al., 2013). The only inclusion criteria were that women were 18 years of age or older, enrolled as a veteran patient (not dependent) in the VA New England Healthcare System (which comprises Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut), and had attended one or more VA medical or mental health appointments within the year prior to the roster draw. There were no other exclusion criteria.

A sampling pool of 700 randomly selected female veterans was drawn from the population of female VA patients in the New England region courtesy of the VA Corporate Data Warehouse, which includes names and addresses extracted from VA patients’ electronic health records. Of this sampling pool, 581 veterans with locatable addresses received a survey, 21 declined participation, 191 did not return a survey, and 369 responded, representing a 63.5% response rate. Comparisons between responders and nonresponders on demographic characteristics from the VA roster file indicated little difference between responders and nonresponders in terms of participant demographic characteristics, with one exception: responders were slightly older, with the effect size for this age difference being small (d = .27; Cohen, 1992).

Procedure

A paper-and-pencil mail survey was administered between February and April 2012 using a modified Dillman (2007) multiple mailing strategy. These procedures were as follows: (a) informed consent fact sheet, questionnaire packet and $10 cash incentive were sent to all potential participants; (b) two weeks later a thank you/reminder postcard was sent to all potential participants; and
Measures

MST. Sexual harassment and assault during military service were assessed using two dichotomous items from the Trauma Questionnaire (McIntyre et al., 1999): “While you were in the military: Did you receive uninvited and unwanted sexual attention, such as touching or cornering, pressure for sexual favors, or verbal remarks?” and “Did someone ever use force or the threat of force to have sexual contact with you?” Consistent with how these items are used in VA’s universal MST screening program (Kimerling et al., 2007, 2010), participants were considered to have experienced MST if they responded positively to either question. The two items have demonstrated good sensitivity and specificity (McIntyre et al., 1999). For the purposes of this study, women who responded affirmatively to each MST question were then asked the following dichotomous (yes/no) question to determine whether the perpetrator was a past or current intimate partner: “Was the person who did this to you someone you were currently or formerly dating or in an intimate relationship with (e.g., boyfriend, girlfriend, ex-boyfriend, spouse)?” Participants were considered to have experienced IPV-related MST if they responded positively to this question. There were no other questions that assessed perpetrator identity.

Health status. Overall physical and mental health status was measured using the Physical Component Scale (PCS) and Mental Component Scale (MCS) of the Medical Outcomes Study Short Form (SF-36; Ware, 1993), a well-validated assessment of health status (McHorney, Ware, & Raczek, 1993; Ware, 1993). The PCS and MCS are weighted summaries of physical and mental health functioning, respectively, using weights derived from a national probability sample of the US population (weighted to a population mean of 50 and standard deviation of 10). Scores on these composite scales range from 0 to 100, with lower scores indicating poorer health (Kazis et al., 1998). The SF-36 demonstrated excellent internal consistency reliability in this sample (α = .96).

Depressive symptoms were assessed with the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). The CES-D is a reliable and valid 20-item self-report measure which assesses the past-week frequency of depressive symptoms on a 5-point Likert scale ranging from 1 (not at all) to 5 (extremely), respondents rate how bothered they were by each symptom over the past month. Items were summed to create a total score, with higher scores indicating higher levels of PTSD symptoms. The CES-D has demonstrated good sensitivity and specificity (Weathers et al., 1993), and this measure demonstrated excellent internal consistency and reliability in this sample (α = .97).

Participant demographic and military-related characteristics. Sociodemographic characteristics were measured via self-report responses to survey questions. Specifically, demographic characteristics included age, race/ethnicity, highest level of education, marital status, and household income. Military service characteristics included service branch and length of service.

Statistical Analysis

Chi-square or Fisher’s tests and analysis of variance (ANOVA) methods were used to compare the demographic and military-related characteristics by MST experience status. To examine group differences in health status measures, a one-way analysis of covariance (ANCOVA) was conducted for this study. The independent variable, MST experience, included three categories: No MST history, MST by nonintimate partner, and IPV-related MST. The dependent variables were general physical health functioning (PCS), general mental health functioning (MCS), depressive symptoms (CES-D) and PTSD symptoms (PCL). Age was examined as a covariate because health indicators may decline with age (Hopman et al., 2014). A preliminary analysis evaluating the homogeneity-of-regression (slopes) assumption indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable. Follow-up tests using Bonferroni correction were conducted to evaluate pairwise differences among the adjusted means for each of the health status measures. Analyses were performed using SAS Version 9.3 (Cary, NC) software. All p values are two-sided, and a p value of <.05 was considered statistically significant.

Results

Participant Demographic and Military Characteristics by MST Status

MST was reported by 178 (49%) women in our sample. Among those who experienced MST, 27 (15%) reported IPV-related MST. As shown in Table 1, women in the three groups (No MST history, MST by nonintimate partner, and IPV-related MST) were similar in race, education, marital status, income, military branch, and service length. However, women who experienced MST by a nonintimate partner were significantly younger than women who had no MST history (mean age: 52.1 vs. 58.4, respectively, p < .05).

Health Status of Women by MST Status

ANOVA results in Table 2 show that MST status and age were significant predictors of health status. As reported in more detail elsewhere (Smith, Tzyzik, & Iverson, 2015), younger age was associated with better physical health (i.e., higher PCS scores) but worse depressive and PTSD symptoms (i.e., higher CES-D and
Table 1
Participant Demographic and Military-Related Characteristics by MST Experience

<table>
<thead>
<tr>
<th>Respondent characteristics</th>
<th>No MST history ($N = 182$)</th>
<th>MST by non-intimate partner ($N = 151$)</th>
<th>IPV-related MST ($N = 27$)</th>
<th>Chi-square/ $F$ value</th>
<th>$p$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Age (years), mean $\pm SD$</td>
<td>58.4 $\pm$ 18.9</td>
<td>52.1 $\pm$ 14.8</td>
<td>54.0 $\pm$ 12.4</td>
<td>5.69</td>
<td>.004</td>
</tr>
<tr>
<td>Race, n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Non-white</td>
<td>26 (14.3)</td>
<td>28 (18.5)</td>
<td>4 (14.8)</td>
<td>1.14</td>
<td>.26</td>
</tr>
<tr>
<td>White</td>
<td>156 (85.7)</td>
<td>123 (81.5)</td>
<td>23 (85.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education, n (%)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Less than college graduate</td>
<td>113 (64.6)</td>
<td>84 (57.1)</td>
<td>15 (60.0)</td>
<td>1.87</td>
<td>.39</td>
</tr>
<tr>
<td>College graduate and beyond</td>
<td>62 (35.4)</td>
<td>63 (42.9)</td>
<td>10 (40.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>7 (—)</td>
<td>4 (—)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not married</td>
<td>116 (63.7)</td>
<td>106 (70.2)</td>
<td>18 (66.7)</td>
<td>1.55</td>
<td>.46</td>
</tr>
<tr>
<td>Married</td>
<td>66 (36.3)</td>
<td>45 (29.8)</td>
<td>9 (33.3)</td>
<td></td>
<td></td>
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<tr>
<td>Household income, n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$&lt;15,000 or less</td>
<td>37 (20.2)</td>
<td>22 (15.8)</td>
<td>3 (12.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$15,001–$25,000</td>
<td>36 (21.4)</td>
<td>20 (14.4)</td>
<td>6 (25.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$25,001–$35,000</td>
<td>37 (22.0)</td>
<td>30 (21.6)</td>
<td>1 (4.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$35,001–$50,000</td>
<td>20 (11.9)</td>
<td>32 (23.0)</td>
<td>7 (29.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$50,001–$75,000</td>
<td>19 (11.3)</td>
<td>17 (12.2)</td>
<td>2 (8.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$75,001–$100,000</td>
<td>12 (7.1)</td>
<td>10 (7.2)</td>
<td>4 (16.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$100,000 or more</td>
<td>7 (4.2)</td>
<td>8 (5.8)</td>
<td>1 (4.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>14 (—)</td>
<td>12 (—)</td>
<td>3 (—)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Military service</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Branch of service, n (%)</td>
<td></td>
<td></td>
<td></td>
<td>6.88</td>
<td>.55</td>
</tr>
<tr>
<td>Army</td>
<td>83 (46.9)</td>
<td>73 (49.0)</td>
<td>11 (44.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marines</td>
<td>5 (2.8)</td>
<td>10 (6.7)</td>
<td>2 (8.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Navy</td>
<td>50 (28.3)</td>
<td>31 (20.8)</td>
<td>7 (28.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Force</td>
<td>34 (19.2)</td>
<td>33 (22.2)</td>
<td>5 (20.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coast Guard</td>
<td>5 (2.8)</td>
<td>2 (1.3)</td>
<td>0 (0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>5 (—)</td>
<td>2 (—)</td>
<td>2 (—)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 1 year</td>
<td>6 (3.4)</td>
<td>4 (2.7)</td>
<td>2 (8.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–2 years</td>
<td>49 (27.7)</td>
<td>26 (17.7)</td>
<td>5 (20.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3–4 years</td>
<td>57 (32.2)</td>
<td>55 (37.4)</td>
<td>8 (32.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5–10 years</td>
<td>31 (17.5)</td>
<td>30 (20.4)</td>
<td>5 (20.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 10 years</td>
<td>34 (19.2)</td>
<td>32 (21.6)</td>
<td>5 (20.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>5 (—)</td>
<td>4 (—)</td>
<td>2 (—)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. MST = military sexual trauma; IPV = intimate partner violence. Degrees of freedom ($df$) for all variables = 2, except for household income ($df = 12$) and length of service ($df = 8$).

*Mean age was significantly different compared with No MST group at $p < .0001$. b NA = not applicable, Fisher’s exact test was used.

Table 2
Summary of ANCOVA Results

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Independent variable</th>
<th>Model $F$</th>
<th>R-square</th>
<th>MST-IPV experience</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCS</td>
<td></td>
<td>14.92**</td>
<td>.12</td>
<td>9.99***</td>
<td>32.32***</td>
</tr>
<tr>
<td>MCS</td>
<td></td>
<td>15.08***</td>
<td>.12</td>
<td>9.60***</td>
<td>18.08***</td>
</tr>
<tr>
<td>CES-D</td>
<td></td>
<td>12.75***</td>
<td>.10</td>
<td>12.27***</td>
<td>8.03***</td>
</tr>
<tr>
<td>PCL</td>
<td></td>
<td>21.90***</td>
<td>.17</td>
<td>21.59***</td>
<td>11.92***</td>
</tr>
</tbody>
</table>

Note. ANCOVA = analysis of covariance; MST = military sexual trauma; IPV = intimate partner violence.

*p < .05. **p < .001. ***p < .0001.

PCL scores, whereas higher MCS scores are associated with older age (data not shown).

Table 3 presents age adjusted analyses describing the associations between MST status and health outcomes. There was a significant effect of MST experience on physical health as measured by the SF-36 PCS score after controlling for age, $F(2, 351) = 9.99, p < .001$. Planned comparisons revealed that women who experienced MST by a nonintimate partner had poorer physical health compared with women with no MST history (adjusted mean PCS scores: 36.6 vs. 43.1, respectively, $p < .0001$). Although mean PCS scores for women with IPV-related MST were about 5 points lower than PCS scores of women with no MST history (adjusted mean PCS scores: 38.0 vs. 43.1, respectively), the difference did not achieve statistical significance ($p = .20$). Likewise, there was no significant difference between the adjusted mean PCS scores of women with IPV-related MST compared to those with MST by nonintimate partner (38.0 vs. 36.3, respectively, $p = 1.00$).

After adjusting for age, MST experience was significantly associated with the different measures of mental health status, including MCS score, $F(2, 3215) = 9.60, p < .0001$, CES-D score, $F(2, 4255) = 12.27, p < .0001$, and PCL score, $F(2, 11,618) = 21.58, p < .0001$. Compared with women with no MST history, women who experienced MST by a nonintimate partner had significantly lower adjusted mean MCS score (48.2 vs. 41.7, respec-
Table 3
Age-Adjusted Health Status of Female Veterans by MST Experience

| Health-related measures | No MST history  
 (N = 182)  | MST by a non-intimate partner  
 (N = 151)  | IPV-related MST  
 (N = 27)  |
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>SF-36 Physical Component Scale&lt;sup&gt;a&lt;/sup&gt;</td>
<td>43.1 [41.1–45.0]</td>
<td>36.6 [34.5–38.7]&lt;sup&gt;p&lt;/sup&gt;</td>
<td>38.0 [32.9–43.0]</td>
</tr>
<tr>
<td>SF-36 Mental Component Scale&lt;sup&gt;a&lt;/sup&gt;</td>
<td>48.2 [46.2–50.2]</td>
<td>41.7 [39.5–43.9]&lt;sup&gt;p&lt;/sup&gt;</td>
<td>43.2 [38.0–48.4]</td>
</tr>
<tr>
<td>CES-D Scale Score&lt;sup&gt;b&lt;/sup&gt;</td>
<td>14.5 [12.6–16.5]</td>
<td>21.9 [19.8–24.1]&lt;sup&gt;p&lt;/sup&gt;</td>
<td>19.7 [14.4–25.0]</td>
</tr>
<tr>
<td>PCL Total Score&lt;sup&gt;b&lt;/sup&gt;</td>
<td>29.7 [27.2–32.3]</td>
<td>42.0 [39.2–44.8]&lt;sup&gt;p&lt;/sup&gt;</td>
<td>41.7 [35.0–48.5]&lt;sup&gt;p&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**Note.** MST = military sexual trauma; IPV = intimate partner violence; 95% CI = 95% confidence interval; SF-36 = Short Form 36; CES-D = Center for Epidemiologic Studies—Depression Scale; PCL = PTSD Checklist.  
<sup>a</sup>Lower mean scores denote poorer health status.  
<sup>b</sup>Higher mean scores denote worse symptomatology.  
<sup>p</sup>Mean scores were significantly different compared with No MST history group at p < .0001.  
<sup>d</sup>Mean score was significantly different compared with No MST history group at p < .004.

Discussion

To our knowledge, the current study is the first investigation into the occurrence of and health effects of IPV-related MST among female veterans. Approximately 1 in 7 women who experienced MST in this sample indicated that they experienced MST at the hands of an intimate partner. Our results show that female veterans who experienced MST by a nonintimate partner had poorer physical and mental health status and more depressive and PTSD symptoms compared to those who did not experience MST or those who experienced MST by a nonintimate partner. Women who had IPV-related MST had significantly higher levels of PTSD symptoms compared to women with no MST history (adjusted mean PCL score: 29.7 vs. 42.0, respectively, p < .0001). The mental health status and level of depressive symptoms of women who experienced IPV-related MST did not differ significantly from those of women who did not experience MST or those who experienced MST by a nonintimate partner. Women who had IPV-related MST had significantly higher levels of PTSD symptoms compared to women with no MST history (adjusted mean PCL score: 41.7 vs. 29.7, respectively, p = .004), however, when compared with women who had MST by a nonintimate partner, no significant difference was detected in the level of PTSD symptoms (adjusted mean PCL score: 41.7 vs. 42.0, respectively, p = 1.0).

Importantly, feelings of interpersonal betrayal may be further compounded by feelings of institutional betrayal (Smith & Freyd, 2014). Because survivors often trust and/or depend on institutions, perceived inactions or actions from that institution in the context and/or aftermath of trauma can exacerbate psychological distress and other trauma-related outcomes (Smith & Freyd, 2014). In fact, research suggests that negative institutional responses in the aftermath of disclosing MST (e.g., blame, lack of support, lack of meaningful or adequate attempts to address what happened) can negatively affect well-being (Bell, Street, & Stafford, 2014) and contribute to premature separation from military service (Dichter & True, 2015).

In the military setting, these feelings of institutional betrayal could pertain regardless of whether the perpetrator was a nonintimate partner, civilian intimate partner, or intimate partner and fellow Service member. While MST perpetrated by an intimate partner may heighten feelings of betrayal, MST perpetrated by a fellow Service member may similarly intensify those feelings because of the cultural context of the military environment. As such, MST survivors may experience a heightened sense of betrayal regardless of whether it occurred in the context of IPV. Therefore, the differential impact of sexual trauma perpetrated by intimate and nonintimate partners that has been observed in civilian samples (e.g., Temple et al., 2007) may not generalize to the military context given the unique features and dynamics of its culture and environment. Given these possibilities, future research on IPV-related MST should explicitly assess details of the survivor-perpetrator relationship and survivors’ experiences of interpersonal and institutional betrayal.

A multiplicity of factors other than the (non) intimate partner status of the perpetrator may affect resulting health outcomes and overall response to MST. For example, the perpetrator’s civilian or military status, characteristics of the survivor-perpetrator relation-
ship, and the nature of force or coercion that was used may all play a role. Furthermore institutional factors, such as adherence to military cultural values, institutional experiences of marginalization or discrimination, and negative experiences with institutions following MST, might also influence outcomes. Thus, without directly assessing some of these additional contextual variables, and understanding the relationship to the perpetrator beyond status as current or former intimate partner in larger samples, it is difficult to draw definitive conclusions regarding the impact and clinical implications of IPV-related MST relative to MST from a nonintimate partner.

Nonetheless, as one of the first studies to bring attention to the issue of IPV-related MST, these results may guide clinical intervention. Even though survivors of IPV-related MST and MST perpetrated by a nonintimate partner had similar symptom profiles, key differences in treatment may still exist. For example, survivors of IPV-related MST who have not previously regarded their experiences of MST as such may benefit from psychotherapeutic interventions that normalize these experiences, label them in a way that resonates, and move toward acceptance that they occurred in the context of a relationship with an intimate partner. Although similar processes may be useful for other kinds of MST survivors, they may be particularly relevant for survivors who have experienced IPV-related MST. This represents an avenue for both clinical and research inquiry.

In addition, although both kinds of MST survivors may experience a heightened sense of betrayal that has contributed to negative traumatic sequelae, attention to the nuances in the experience and impact of those feelings is important, as even subtle distinctions may have direct bearing on effective treatment directions and clinical decisions. Interpersonal trust and safety may be core treatment themes, for example, but these issues may be more prominent in certain kinds of relationships (e.g., romantic relationships or those characterized by power differentials) or in the context of specific interpersonal difficulties (e.g., addressing interpersonal conflict, coping with interpersonal disappointment). Providers can skillfully use the therapeutic relationship to offer corrective experiences that may counteract the effects of MST, but only after thoughtful and targeted assessment of the broader context of the survivors’ MST experiences, and ways in which characteristics of their relationship to the perpetrator and the military institution as a whole may influence both the recovery process and the patient-provider relationship. Rather than making assumptions about the impact of IPV-related MST on health and interpersonal functioning, and how it may be similar to or different from other kinds of MST, it is important to clarify what is relevant and most salient for each survivor so that treatment plans can be modified accordingly.

Experiences with institutions in the context and/or aftermath of MST may also exacerbate the effects of MST and affect recovery, such as perceptions of institutions’ role in MST and institutional inactions or actions that were experienced as distressing or invalidating. Therefore, asking about survivors’ experiences with institutions may be important so that treatment can build on positive experiences and negative ones can be acknowledged and addressed throughout treatment as needed. Working through negative institutional experiences may involve coping with unmet expectations and changed perceptions, and developing ways of reconnecting to institutions (Courtois & Ford, 2009). In addition, providers may have unique opportunities to help repair institutional betrayal (Freyd, 2013), regardless of whether or not they are a part of the same institution in which the betrayal was experienced, and simply asking about them may be an important first step.

In light of this study’s findings that suggest that some women experience MST from an intimate partner, it is important for outreach and screening efforts to target and be inclusive of this population. It is possible that survivors may not recognize MST as such when the perpetrator is an intimate partner because of aspects of the military environment that may unintentionally reinforce stereotypes and misconceptions about sexual trauma and sexual trauma victims (Turchik & Wilson, 2010). For example, it was not until June 28th, 2012, that the Uniform Code for Military Justice was updated to eliminate marriage as a potential affirmative defense for sexual assault (Joint Service Committee on Military Justice, 2012). Thus, prior iterations of this law may have unintentionally given the impression that unwanted sexual experiences in the context of marriage do not qualify as MST. Moreover, the Rules for Courts-Martial stipulate a variety of factors that can be considered when commanders are deciding how to respond to a reported offense including the victim’s “possible improper motives or biases,” “the extent of harm caused,” “willingness of the victim to testify,” and “availability and admissibility of evidence” (Rule 306(b); Joint Service Committee on Military Justice, 2012, p. II-25–II-26). Thus, IPV survivors who feel as though their intentions will be misinterpreted, lack visible physical wounds or tangible evidence, and/or are hesitant to testify against a partner, may not view their MST as legitimate or deserving of attention. Psychoeducation directly addressing the potential misconception that MST perpetrated by an intimate partner is not a form of MST is not routinely incorporated into the standardized MST screening utilized in VA and direct questions about this form of MST are asked at the discretion of providers’ clinical judgment. Thus, it is important to educate providers about the importance of being aware of IPV-related MST during screening, and the potential contextual factors related to the nature of their MST that may lead IPV survivors to dismiss or minimize their experiences.

When survivors experience IPV-related MST but do not conceptualize it as such, they may not access MST-related resources. Thus, additional awareness-raising outside of the screening process through outreach initiatives is particularly important, especially in VA, where all MST-related mental and physical health care is provided free of charge. Although VA’s current MST-related outreach materials do provide psychoeducation regarding perpetrator identity, it is possible that survivors who do not view their experiences as MST may not see such materials as relevant and miss this information. Thus, offering outreach materials that highlight this information may be warranted.

In addition to educating clients, it is important to educate medical and mental health providers about the importance of being aware of IPV-related MST in the context of routine trauma assessment, case conceptualization and treatment planning. For example, offering provider education regarding the ways in which these forms of trauma can impact experiences with health care systems, patient-provider relationships, and recovery. If providers make assumptions about the nature of MST or IPV experiences and their impact, rather than asking directly, they may unintentionally convey harmful messages about the relative importance of different kinds of traumatic experiences and miss valuable opportunities for
validation and normalization. Moreover, because different forms of IPV often co-occur and may have negative consequences on health that are additive, neglecting to assess these experiences in comprehensive ways can result in generating treatment plans that do not fully address survivors’ mental and physical health needs.

The findings from this study should be interpreted in light of several limitations, which can and should be addressed in future research on this topic. First, this cross-sectional study relied on self-report assessments of health functioning as well as screening items to assess MST. In particular, it is unknown how well the modified version of the MST screener captured experiences that were perpetrated specifically by an intimate partner. Future studies that utilize mixed and multimethods approaches (e.g., clinical interviews and administrative data) to investigate this issue could help the field understand how to best assess for perpetrator status and capture important contextual information (i.e., do health effects differ for MST experienced at the hands of an intimate partner to whom someone is married vs. from someone who has been dating for a shorter period of time?). Second, and similarly, this study did not include a comprehensive evaluation of sexual IPV experienced during military service. It is important to recognize that IPV-related MST can take many forms, including but not limited to more subtle forms of sexual coercion and pressuring. Such forms of IPV-related MST may have been “missed” by the screening items. Future work can also utilize more inclusive and behaviorally specific assessments of sexual IPV to better understand the scope and health effects of MST perpetrated by intimate partners. Such assessment should include assessments of the frequency, severity, and duration of the sexual IPV during military service, and should further differentiate between sexual harassment and sexual assault as forms of MST.

Third, this study was not designed a priori to test the utility of betrayal trauma theory in explaining the health effects of IPV-related MST (Freyd, 1996; Smith & Freyd, 2014). Interpersonal and institutional factors were not examined in the current study and thus limited our ability to understand how these contextual factors may impact the extent to which such events are experienced as traumatic or how they impact recovery. Moreover, this study did not assess for other aspects of the perpetrators’ identity, such as military or civilian status. Careful attention to these issues, as well as other military-related factors (e.g., length of time separated from service, combat experiences), is warranted in future research. It is hoped that the current study will inspire other investigations that can more formally study MST from a betrayal trauma framework. Fourth, when interpreting the current findings it is important to consider the relatively small sample size of the IPV-related MST group, which may have reduced our ability to differentiate the health impact of IPV-related MST versus non-IPV-related MST. These limitations highlight the need for larger, more representative studies that may account for multiple factors (e.g., other trauma exposures, years of military service, social support) that may impact health. Finally, the current study comprised a sample of female VA patients in the New England region, and it is unknown whether findings will generalize to the population of female VA patients. Similarly, many female veterans do not use VA care (Washington, Yano, Simon, & Sun, 2006) and thus readers are cautioned against generalizing to the larger population of female veterans.

Despite these limitations, our preliminary findings bring attention to an underrecognized aspect of sexual violence experienced during military service. These findings can be used to help raise awareness among policymakers and clinicians that experiences of IPV-related MST may require more nuanced attention in policy and practice. It is important for future research to expand on these initial findings to further enhance our understanding of the scope and impact of IPV-related MST.

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Don’t Tell: Military Culture and Male Rape

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The issue of sexual assault that occurs during military service has been a focus of attention over the past several years. Although approximately 50% of survivors of military sexual assault are men, virtually all of the literature focuses on the assault of female service members. Research has demonstrated that cultural variables are robust correlates of the sexual assault of women. This paper proposes that cultural variables are equally important when examining the rape of men, especially when this assault occurs in military contexts. We discuss male rape myths and related constructs as they are expressed within military culture. The results of data analysis from a treatment sample of veterans with military sexual trauma (MST)-related posttraumatic stress disorder (PTSD) and clinical case examples are presented to further explore the concepts. We conclude that male rape myths and related beliefs that arise from cultural norms and are further amplified and modified by military culture impact male MST survivors and delay or obstruct their recovery. Suggestions for clinical application and future research are offered to encourage further efforts in this important area of practice.

*Keywords:* military sexual trauma, military culture, male sexual assault, masculinity, rape myths

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due to the much larger proportion of men than women in the military (Hoyt et al., 2011).

Estimating the prevalence of male sexual assault is hampered not only by variations in definitions and study methodology, but also by considerable underreporting. Sexual assault is generally considered to be one of the most underreported crimes, and male sexual assault appears particularly underreported (Kimerling, Relini, Kelly, Judson, & Learman, 2002). Though it is acknowledged that most males who are assaulted in the military do not report their assaults, the extent of underreporting is not well understood. The Department of Defense (United States Department of Justice, 2013) estimates that 67% of women and 81% of men do not report their military sexual assaults. Estimates by the Naval Inspector General (2004) are that 66% of male sexual assaults go unreported. A 2010 study by the Defense Manpower Data Center found that 85% of military men who experienced unwanted sexual contact did not report the incident (Rock, Lipari, Cook, & Hale, 2010).

Little information is available about the causes of underreporting military sexual assault. A Department of Defense report (United States Department of Defense, 2012) included summary data from the 2012 Workplace and Gender Relations Survey of Active Duty Members in which female and male active duty service members who did not report a sexual assault were asked to select from a set of reasons for their decision not to report. Males tended to endorse items related to the consequences of reporting (punishment for other violations, decreased chance for promotion, not being believed) while females endorsed items such as feelings of discomfort and wanting to keep the assault confidential. Although not included in the survey, the male service members’ concerns about the career and other consequences of reporting may, in part, reflect an awareness of cultural norms related to masculinity and male sexuality and the heightened emphasis on these expectations and possible consequences in a military environment, as we will discuss.

Few studies to date have focused on the impact of military sexual assault on male survivors or on the differences in clinical presentation between male and female survivors. Research focused predominantly on female survivors suggests that the report of MST is linked to a host of detrimental outcomes, including increased rates of PTS (Himmelfarb, Yaeger, & Mintz, 2006), physical health problems and chronic pain (Haskel, Papas, Heapy, Reid, & Kerns, 2008; Martin, Rosen, Durand, Knudson, & Stretch, 2000), difficulty readjusting to civilian life (Katz, Bloor, Cojucar, & Draper, 2007), suicide attempts (Kimerling, Gima, Smith, Street, & Frayne, 2007), a decreased quality of life (Valente & Wight, 2007), and an overall increase in mental health diagnoses (Kimerling et al., 2007). In examining mental health diagnoses of all veterans with a positive VA MST screen, Kimerling and colleagues (2007) found that women with a positive MST screen were most likely to be diagnosed with PTSD, dissociative disorders, eating disorders, and personality disorders, whereas men were most likely to be diagnosed with suicidal behavior, personality disorders, PTSD, attention deficit hyperactivity disorder and conduct problems, dissociative disorders, and bipolar disorders.

Civilian studies of male sexual assault suggest that when compared with women, men who are sexually assaulted have significantly higher rates of psychiatric hospitalization, psychiatric symptoms, and reported distress (Kimerling et al., 2002); substance abuse (Burnam et al., 1988; Ratner et al., 2003); and self-harming behavior (Coxell, King, Mezey, & Gordon, 1999). A national representation sample of 941 male and female survivors of adult sexual assault found that male survivors reported significantly higher levels of distress in areas including sexual concerns, dysfunctional sexual behavior, externalizing activities, anger, anxious arousal, impaired self-image, and defensive avoidance (Elliott, Mok, & Briere, 2004). The National Comorbidity Survey (Kessler, Sonnega, Bremet, Hughes, & Nelson, 1995) found that the probability of receiving a PTSD diagnosis following sexual assault was higher for men (65%) than women (46%).

Research within military populations has focused on the impact of sexual harassment on male and female service members. In a sample of male and female Gulf War veterans, sexual harassment was found to have a greater impact on men’s mental health than on women’s mental health (Vogt, Pless, King, & King, 2005). The authors hypothesize that this is likely because sexual harassment is more unexpected and has a greater stigmatizing effect for men than for women, and thus is more detrimental (Vogt et al., 2005). A study of nearly 4,000 former military reservists found that at higher reported levels of sexual harassment, males had poorer mental health than women (Street, Gradus, Stafford, & Kelly, 2007).

Despite focused attention on MST at VA facilities, including an increased awareness of the numbers of male veterans that have experienced MST, the implementation of the universal screening tool, the provision of treatment for MST without cost to the veteran, and the implementation of specialized training for clinicians to provide evidence-based treatment for MST, the rates of men coming to and staying with treatment for MST at VA are relatively low. For example, in a report from the Office of Mental Health Operations of the Department of Veterans Affairs, Office of Mental Health Services (2011), only 38% of men, compared to 54% of women, with a positive MST screen received mental health treatment in the VA. However, this data may also reflect the differences in the availability of MST-related mental health care for male and female veterans. For example, although there are several VA residential programs specializing in the treatment of MST for female veterans, there are very few similar resources for male veterans.

A qualitative study of 20 male veterans enrolled in VA who reported military sexual assault but who had not received any related mental health care identified potential barriers. All veterans interviewed identified at least one stigma-related barrier, such as a belief that sexual assault should be kept secret, fear of intense humiliation and shame if the assault was revealed to others, shame related to a perception of not fighting hard enough during the assault, fear of disbelief with disclosure, a belief that the assault should not bother them, and fear of their masculinity or sexuality being questioned (Turchik et al., 2013). A follow-up study found that men expressed a preference for gender-targeted materials in information about MST, but receipt of such information did not increase mental health treatment seeking in the six months that followed (Turchik, Rafie, Rosen, & Kimerling, 2014).

Only one peer-reviewed article identified in our review of the literature discussed a treatment specifically for males with MST. Hoyt, Rielage, and Williams (2012) describe a three-phased group therapy treatment for men with MST and noted the lack of empirical research on the efficacy of treatment for men with MST as a whole. Of note, a component of the treatment they describe is
explicitly combating male rape myths early in treatment by providing group participants with data on the rates of male MST and the severe impact of MST on males. The authors also note how they utilize group treatment to counter the sense of male MST being a rare event and to decrease the secrecy about the nature of male MST. Their treatment works to counter myths of stoic emotional avoidance by explicitly discussing “masculine” men showing emotions. Finally, they address myths related to sexual orientation and shame-based cognitions including those about peritraumatic sexual arousal.

In summary, despite some increase in research in recent years, the literature on sexual assault during military service in males is quite limited, with most research focused on prevalence rates and almost no empirical work on clinical presentation or treatment approaches. Although some information about the impact of sexual assault on adult males in civilian contexts may apply to the treatment of males with military sexual assault, the unique impact of the military context of the assault and its influence on the presentation and treatment of males is not well understood.

Rape Myths and Military Culture

Rape myths have been a focus of research on female rape, and the research literature has demonstrated a relationship between adherence to rape myths and the propensity to sexual violence (for perpetrators) and greater distress (for the survivors) (Brownmiller, 1975; Burgess & Holmstrom, 1974). In addition, much has been written about military culture and the sexual assault of female soldiers. Authors have suggested that military sexual violence toward women is related to a culture of misogyny and homophobia in the military as seen through exclusion of women from combat, the until recent exclusion of gays from the military, and misogyny/homophobic language and jokes (Abrams, 1993; Carmody & Carrington, 2000). One example is the regular use of insult talk during boot camp, in which drill instructors put down recruits by calling them “pussies” or “sissies,” teaching them to equate women and sexual minorities with degradation (Burke, 2004).

More recently, a focus on rape myths related to male rape has emerged, with the suggestion that the prevalence of these myths underlies both victim-blaming and underreporting in males (Turchik & Edwards, 2012). It is our contention that myths about male rape may be even more pervasive and impactful in the military environment which has traditionally emphasized male toughness, aggression, and emotional control, and the presence of these myths is likely to have a profound effect on men who are sexually assaulted during military service.

“Men Don’t Get Raped” or At Least “Real Men/Strong Men Don’t Get Raped”

Perhaps the most commonly cited male rape myths fall into the general category that posits reasons that male rape cannot and does not occur, or more simply, that men cannot be raped. Related myths are that “real” men or strong men can fight off a rapist and that no man would allow himself to be raped without at least incurring serious injury. In the military culture, there is a strong push to take control of hostile situations as the aggressor in any battle. In the sexual arena, there is the related belief that men initiate and control sexual activities and that men are too big and strong to be assaulted (Struckman-Johnson & Struckman-Johnson, 1992).

In a study of male rape myth acceptance among 412 male and female college students, Struckman-Johnson and Struckman-Johnson (1992) reported that 23% of men and 9% of women said a strong man cannot be raped by another man, and 30% of men and 18% of women said a strong man cannot be raped by a woman. This finding is likely to be even more pervasive within the military. It may have important implications for the reporting of male sexual assault within a military culture where men are expected to be strong and much of their training is focused on the acquisition of physical and mental strength. In military settings, physical strength is celebrated and rewarded and weakness or passivity is devalued: a strong soldier is a good soldier. Service members are specifically trained in hand-to-hand combat and taught that their weapon is their most valuable possession, reinforcing the idea that to be a successful member of the military, one must be able to protect oneself and others from any intentional aggression at all times. In the military setting, the concurrently held beliefs that strong men cannot be sexually assaulted and that one must be strong to be successful would be expected to result in intense feelings of shame about sexual assault and denial and secrecy as a defense against sexual assault. Historically, male service members may have internalized these beliefs. In 2004, the Office of Naval Inspector General reported that all-male crews believed that sexual assault awareness programs were not needed because “things like that do not happen in an all male crew” (Office of Naval Inspector General, 2004, p. 29). The report also indicated that military men believed that males who were sexually assaulted are weak.

“Male on Male Rape is About Homosexuality”

Another set of male rape myths are related to sexuality and sexual orientation. There is a common belief that male rape is homosexual sex and therefore, that only homosexual men get raped and only homosexual men perpetrate rape. The related myth that is identified when considering female sexual assault is that rape is about sexual attraction (Coxxell & King, 1996). This set of myths has been shown to impact reporting; for example, male rape victims report fear of homophobic reactions from police and medical providers (Mezey & King, 1989).

The military culture has clearly been slow to change attitudes about homosexuality. There has been an underlying belief that homosexuality in the military would put others at risk, including the belief that gays are perpetrators and dangerous to their fellow soldiers (Knapp, 2008). A male who is sexually assaulted by another male in the military may therefore conclude that he will be viewed as homosexual. Although being labeled as gay is no longer reason for military discharge, it continues to carry a negative connotation in the military environment.

“Male Rape Is Not Serious”

Military culture reinforces the denial and/or repression of emotional distress and expects the service member willingly to subsume personal needs for the good of the unit. It is believed that this will further unit cohesion, considered essential for the success of the military mission (Greene, Buckman, Dandeker, & Greenberg, 2010). Women in the military may see themselves as minority
members and when they are sexually assaulted, typically by a male service member, because of their minority status may not as readily see unit cohesion as something that is as salient in their decision about whether to report. A male service member, who is also most likely to be sexually assaulted by a male service member, may struggle with the responsibility to maintain the cohesion of the unit and feel a great deal of internal pressure to avoid any action that may pit him against his peer group.

A related male rape myth, that men are less bothered by rape, reinforces the military cultural pressure to deny or repress emotional distress and likely contributes to underreporting. Research has supported the existence of this myth in demonstrating the frequently held belief that men are emotionally strong and stoic so that male victims are able to “tough it out” and cope with the experience of rape (Struckman-Johnson & Struckman-Johnson, 1992). This often results in less sympathy for male survivors than for female survivors because of the belief that rape is less serious for men (Burczyk & Standing, 1989).

“A Man Can’t Be Raped by a Woman” or “Female on Male Rape Is Not Serious”

Men are even less likely to gain support or sympathy when the perpetrator is female. In fact, studies have found that 47% of men believe that men who are sexually assaulted by women get sexual pleasure from the occurrence (Smith, Pine, & Hawley, 1987). As cited above, both male and female college students were much more likely to state that a man cannot be raped by a woman versus that a man cannot be raped by another man (Struckman-Johnson & Struckman-Johnson, 1992). These beliefs may be even more prevalent in the military, with fewer women present within the ranks and the exclusion of women from many combat roles, and a related tendency to view women as conquerors or those needing protection, rather than as potential threats. The idea of a man being raped by someone who is supposed to be a conquer or “weak” may be especially discordant with the strong military identity.

The Impact of Military Culture on Male MST Survivors in Treatment

The impact of male rape myths and military culture as discussed above is evident in treatment with male survivors of military sexual assault at Bay Pines VA Health Care System Center for Sexual Trauma Services (CSTS). CSTS includes a 16-bed, approximately two month, residential program that provides intensive evidence-based treatment for veterans with a history of military sexual assault. Approximately 90 male and female veterans from across the U.S., roughly evenly split and in mixed cohorts, are treated in the program each year. In addition, CSTS outpatient services provide a range of psychotherapeutic services directed toward resolving issues related to sexual trauma, with approximately 500 male and female veterans currently enrolled in the program.

As part of its intake process, CSTS gathers data on the characteristics of the veterans we treat. Veterans presenting to the PTSD programs at Bay Pines VA complete a pretreatment assessment packet including demographic, treatment, military and legal history questions, symptoms measures, and a Minnesota Multiphasic Personality Inventory (MMPI)-2 personality inventory (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989). After clinical use, data is de-identified and entered into a research database through a Bay Pines Institutional Review Board-approved research study.

To expand on our understanding of the population served, we conducted post hoc descriptive and correlational analyses using this data. Veterans with a history of military sexual assault who attended the residential and outpatient CSTS programs in 2011 and 2012 were included in the sample for this analysis. Participants included 172 male survivors of sexual assault, 76 who attended the residential program and 96 who were evaluated for treatment in the outpatient program. For comparison purposes, we examined data from the same time period for the 158 female survivors of sexual assault, 66 who attended the residential program, and 92 who were evaluated for treatment in the outpatient program, as well as 680 male survivors of combat and other military-related, nonsexual traumas being evaluated for treatment in non-MST PTSD residential and outpatient programs. In addition, we cite earlier research conducted in the CSTS residential program from 2000 to 2007 and previously published (O’Brien, Gaher, Pope, & Smiley, 2008) and presented (Keith, O’Brien, & Chavez, 2012).

“Men Don’t Get Raped”: Secrecy and Treatment Seeking

The belief that “men don’t get raped” is pervasive among the patients we treat and often lasts decades after the assault. Men report fears about not being believed, often based on past perceptions of disbelief or rejection when they revealed the sexual assault to providers or others. Many mention that they “never” heard of a man being sexually assaulted in the military, and despite their own experiences, believe it is an extremely rare phenomena in the military. On presentation to our program, men often express surprise that they are not the only man who has been assaulted, and particularly appear surprised that other men in the program who they perceive as strong (e.g., tall or muscular men) are also in treatment for sexual assault. The impact of the belief that men do not get raped may prevent male survivors from seeking treatment as early as female survivors. For example, our data show that male survivors, on average, present for MST-related treatment later than female survivors, with a mean age of 51.1 (SD = 8.5) for men versus 46.1 (SD = 10.6; t = 4.5, p < .001) for women. The lack of treatment options for male survivors of MST compared to female survivors of MST may further compound this delay in seeking care.

Once in treatment, concerns about keeping the secret of the sexual assault continue and may intensify. For example, during interactions with combat veterans in residential mixed-trauma educational and skills groups, male sexual assault survivors almost always keep the nature of their trauma hidden, sometimes feigning a combat history or wearing paraphernalia similar to that worn by combat veterans. Men in our residential program often note that they have hidden the reason they are attending 2-month residential treatment from others by creating stories to hide the truth, such as having surgery. Men also regularly express concerns about the sexual assault being documented in their records that other providers might access.
Phil presented to the outpatient CSTS program in his late 50s, the first time he had ever sought mental health treatment despite a long history of problems, including unstable relationships and a period of homelessness. He reported worsening nightmares of a gang rape that occurred while he was in Army boot camp, but which he had tried to suppress for many years. He was tentative upon presentation, asking immediately about confidentiality. When encouraged to attend an orientation group, he dropped out of treatment. Over one year later he presented again and agreed to treatment, but reported an increasing fear that now that he reported the sexual assault, others knew about it. In his view, admitting the reality of his sexual assault was akin to admitting he was a weak man, and he was certain others would perceive this and treat him in a dismissive or threatening manner. He skipped his next appointment with a medical provider who he had seen for years, and engaged in a near-physical altercation with a burly male nurse onsite. feeling certain this individual knew about his trauma and would take advantage of him as a result, despite a lack of any evidence showing this.

“A Man Can’t Be Raped by a Woman”: Isolation and Avoidance

Given the myths that a man cannot be sexually assaulted by a woman, or that men would not be distressed by being assaulted by a woman, shame, secrecy, and beliefs about insufficient justification for one’s action may be especially great in cases in which a male was victim to one or more female perpetrators. In our clinical experience, such survivors seek treatment only rarely, and open up about the gender of their perpetrator(s) slowly. For example, one man in residential treatment spent most of the program discussing an uncomfortable, but consensual, encounter with another male soldier, and only in the last two weeks of treatment shared his much more distressing and terrifying experience of being threatened into an ongoing nonconsensual relationship with a female superior. Men appear reluctant to disclose assault by a female perpetrator to other male survivors of military sexual assault as well, since they fear that even those survivors may react with skepticism. These survivors of assault are often among the most isolated and avoidant, disconnecting from other men—especially other male veterans—due to shame, and from women due to fear and avoidance.

“Male on Male Rape Is About Homosexuality: Sexual Dysfunction and Masculine Identity

Most of our male patients acknowledge questioning their own culpability for the assault, often reflecting the internalization of cultural norms about male sexual assault. They also may be concerned because of their own physical responses during the assault. During male rape, prostate stimulation from penetration and a parasympathetic response of erection/ejaculation may be confused with sexual orientation and result in the belief that they “must have enjoyed it.” In an earlier study of 175 male and female veterans in CSTS residential care, O’Brien and colleagues (2008) found that males survivors of military sexual assault reported significantly higher levels of sexual dysfunction than females (F = 10.83; p = .001) on the Trauma Symptom Checklist (Briere & Runtz, 1989). Further examination of the sexual dysfunction scale indicated that males reported higher symptoms than females on items “sexual problems,” “low sex drive,” “sexual over-activity,” “not satisfied with sex life,” “having sex that didn’t enjoy,” and “sexual feelings when shouldn’t have them.” These veterans also improved less than female veterans as a result of treatment in the area of sexual functioning as well as in overall trauma symptom severity. Studies of civilian men with adult sexual assault have found similarly high rates of sexual functioning problems (Elliott et al., 2004; Mezey & King, 1989).

Steve, a 54-year-old heterosexual male, reported questioning his sexuality and wondering if he brought on the sexual assault for 35 years. He also disclosed that his brother sexually abused him between the ages of six and nine. During the sexual assault in the military, he experienced an erection while being sodomized and then perceived himself as “letting go of the struggle and giving in.” He blamed himself for “putting off some kind of vibe” as a result of being sexually abused as a child. He also believed that during the state of

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1 The names and all identifying features of patients discussed in this article have been changed to protect the identities of these veterans.
tonic immobility, he was enjoying or at least allowing himself to be assaulted. He believed that because of the erection during the assault, he must be gay. He reported decades of hypersensitivity about his sense of manhood and homophobia, leading to aggressive behaviors when he perceived that his masculinity was questioned or threatened. He also reported loss of relationships related to occurrences of sexual dysfunction and not being able to tolerate what his female partner “might be thinking about him.”

The impact of sexual trauma on one’s sense of self as a man is a common topic of discussion in our men’s group. Men worry about being “feminized” and seek out advice from each other about what it means to be a “real man.” In one emotional disclosure by a male Vietnam veteran who was invested in his masculine persona as being an “outlaw biker,” he revealed that at the conclusion of his assault and for several days after the assault, he experienced rectal bleeding from which he shamefully concluded that he “bled like a woman” and therefore was no longer a man.

As a result of questioning their sexual identities and their identities as men, many men we treat on extreme, almost caricatured, versions of masculinity as an identity. For example, a frequent disclosure by men in our men’s MST group is having hypersexual behaviors by sleeping with large numbers of women to prove their manliness and their heterosexuality.

This hypermasculine presentation is also frequently reflected in a renewed and extreme emphasis on physical strength. Interest in working out at the campus gym is high among men in the residential program, and bodybuilding has become a fixation in many of the men we treat. In our men’s group, male survivors often describe physical strength as proof of manhood and a way to regain the manhood taken from them by the assault. Often, when the pursuit of physical strength is not enough, males turn to violent confrontations to prove their manhood, pushing themselves to fight the fight that they believe they should have fought during the assault. Many of the men in our program attempt to use the group therapy setting to reminisce about their violent pasts and thereby loudly assert their manhood, at times sharing graphic details of past damage done to others in fights.

John presented to the treatment program in his late 20s (earlier than most), homeless and facing an assault charge. Despite being tall, in good shape, and performing well in the military, he struggled greatly with his sense of self as a man after experiencing a sexual assault in the Marines. He reported that in the years following the trauma, he became increasingly obsessed with professional boxing, in particular, the health and work-out regimens that led to the well above-average musculature of fighters. He became convinced that his perceived “flabby” physique was a sign of his inferiority as a man, and he engaged in a series of extreme body-building regimens. He reported that despite an increased muscle mass, his self-doubts about his manhood continued, and he increasingly sought conflictual situations in which he would be able to “stare down” another man, in the hopes of regaining a sense of masculine superiority; one of these situations led to an assault charge against a man twice his age.

This focus on hypermasculinity and related physical aggression is more than bravado; a large number of men in our programs have significant legal histories. Men presenting to the CSTS programs in 2010 and 2011 showed a higher percentage of legal convictions than women ($\chi^2 = 33.4, p < .001$) and many of these were for violent crime. Compared to 18.5% of women, 40% of men in the program reported a history of arrest for violent crime ($\chi^2 = 16.9, p < .001$), and 21.4%, compared to 13% of women, reported serving prison time for a violent crime ($\chi^2 = 3.7, p = .05$).

“Male Rape Is Not Serious”: Complex Clinical Presentations and Increased Pathology

In direct contrast to the myth that men are less distressed by sexual assault than women, civilian studies by Elliott and colleagues (2004); Kessler and colleagues (1995), and others show that sexual assault is especially traumatizing to men. This pattern appears particularly pronounced for male survivors of military sexual assault, who may struggle to reconcile the experience of sexual trauma with the military acculturation to be, first and foremost, a strong warrior. The delay in treatment seeking may further compound the difficulty of addressing and working through the impact of the sexual trauma. As a result, male survivors of military sexual assault tend to present with more severe and complex clinical presentations.

Research conducted with male and female survivors in our residential MST program from 2000 to 2007 found that not only do men have higher levels of symptoms overall (O’Brien et al., 2008), but they also tend to have more severe personality pathology as measured by the MMPI-2 (Keith, O’Brien, & Chavez, 2012). Male survivors showed significantly higher mean elevations than female survivors on MMPI-2 Scales 4–Psychopathic Deviate, 6–Paranoia, 7–Psychasthenia, 8–Schizophrenia, and 9–Hypomania. Males also had significantly higher overall mean profile elevation. With the exception of the differences on Scale 9, recently analyzed data from male and female CSTS residential and outpatients from 2010 and 2011 replicated this pattern (controlling for age due to older age of males in the sample), with significant differences on Scales 4–Psychopathic Deviate ($F = 8.0; p = .005$), 6–Paranoia ($F = 23.1; p < .001$), 7–Psychasthenia ($F = 16.9; p < .001$), and 8–Schizophrenia ($F = 4.3; p = .038$). In other words, men show greater elevations on scales suggestive of pathology related to behavioral control, relationships, and distorted thinking. Not surprisingly, this pathology tends to lead to worse treatment outcomes for males (O’Brien et al., 2008).

Clinical Applications and Future Directions

Though limited by the lack of research conducted on male survivors of sexual assault to date, our review of the literature on military culture and male sexual assault combined with our clinical experiences and preliminary data analyses reveal some important clinical implications for the treatment of male survivors of military sexual assault. We believe that while cognitive distortions related to myths about male rape are an important element of treatment, without consideration of the military context, any treatment for male sexual assault survivors will fail short.

We have discussed ways in which rape myths and related beliefs that arise from cultural norms are further amplified and modified by military culture and impact male military sexual assault survivors to delay or obstruct their recovery. This knowledge can inform treatment. For example, because of the secrecy and shame associated with male military sexual assault, survivors often present with a trauma narrative that is incomplete—that is, they only share limited information about the assault in the initial stages of
therapy. With this in mind, therapists can employ a number of strategies. A supportive but constantly curious stance can help to elicit additional information. Education about the experiences of other men who report military sexual assault can begin to normalize and open the door for further sharing about what may be some of the most difficult parts of the trauma to reveal, including peritraumatic sexual arousal or freezing rather than fighting. Watching for shame-related avoidance such as nonspecific descriptions of elements of the assault can alert the therapist to focus on these areas.

The identification with military veteran status is strong within American society; most male children and adolescents are exposed to numerous media elements that glorify the role of a soldier. For those who enlist, this identification is heightened and reinforced. It is important to remember that for many male military sexual assault survivors, their constructs about masculinity and the male role are related to the image of a “warrior.” For the male military veteran, the experience of military sexual assault is often associated with a larger sense of defeat and failure to win the battle, which results in shame. Assisting the veteran to identify these constructs and process their impact is an important aspect of recovery; the ability to maintain pride in one’s veteran status and separate the soldier identity from the victim/survivor identity is an important part of healing. It is also important to specifically address the military context in which the assault occurred and recognize its impact on the veteran’s life. In addition, treatment interventions designed to undermine the focus on hypermasculinity that may have started in the military can be important for many male veterans. This should include a careful processing of what it means to be male, review of the individual’s early learning about masculinity, identification of role models (from both civilian and military settings) that express masculinity in a variety of ways, exploration of the interplay of sexuality and masculinity, and identification of values and valued life directions that are related to male roles and masculinity.

We also need to recognize the functional and psychosocial consequences of delayed treatment for male MST survivors. Our research has demonstrated that male survivors have more severe and complex pathology. Comprehensive treatment that addresses the full range of long-term behavioral and emotional consequences of untreated trauma-related problems beyond the diagnosis of PTSD is needed, and treatment needs to be based on the expectations of recovery. In our experience, a mixed gender treatment environment along with strong gender-specific interventions (both individual and group-based therapeutic strategies that explore the impact of sexual assault on sexuality, sexual identity, masculinity/femininity, and sexual attitudes and beliefs) comes closest to creating an environment that validates the possibility of recovery and a return to a normal community-based life.

Lastly, efforts to decrease the stigma associated with male sexual assault are essential to increase reporting rates, improve access to care, and further recovery. Educational materials should include examples of male sexual assault survivors. More male treatment providers are needed within the VA health care settings. We frequently attend VA conferences and training initiatives related to the treatment of mental health issues related to military sexual assault and are surprised to find that although about half of survivors are male, virtually all of the audience is female. Our male veterans need the opportunity to experience the validation and modeling that comes from a therapeutic relationship with a male therapist.

Male-specific treatment programs within the military environment are needed to provide earlier access to care, and the provision of this care would also be a clear demonstration that the problem is acknowledged. In addition, the presence of treatment resources within the military environment would demonstrate a commitment to treating the problem so that the soldier can continue to perform his duties. This might begin with focused training for leadership, not just on the scope of the problem and the reporting mechanisms, but communication and interpersonal training designed to increase their skills at educating and supporting their subordinates as they struggle with their own culturally influenced beliefs about male sexual assault.

There are several areas of research that can potentially further our understanding and treatment resources in this important area of clinical practice. The Veterans Health Administration has a national program to disseminate training in evidence-based psychotherapy for PTSD and many MST survivors have profited from this initiative. Given the evidence that treatment results in less improvement for men than for women, it is important to study evidence-based treatment outcomes for men with MST-related PTSD. In addition, there are currently several training options specific to MST for VA clinicians. It would be helpful to determine the extent to which this training offers gender-specific training, and the impact it has on the clinical practices related to MST care for men. VA Women’s Clinics have typically provided a forum for advocacy for female veterans reporting MST; do we need a similar advocacy forum for male survivors?

Further research on the impact of the military environment as it relates to male military sexual assault is essential. Men and women self-select for military service, and it is believed that the rates of childhood trauma are greater for enlistedees. We have not studied the manner in which prior victim status may interact with the military environment; an increased understanding of this issue may result in identification of interventions that reduce the rates of victimization, improve reporting rates, or result in better treatment outcomes. Studies of military culture might help us to identify the specific ways in which rape myths are communicated, how they might be dispelled, and the impact they have on the likelihood of reporting and help-seeking.

The increased attention to male military sexual assault reflects the important progress we have made in the areas of education and improved treatment. We still have much to accomplish.

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Associations of Military Sexual Trauma, Combat Exposure, and Number of Deployments With Physical and Mental Health Indicators in Iraq and Afghanistan Veterans

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Trauma exposure (TE) and numerous deployments have been associated with negative health outcomes in veterans, many of whom have military sexual trauma (MST) and combat exposure (CE). The aims of this study were to examine the relationships between physical and mental health symptoms with MST and CE and number of deployments. Iraq and Afghanistan veterans at the Veterans Affairs San Diego Healthcare System completed self-report measures for MST, CE, number of deployments, posttraumatic stress disorder (PTSD) symptoms, depression symptoms, alcohol use, somatic symptoms, health functioning, and body mass index (BMI). Regression analyses examined main and interaction effects of CE and MST and the linear and quadratic trends of number of deployments. The sample (N = 1,294) had a mean age of 31 and was 85% male. The MST by CE interaction on BMI was significant (p < .005), such that MST was associated with lower BMI in veterans with CE and with higher BMI in veterans without CE. MST and CE were associated with higher somatic, PTSD, and depression symptoms and with lower mental health functioning (ps < .001 to .025). CE was associated with lower physical health functioning and higher alcohol use (ps < .001 to .025). Number of deployments was linearly related to higher BMI (p = .004) and had a quadratic association with alcohol use (p = .008). Findings highlight the relationship between TE and poor health outcomes and the need to further study the mechanisms of TE on physical and mental health.

Keywords: combat exposure, military sexual trauma, deployments, mental health, physical health

Editor’s Note. This is one of thirteen articles in a special issue on Military Sexual Trauma.

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are at higher risk for developing numerous physical and mental health problems with reduced functioning and lower quality of life (Elder, Shanahan, & Clipp, 1997; Wolfe, Schnurr, Brown, & Furey, 1994). Adding to the burden of TE on physical and mental health, many veterans may have multiple TEs (Dedert et al., 2009) that put them at even greater risk for significant mental health problems (Follette, Polusny, Bechtle, & Naugle, 1996; Green et al., 2000; King, King, Foy, & Gudanowski, 1996; King, King, Foy, Keane, & Fairbank, 1999; Schnurr, Spiro, Aldwin, & Stukel, 1998).

Combat exposure (CE) or war-zone exposure is commonly associated with military service, especially with Iraq and Afghanistan vand current service members who report CE rates up to 65% depending on the branch of service, location of deployment, and type of CE (Department of Defense, 2013; Hoge, Auchterlonie, & Miliken, 2006). Iraq and Afghanistan-era veterans may have more frequent and more severe CE relative to veterans of other eras because there is no longer a traditional front line of war, and current soldiers and Marines may serve in combat zones full-time for months or even a year before being withdrawn from combat (Office of the Surgeon General, 2006). Service members of this era are the first to see women in combat roles, occurring after the repeal of combat exclusion for women, and may see an increase in female veterans with CE; however, CE is still more prevalent among male veterans compared with female veterans (Maguen, Lutxton, Skopp, & Madden, 2012; Polusny et al., 2014; Vogt et al., 2011). There is an increasing awareness of the high prevalence of other types of TE in veterans. Military sexual trauma (MST), defined as physical assault, battery, or harassment of a sexual nature during military service (Title 38 U.S.C. § 1720D), has become a growing part of clinical work and research on veteran trauma. Among veterans receiving outpatient services at the Veterans Health Administration (VHA) nationally in 2010, 23.6% of women and 1.2% of men screen positive for MST (U.S. Department of Veterans Affairs, 2013). Overall, male veterans report more CE, whereas female veterans are more likely to experience MST (Freedy et al., 2010).

CE has been associated with poor physical and mental health in veterans. CE has demonstrated links to PTSD, depression, alcohol abuse, chronic pain, and eating disorders in veterans from all eras, including World War II (Schlenger, Fairbank, Jordan, & Caddell, 1999), Vietnam (Goldberg, True, Eisen, & Henderson, 1990; Wolfe et al., 1994), Persian Gulf (Schwartz et al., 1997), and Iraq and Afghanistan (Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998; Jacobson et al., 2008, 2009; Smith, Ryan, et al., 2008; Wells et al., 2010). MST also has been linked with negative mental and physical health outcomes. Female veterans who have experienced MST are at four to nine times greater risk for PTSD compared with female veterans without MST (Suris, Lind, Kashner, Borman, & Petty, 2004; Yaeger, Himelfarb, Cammack, & Mintz, 2006). Moreover, MST in women uniquely contributes to the development of PTSD and appears to put women at greater risk for PTSD compared with CE (Fontana & Rosenheck, 1998). MST in female veterans is also related to depression (Chang, Skinner, & Boehmer, 2001; Hankin et al., 1999), alcohol abuse (Frayne, Skinner, Sullivan, & Freund, 2003; Hankin et al., 1999), eating disorders, dissociative disorders, personality disorders (Kimerling, Gima, Smith, Street, & Frayne, 2007), and lower overall psychological functioning (Chang et al., 2001; Martin, Rosen, Durand, Knudson, & Stretch, 2000). MST in women has been associated with poorer overall health (Frayne et al., 1999; Martin et al., 2000), numerous chronic medical conditions (Becker-Dreps et al., 2010; Frayne et al., 2003; Kimerling et al., 2007), and chronic pain (Haskell, Papas, Heapy, Reid, & Kerns, 2008).

A smaller body of research shows that MST experience in male veterans also may be associated with many physical and mental health conditions. Male veterans who have experienced MST are more likely to develop mental health disorders, particularly PTSD (Kang, Dalager, Mahan, & Ishii, 2005; Kimerling et al., 2007), dissociative disorders, and personality disorders (Kimerling et al., 2007). MST in men has been linked to sexual dysfunction disorder and sexually transmitted infections (Turchik et al., 2012), liver disease, and chronic pulmonary disease (Kimerling et al., 2007). Thus, the limited research suggests that MST is related to poor health in both male and female veterans (Kimerling et al., 2010).

Having multiple deployments of long duration is unique to the Iraq and Afghanistan era relative to previous wars. In Iraq and Afghanistan service members, the number of deployments and the long deployment durations are a growing concern, and numerous deployments are associated with poor mental and physical health (Office of the Surgeon General, 2008). Information on number and duration of deployments often serve as another method for assessing possible TE and stress-related health problems as veterans with numerous deployments may face an increased chance for CE, repeated operational demands, and stress related to life at home (Kimerling et al., 2010; Regler, Gahm, Swanson, & Duma, 2009). Longer and more numerous deployments have been linked with increased risk mental health problems like PTSD (Regler et al., 2009; Xue et al., 2015), depression, and anxiety (Armed Forces Health Surveillance Center, 2011) and with physical health concerns such as pain and other chronic conditions (Armed Forces Health Surveillance Center, 2012). It is interesting to note that the relationship between number of deployments and mental and physical health problems may not be linear. Veterans with fewer than four deployments report more symptoms compared with veterans with up to four and five deployments, which may reflect the resilience and relatively good functioning of veterans who are able to deploy more than four times compared with those with more symptoms and poorer functioning, who may not be able to redeploy (Armed Forces Health Surveillance Center, 2011).

In sum, the existing literature indicates that TE from CE, MST, and multiple deployments are linked to worse physical and mental health outcomes in veterans. However, more work is needed to better understand the association of CE, MST, and number of deployments with physical and mental health in newly returning veterans. Previous work with Iraq and Afghanistan veterans has examined MST and CE separately as predictors of PTSD symptoms (Polusny et al., 2014) and analyzed the impact of predeployment assault on PTSD symptoms in recently combat-exposed veterans (Smith, Wingard, et al., 2008). Recent evidence also suggests a potential interaction of MST and CE such that female veterans with MST prior to CE have increased PTSD symptoms compared with those with CE but no prior MST (Cobb Scott et al., 2014). To date, however, no research has examined relationship of MST, CE, and their interaction with both mental and physical health symptoms in male and female veterans. Models of health outcomes with both MST and CE will determine the association of one TE while controlling for the effects of the other, which has been lacking in the current literature (Kimerling et al., 2010). Addi-
tionally, the bulk of the research thus far has focused on veterans of older eras in which there were fewer female veterans in deployment or combat situations. This study sought to build upon and expand the current literature by examining how CE and MST and number of deployments relate to physical and mental health in Iraq and Afghanistan veterans. Understanding the potential cumulative relationships between different TE and multiple deployments and physical and mental health is crucial to assessing and anticipating the health care needs of Iraq and Afghanistan veterans and to understanding the potential impact of TE and multiple deployments on veteran’s health. The goals of this study were to examine relationships between MST and CE and physical and mental health symptoms and analyze the association between number of deployments and physical and mental health symptoms. We hypothesized that MST and CE would be associated with poorer physical and mental health but had no specific hypothesis regarding the presence of an interaction effect between MST and CE. Further, we hypothesized that there would be a non-linear relationship between the number of deployments and physical and mental health symptoms.

Method

Participants and Procedures

This study was part of a larger retrospective cross-sectional evaluation of Iraq and Afghanistan veterans registering for care at the VA San Diego Health care System (VASDHS) between May 1, 2009 and December 3, 2010. All Iraq or Afghanistan veterans who presented to the two primary VASDHS Member Services offices for enrollment into VA health care completed a packet of self-report instruments as part of a clinical program to screen newly enrolling veterans for physical and mental health care needs and OEF/OIF Care Management Program Services. A total of 1,559 veterans were invited to complete the self-reported questionnaires with 1,363 veterans (87%) completing the instruments. Of the 1,363 veterans who completed the assessment packet, 1,294 had complete data and were included in analyses presented here. This study was approved by the Institutional Review Board of the University of California, San Diego and the VASDHS Institutional Review Board and the Research and Development Committee. No incentives or compensation were provided for participation.

Measures

All measures were collected via self-reported questionnaires and were part of a collection of questionnaires assessing a broad range of demographics, service history variables, and numerous physical and mental health symptoms.

Sociodemographics. Veteran’s age, gender, ethnicity, race, highest level of education, relationship status, and primary sources of income were all assessed by self-report questionnaire items. Service history was also assessed with self-report to obtain rank and branch of service.

Combat exposure, military sexual trauma, and number of deployments. Exposure to combat was assessed by the question, “Did your military experience include exposure to combat?” Respondents were then presented with a list of 10 combat experiences: being attacked or ambushed, firing at the enemy, hand to hand combat, caring for wounded, receiving rocket or mortar fire, seeing dead bodies, clearing or searching buildings, receiving small arms fire, handling human remains, someone killed near you. This list of combat experiences is similar to those used in previous research (Hoge et al., 2004). Those who answered yes to the initial question and at least one of the 10 combat experiences were considered to have CE. MST was assessed by two VA created questions (Veterans Health Administration Handbook, 2008)—MST Item 1: “When you were in the military, did you ever receive unwanted and unwanted sexual attention (i.e. touching, cornering, pressure for sexual favors, verbal remarks, etc . . . ?” and MST Item 2: “When you were in the military, did anyone ever use force or the threat of force to have sex with you against your will?” For the current study, being designated as having MST required an affirmative answer to either of these MST items (Kimerling et al., 2007). Number of deployments was assessed with the item, “How many times were you deployed to a combat zone outside the U.S. for greater than 1 month (30 days) at a time?” Response options for this item were seven multiple choice responses, ranging from 0 to 6 or more deployments. To present sociodemographic variables and descriptives of the physical and mental health variables veterans were categorized into one of four groups (no CE/MST, MST/no CE, CE/no MST, CE plus MST) on the basis of their responses to the CE and MST questions.

Physical health. Somatic symptoms were assessed with the Patient Health Questionnaire-15 (PHQ15; Kroenke, Spitzer, & Williams, 2002). The PHQ15 measures the extent that participants were bothered by any of 15 somatic problems (e.g., pain in various areas, dizziness, cardiovascular problems, gastrointestinal issues, and fatigue or sleep problems) in the 4 weeks prior to assessment. Each item on the PHQ15 is scored on a 3-point scale with a maximum total score of 30; higher scores indicate greater somatic symptom severity. This measure has acceptable psychometric properties, with a Cronbach’s alpha of .85 in our sample. Physical health functioning was measured with the physical component scale (PCS) of the Short Form 8 Health Survey (SF8), an often-used measure to assess health related functioning (Ware, Kosinski, Dewey, & Gandek, 2001). The SF8 PCS scores are calculated by first calculating scores on 8 ordinal items of the SF8 measuring general health, physical functioning, roles functioning due to physical health, bodily pain, vitality, social functioning, mental health, and roles functioning due to personal or emotional problems. The SF8 PCS score ranges from 0 to 100, with higher scores indicating better physical health functioning. The SF8 PCS had a Cronbach’s alpha of .81 in our sample. Body mass index (BMI) was calculated from self-reported height and weight using the standard formula (weight (lbs)/height (in)$^2$) $\times$ 703 and is presented in units of kg/m$^2$.

Mental health. As is standard practice within the VHA, the PTSD Checklist—Civilian Version (PCL-C) was used to assess PTSD symptoms (Weathers, Litz, Huska, & Keane, 1994). The PCL-C is a 17-item self-report measure based on the DSM–IV PTSD criteria that captures the degree to which respondents were bothered by a particular PTSD symptom over the last month, with a possible total score of 85 and higher scores indicating greater severity. The PCL-C has acceptable psychometric properties in both military and nonclinical populations (Conybeare, Behar, Solomon, Newman, & Borkovec, 2012; Wilkins, Lang, & Norman, 2011), with a Cronbach’s alpha of .97 in our sample. The Patient Health Questionnaire-9 (PHQ9) was used to measure depression symptom severity (Kroenke, Spitzer, & Williams, 2001). PHQ9 items are rated on a 4-point scale with a
maximum score of 27; higher scores indicate greater depression symptom severity. The PHQ9 has acceptable psychometric properties (Kroenke et al., 2001; A. Martin, Rief, Klaiberg, & Braehler, 2006), with a Cronbach’s alpha of .91 in our sample. Mental health functioning was assessed with the mental component scale (MCS) of the SF8 (Ware et al., 2001). Similar to calculating the SF8 PCS, scores for the SF8 MCS are calculated by first calculating scores on 8 ordinal items of the SF8. The SF8 MCS score ranges from 0–100, with higher scores indicating better mental health functioning. The SF8 MCS had a Cronbach’s alpha of .88 in our sample. The Alcohol Use Disorders Identification Test (AUDIT-C) was used to assess hazardous alcohol consumption (Bush et al., 1998). Scores range from 0–12 and higher scores indicate greater frequency and amount of alcohol consumption. The AUDIT-C has acceptable psychometric properties in veteran samples (Bradley et al., 2003; Bush et al., 1998), with a Cronbach’s alpha of .76 in our sample.

Statistical Analyses

Pearson chi-square analysis ($\chi^2$) and one-way between-subjects analysis of variance (ANOVA) were used to compare groups across all categorical and continuous sociodemographic and service history variables. To follow up on significant overall group differences all trauma groups were compared with pairwise post hoc comparisons with a Bonferroni corrected alpha of .008 (.05/6). If no pairwise comparisons were found to be significant we ex-hoc comparisons with a Bonferroni corrected alpha of .008 (.05/6) were used to compare groups across all categorical and continuous sociodemographic and service history variables. Post hoc comparisons by gender revealed significantly different gender in all groups (all $p$’s < .001) except when comparing the MST/no CE with the CE plus MST group ($\chi^2 = 4.90$, $p = .03$). Women were more represented in the MST/no CE group compared with the no CE/MST group ($\chi^2 = 51.53$, $p < .001$), in the CE plus MST group relative to the CE/no MST group ($\chi^2 = 68.98$, $p < .001$), in the no CE/MST group compared with the CE plus MST group ($\chi^2 = 28.43$, $p < .001$), and in the CE plus MST group relative to the no CE/MST group ($\chi^2 = 20.84$, $p < .001$). Racial background was also significantly different across trauma groups ($\chi^2 = 21.22$, $p = .01$). Post hoc analyses on race group did not lead to any significant pairwise group comparisons, but examination of each cell’s contribution to the overall chi-square value revealed a smaller proportion of veterans identifying as Black in the CE/no MST group ($\chi^2$ contribution = 5.3). Branch was significantly different between groups ($\chi^2 = 303.45$, $p < .001$). The MST/no CE group had a higher percent of Navy veterans relative to the CE/no MST group ($\chi^2 = 40.03$, $p < .001$) and to the CE plus MST group ($\chi^2 = 16.83$, $p = .005$). The no CE/MST group had more Navy veterans compared with the CE/no MST group ($\chi^2 = 279.94$, $p < .001$). A higher proportion of Army veterans were in the CE plus MST group relative to the no CE/MST group ($\chi^2 = 39.20$, $p < .001$). Trauma groups differed in receiving disability benefits as a primary source of income ($\chi^2 = 17.31$, $p = .008$) with the CE plus MST group being more likely to report receiving disability relative to the no CE/MST group ($\chi^2 = 16.04$, $p < .001$).

Table 1

Veterans in Different Trauma Exposure Groups

<table>
<thead>
<tr>
<th>Trauma type</th>
<th>No CE n (%)</th>
<th>CE n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No MST n (%)</td>
<td>486 (38.56)</td>
<td>728 (56.26)</td>
</tr>
<tr>
<td>MST n (%)</td>
<td>33 (2.55)</td>
<td>47 (3.63)</td>
</tr>
</tbody>
</table>

Note. Percentages are out of the number of veterans without missing data on both trauma exposure criteria ($N = 1,294$). CE = combat exposure; MST = military sexual trauma.
Table 2
Sociodemographic Characteristics That Differed by Trauma Type Group

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total (n = 1,294)</th>
<th>No CE/MST (n = 486)</th>
<th>MST/no CE (n = 33)</th>
<th>CE/no MST (n = 728)</th>
<th>CE + MST (n = 47)</th>
<th>( \chi^2 \cdot p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1,092 (84.39)</td>
<td>394 (81.07)</td>
<td>9 (27.27)</td>
<td>665 (91.35)</td>
<td>24 (51.06)</td>
<td>162.80, &lt;.001</td>
</tr>
<tr>
<td>Racial background</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>21.22, .01</td>
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<tr>
<td>Asian, Native Hawaiian,</td>
<td></td>
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</tr>
<tr>
<td>Black</td>
<td>134 (11.71)</td>
<td>58 (13.71)</td>
<td>2 (69.0)</td>
<td>71 (10.89)</td>
<td>3 (7.50)</td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>720 (62.94)</td>
<td>248 (58.63)</td>
<td>16 (55.17)</td>
<td>427 (64.59)</td>
<td>29 (72.50)</td>
<td></td>
</tr>
<tr>
<td>Other, multiple</td>
<td>97 (8.48)</td>
<td>31 (7.33)</td>
<td>1 (3.45)</td>
<td>60 (9.20)</td>
<td>5 (12.50)</td>
<td></td>
</tr>
<tr>
<td>Branch of service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Army</td>
<td>205 (15.84)</td>
<td>15 (3.09)</td>
<td>0 (0)</td>
<td>183 (24.14)</td>
<td>7 (14.89)</td>
<td></td>
</tr>
<tr>
<td>Air Force</td>
<td>44 (3.40)</td>
<td>12 (2.47)</td>
<td>1 (3.03)</td>
<td>29 (3.98)</td>
<td>2 (4.26)</td>
<td></td>
</tr>
<tr>
<td>Marines</td>
<td>376 (29.06)</td>
<td>72 (14.81)</td>
<td>5 (15.15)</td>
<td>282 (38.74)</td>
<td>17 (36.17)</td>
<td></td>
</tr>
<tr>
<td>National Guard</td>
<td>28 (2.16)</td>
<td>10 (2.06)</td>
<td>0 (0)</td>
<td>15 (2.06)</td>
<td>3 (6.36)</td>
<td></td>
</tr>
<tr>
<td>Navy</td>
<td>623 (48.15)</td>
<td>368 (75.51)</td>
<td>26 (78.79)</td>
<td>213 (29.50)</td>
<td>17 (36.17)</td>
<td></td>
</tr>
<tr>
<td>Disability income</td>
<td>124 (14.8)</td>
<td>33 (6.79)</td>
<td>5 (15.15)</td>
<td>75 (10.30)</td>
<td>11 (23.40)</td>
<td>.008</td>
</tr>
</tbody>
</table>

Note. Percentages are column percentages to estimate the prevalence of that characteristic within the trauma type group. For post hoc comparisons, a Bonferroni corrected \( \alpha \) of .008 was used (.05/6). \( p \) values are from statistical analyses of group differences in sociodemographic characteristics. CE = combat exposure; MST = military sexual trauma.

a Significant difference between no CE/MST and MST/no CE. b Significant difference between MST/no CE and CE/no MST. c Significant difference between CE/no MST and CE + MST. d Significant difference between no CE/MST and CE. e Significant difference between CE/no MST and CE + MST. f Significant difference between no CE/MST and CE/no MST.

MST and CE Characteristics and Number of Deployments

Examining the two MST questions separately, 57 veterans reported having unwanted sexual attention and no use of threat or force (MST item 1), 25 veterans reported both unwanted sexual attention and the use of or threat of force to engage in unwanted sexual acts (MST items 1 and 2), and 1 veteran reported having experienced the use of or threat of force to engage in unwanted sexual acts without having unwanted sexual attention (MST item 2). Results of chi-square and ANOVA analyses revealed no significant differences between the 57 veterans reporting unwanted sexual attention without use of threat or force and the 25 veterans reporting both MST items across sociodemographic characteristics. CE = combat exposure; MST = military sexual trauma.

cleared or searched buildings, 423 (32%) received small arms fire, 213 (16%) handled human remains, and 263 (20%) endorsed having somebody killed near them. The majority of veterans reported being deployed at least once for a duration of at least 1 month. Twenty-three veterans (2%) reported no deployments, 520 (40%) had one deployment, 410 (31%) had two deployments, 181 (14%) had three deployments, 77 (6%) had four deployments, 28 (2%) had six deployments, and 64 (5%) had six or more deployments.

Table 3 presents the physical and mental health outcomes for the entire sample and by group. Veterans with no CE/MST had PHQ15 scores demonstrating low somatic symptom severity, but veterans with CE/no MST, MST/no CE, and CE plus MST had PHQ15 scores closer to the medium range (Kroenke et al., 2002). All four groups had SF8 PCS scores more than one standard deviation below the standardized mean value of 50 (Ware et al., 2001), suggesting that our sample had lower physical health function.

Table 3
Means and Standard Deviations for Physical and Mental Health Indicators for the Entire Sample and by Group

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Total (n = 1,294)</th>
<th>No CE/MST (n = 486)</th>
<th>MST/no CE (n = 33)</th>
<th>CE/no MST (n = 728)</th>
<th>CE + MST (n = 47)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>PHQ15</td>
<td>7.18 (5.28)</td>
<td>5.69 (4.56)</td>
<td>9.45 (5.34)</td>
<td>7.94 (5.45)</td>
<td>10.00 (5.92)</td>
</tr>
<tr>
<td>SF8 PCS</td>
<td>44.29 (10.27)</td>
<td>45.49 (9.61)</td>
<td>41.39 (9.89)</td>
<td>43.79 (10.53)</td>
<td>41.99 (11.75)</td>
</tr>
<tr>
<td>BMI in kg/m²</td>
<td>26.98 (4.18)</td>
<td>26.85 (4.37)</td>
<td>27.05 (5.84)</td>
<td>27.18 (3.95)</td>
<td>25.27 (4.02)</td>
</tr>
<tr>
<td>PCL-C</td>
<td>31.32 (16.95)</td>
<td>24.19 (11.96)</td>
<td>28.34 (11.66)</td>
<td>35.39 (17.99)</td>
<td>42.86 (20.05)</td>
</tr>
<tr>
<td>PHQ9</td>
<td>6.10 (6.44)</td>
<td>4.00 (5.03)</td>
<td>5.33 (4.85)</td>
<td>7.24 (6.84)</td>
<td>10.72 (7.49)</td>
</tr>
<tr>
<td>SF8 MCS</td>
<td>43.78 (12.92)</td>
<td>47.18 (11.29)</td>
<td>41.07 (11.24)</td>
<td>42.42 (13.33)</td>
<td>33.40 (13.12)</td>
</tr>
<tr>
<td>AUDIT-C</td>
<td>3.70 (2.77)</td>
<td>3.12 (2.46)</td>
<td>3.06 (2.65)</td>
<td>4.14 (2.89)</td>
<td>3.21 (2.86)</td>
</tr>
</tbody>
</table>

Note. PHQ15 = Patient Health Questionnaire-15; SF8 PCS = Physical Component Scale of the Short Form 8 Health Survey; BMI = body mass index in kg/m²; PCL-C = PTSD Checklist–Civilian Version; PHQ9 = Patient Health Questionnaire-9; SF8 MCS = Mental Component Scale of the SF8; AUDIT-C = Alcohol Use Disorders Identification Test.
tioning than the U.S. population norms. Mean BMI values for the four groups put veterans in all of these groups in the overweight category as they surpassed the cutoff score of 25 kg/m² (Lyznicki, Young, Riggs, Davis, & the Council on Scientific Affairs, American Medical Association, 2001).

PCL-C scores for veterans with no CE/MST were below the recommended cutoff scores (30–35) for screening PTSD symptoms in veterans, whereas veterans in the MST/no CE, CE/no MST, and CE plus MST groups had mean PCL-C scores slightly below, within, or above this range, respectively (Bliese et al., 2008; U.S. Department of Veterans Affairs National Center for PTSD, 2014). The mean depression scores for veterans with no CE/MST were below the cutoff for mild depression (score of 5), but both CE/no MST and MST/no CE groups had mean values within the mild depression range (Kroenke et al., 2001), and the CE plus MST group had a mean value that put it in the moderate depression range. On the SF8 MCS scale, the no CE/MST, MST/no CE, and CE/no MST groups had means scores within one standard deviation (10 points) of the standardized population mean value of 50 (Ware et al., 2001), whereas the CE plus MST group had mean scores closer to two standard deviations below the standardized population mean, suggesting worse mental health functioning for that group than the general U.S. population. Only the CE/no MST group had scores on the AUDIT-C that surpassed the male-specific cutoff score of 4 for a positive screen, which would warrant further follow up assessment of problematic alcohol use in a clinical setting (Frank et al., 2008).

**MST/CE and Physical and Mental Health Symptoms**

As shown in Figure 1, the MST by CE interaction was significant for BMI (β = −2.686, p = .005, partial $R^2 = .006$). For individuals without CE having MST was associated with higher BMI compared with veterans without MST, whereas for individuals with CE having MST was associated with lower BMI relative to veterans without MST. None of the other MST by CE interaction terms were significant predictors (all ps > .05) and were dropped from the models to examine only the main effects of MST and CE. Table 4 provides the regression coefficients and associated p values for the linear regressions run for all physical and mental health outcomes without significant interactions. Both MST and CE were significantly associated with higher scores on the PHQ15 (MST β = 2.111, p = .002, partial $R^2 = .010$; CE β = 2.426, p < .001, partial $R^2 = .052$), PCL-C (MST β = 7.173, p < .001, partial $R^2 = .111$; CE β = 11.239, p < .001, partial $R^2 = .103$), and PHQ9 (MST β = 2.709, p < .001, partial $R^2 = .010$; CE β = 3.427, p < .001, partial $R^2 = .067$) and with lower scores on the SF8 MCS (MST β = −8.354, p = .001, partial $R^2 = .022$; CE β = −4.861, p < .001, partial $R^2 = .032$). Only CE was significantly related to lower SF8 PCS scores (β = −2.032, p = .025, partial $R^2 = .009$) and higher AUDIT-C scores (β = .754, p < .001, partial $R^2 = .018$).

**Number of Deployments and Physical and Mental Health Symptoms**

Table 5 displays the results of the trend analysis of number of deployments related to physical and mental health symptoms performed. The linear contrast for number of deployments was significantly related to BMI (β = .203, p = .03, partial $R^2 = .004$). A significant quadratic association was found between the number of deployments and scores on the AUDIT-C (β = −.107, p = .001, partial $R^2 = .008$). As shown in Figure 2, the highest scores on AUDIT-C were found in veterans with one to four deployments and lower scores were found in veterans reporting zero, five, six, or more deployments.

**Discussion**

The purpose of this study was to examine the associations between CE and MST and physical and mental health and to analyze how number of deployments is related to physical and mental health outcomes.
mental health symptoms. To our knowledge, this is the first study to examine the associations of CE, MST, and their interaction with both mental and physical health indicators in a sample of male and female Iraq and Afghanistan veterans. Contrary to recent evidence in a female veteran population (Cobb Scott et al., 2014) we did not find evidence of an interaction between CE and MST on mental health variables like PTSD symptoms. This difference may be the result of our sample or our use of a dichotomous CE measure which may require more power to detect an effect relative to a continuous measure of CE. Moreover, the significant interaction we found with MST and CE on BMI suggests there is not a compound relationship of these two TE types on BMI. We found that MST and CE were linked to higher somatic, PTSD, and depression symptoms and to lower mental health functioning. CE was associated with lower physical health functioning and higher alcohol use. Effect sizes for the significant relationships between MST and health outcomes were minimal to small whereas the effect sizes for the links between CE and health outcomes were small to medium. Veterans with increasing deployments had higher BMI, and veterans with one to four deployments reported higher levels of alcohol use relative to veterans with zero or five or more deployments. These relationships had minimal effect sizes.

Overall, these findings suggest that MST, CE, and number of deployments are associated with worse physical and mental health with minimal to medium effect sizes.

Although the majority of the sample was male, the MST/no CE and CE plus MST groups had significantly larger proportions of women, which supports the evidence that women are more likely to be exposed to MST (Maguen et al., 2012; Suris et al., 2004). In line with findings that men are more likely to be exposed to combat (Freedy et al., 2010; Vogt et al., 2011), men made up a significantly larger proportion of the CE/no MST group. Black veterans made up a smaller proportion of the CE/no MST group, corroborating previous findings that Black military personnel are less likely to be in specialties or positions that expose them to combat compared with Caucasians or Hispanics (D. R. Segal & Segal, 2004; M. W. Segal, Thanner, Thanner, & Segal, 2007). We found that branch of service significantly differed across trauma groups, which is in line with data on varying levels of combat exposure across military branches (Department of Defense, 2013). This finding is also consistent with evidence that the rates of sexual assault differ across service branch, but this difference may partially be the result of varied sociodemographic composition and risk factors for sexual assault across branches except in the Air Force where demographic factors do not account for the lower rates of sexual assault relative to the Marines, Army, and Navy (Morral et al., 2015). Disability was more likely to be reported as a source of income from the CE plus MST group compared with the no CE/MST group, which is in line with findings that individuals with CE or MST are more likely to have service connected disability (Grubaugh et al., 2009; Kimerling et al., 2007).

In analyses that adjusted for sex, age, and MST, the present study found a link between CE and increased somatic symptoms and decreased physical health functioning, adding to the literature on the relationship between CE and physical health problems (Eisen, Goldberg, True, & Henderson, 1991; Wolfe et al., 1994). Consistent with the research on combat and mental health (Smith, Ryan, et al., 2008; Wells et al., 2010) CE was also significantly associated with higher PTSD and depression symptoms and with lower mental health functioning. We found a significant difference between veterans with and without CE in alcohol use, which is in line with research linking TE and CE to substance use (Ducci et al., 2009; Jacobson et al., 2008; Mills, Teesson, Ross, & Peters, 2006; Ullman, Relyea, Peter-Hagene, & Vasquez, 2013).

Table 4
Regression Coefficients and P Values From the Trend Analysis

<table>
<thead>
<tr>
<th>Indicator</th>
<th>β</th>
<th>95% CI</th>
<th>p</th>
<th>Partial R²</th>
<th>β</th>
<th>95% CI</th>
<th>p</th>
<th>Partial R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHQ15</td>
<td>2.111</td>
<td>.795, 5.342</td>
<td>.002</td>
<td>.010</td>
<td>2.426</td>
<td>1.791, 3.062</td>
<td>&lt;.001</td>
<td>.052</td>
</tr>
<tr>
<td>SF8 PCS</td>
<td>−1.850</td>
<td>−5.604, 1.905</td>
<td>.334</td>
<td>.002</td>
<td>−2.032</td>
<td>−3.008, −1.257</td>
<td>&lt;.025</td>
<td>.009</td>
</tr>
<tr>
<td>PHQ9</td>
<td>2.709</td>
<td>1.191, 4.227</td>
<td>&lt;.001</td>
<td>.010</td>
<td>3.404</td>
<td>2.679, 4.158</td>
<td>&lt;.001</td>
<td>.067</td>
</tr>
<tr>
<td>SF8 MCS</td>
<td>−8.354</td>
<td>−13.056, −3.652</td>
<td>.001</td>
<td>.022</td>
<td>−4.861</td>
<td>−7.084, −2.637</td>
<td>&lt;.001</td>
<td>.032</td>
</tr>
<tr>
<td>AUDIT-C</td>
<td>−.019</td>
<td>−.667, 629</td>
<td>.954</td>
<td>&lt;.001</td>
<td>.754</td>
<td>.447, 1.2062</td>
<td>&lt;.001</td>
<td>.019</td>
</tr>
</tbody>
</table>

Note. Bold text highlights significant comparisons (α = .05). Models with non-significant interaction terms were re-run without the interaction to examine the main effects of MST and CE. All models were adjusted for age and sex. MST = military sexual trauma; CE = combat exposure; PHQ15 = Patient Health Questionnaire-15; SF8 PCS = Physical Component Scale of the Short Form 8 Health Survey; PCL-C = PTSD Checklist–Civilian Version; PHQ9 = Patient Health Questionnaire-9; SF8 MCS = Mental Component Scale of the SF8; AUDIT-C = Alcohol Use Disorders Identification Test.

Table 5
Regression Coefficients and P Values From the Trend Analysis

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Linear contrast</th>
<th>Quadratic contrast</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>p</td>
</tr>
<tr>
<td>PHQ15</td>
<td>.187</td>
<td>.173</td>
</tr>
<tr>
<td>SF8 PCS</td>
<td>−.205</td>
<td>.555</td>
</tr>
<tr>
<td>BMI</td>
<td>.203</td>
<td>.030</td>
</tr>
<tr>
<td>PCL-C</td>
<td>.229</td>
<td>.570</td>
</tr>
<tr>
<td>PHQ9</td>
<td>.011</td>
<td>.944</td>
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<tr>
<td>SF8 MCS</td>
<td>.155</td>
<td>.727</td>
</tr>
<tr>
<td>AUDIT-C</td>
<td>.048</td>
<td>.446</td>
</tr>
</tbody>
</table>

Note. Bold text highlights significant comparisons with Bonferroni adjusted α = .025. All models were adjusted for age and sex. PHQ15 = Patient Health Questionnaire-15; SF8 PCS = Physical Component Scale of the Short Form 8 Health Survey; BMI = body mass index in kg/m²; PCL-C = PTSD Checklist–Civilian Version; PHQ9 = Patient Health Questionnaire-9; SF8 MCS = Mental Component Scale of the SF8; AUDIT-C = Alcohol Use Disorders Identification Test.
Veterans with MST had worse physical and mental health outcomes including somatic, PTSD, depression, and mental health functioning when controlling for age, sex, and CE. Findings of increased physical and mental health problems in veterans with MST supports previous reported evidence (Chang et al., 2001; Fontana & Rosenheck, 1998; Hankin et al., 1999; Kang et al., 2005; Kimerling et al., 2007). Veterans with MST had lower BMI relative to veterans without MST. Surprisingly, yet consistent with findings of female veterans exposed to violence (Sadler, Booth, Mengeling, & Doebbeling, 2004), physical health functioning was not significantly related to MST in our study. Contrary to previous findings (Frayne et al., 2003; Hankin et al., 1999), we did not find a relationship between MST and alcohol use. The discrepant findings may be a result of previous researchers not controlling for CE or our inclusion of male veterans with MST in our sample.

The clinical relevance of the relationship between TE and these physical and mental health measures should be considered. Although the MST-CE interaction on BMI was statistically significant, BMI across all groups remained in the overweight range. Therefore, the clinical significance of the effect of multiple TE types on BMI may be limited, and future research needs to better examine the TE-BMI relationship. For somatic and depression symptoms, the differences in scores between veterans with and without the two TE types fall below the clinically significant difference of 5 points. However, these domains may still be important to consider as somatic symptoms account for substantial variance in general health perceptions, body pain, physical functioning, and role functioning, and depression symptoms can explain variance in social and mental health functioning and disability days (Kroenke et al., 2002). The 7-point difference in PTSD symptoms between veterans with and without MST does represent a reliable difference but is slightly less than the 10 points necessary for a clinically significant difference (U.S. Department of Veterans Affairs National Center for PTSD, 2014). The difference in PTSD symptom scores between veterans with and without CE does not surpass this 10-point threshold, thus rendering a clinically significant difference. We found statistically significant differences between veterans with and without the two TE types on the mental health functioning measure whereas a clinically significant difference might need to be as high as 10 points, which represents one standard deviation (Ware et al., 2001). Given the differences between statistical and clinical relevance, research that incorporates both self-reported symptoms and clinician-confirmed diagnoses may be ultimately necessary to inform the clinical relevance of these effects of CE and MST with mental and physical health.

We hypothesized that number of deployments would have a nonlinear relationship with physical and mental health outcomes due to the apparent resilience of veterans who have served numerous deployments (Armed Forces Health Surveillance Center, 2011). Evidence to support this hypothesis was only found for alcohol use wherein alcohol use was highest in veterans with one to four deployments and lower in veterans with zero or five or more deployments. A significant linear association was found between increasing number of deployments and higher and BMI, which is in line with previous research (Armed Forces Health Surveillance Center, 2012). Contrary to prior findings (Armed Forces Health Surveillance Center, 2011; Office of the Surgeon General, 2008; Reger et al., 2009; Xue et al., 2015), no significant associations were found between number of deployments and mental health outcomes such as depression, PTSD, or mental health functioning, somatic symptoms, or physical health functioning.

When comparing the strength of the association between the two trauma types (MST and CE) with the physical and mental health outcomes by examining confidence intervals around the partial regression coefficients there were no differences in the effects of CE and MST with somatic or depression symptoms. We also found that CE had a stronger relationship to PTSD symptoms than MST.
did, which is not in line with other research supporting that female veterans’ exposure to “sexual stress” versus “duty stress,” including multiple combat type experiences, had a four times greater influence on the development of PTSD (Fontana & Rosenheck, 1998). The inconsistency between our findings and that of Fontana and Rosenheck (1998) may be due to the inclusion of male veterans in our MST group. It is possible that sex moderates the association between TE type and PTSD symptoms such that female veterans with MST/no CE have higher PTSD symptoms relative to those with CE/no MST, whereas male veterans with MST/no CE compared with CE/no MST do not show this same relationship. It is interesting to note that MST had a stronger relationship with poor mental health functioning compared with CE. This pattern of findings may suggest a differential effect of CE and MST with severity of mental health symptoms versus impairment from those symptoms.

Our findings may have broad clinical implications for psychologists in public service. TE screening is recommended as part of guidelines for management of PTSD (Management of Post-Traumatic Stress Working Group, 2010). The current results highlight the importance for a thorough and ongoing screening of TE in all veterans, not just those who may be at risk for PTSD, as a strategy for managing both physical and mental health of veterans because MST and CE are associated with poor health including worse somatic and depression symptoms and reduced mental health functioning in addition to higher PTSD symptoms. Our findings also suggest that Iraq and Afghanistan veterans with MST, CE, or both may benefit from transdiagnostic interventions for broad-based mental and physical health symptoms rather than only targeted interventions for psychological consequences of TE. As many Iraq and Afghanistan veterans returning from deployment seek services outside the VHA (Elmitsky et al., 2013) their health care providers and mental health clinicians need to be better equipped to assess risk and provide high quality care with an understanding of a veteran’s TE. Early and comprehensive screening for TE and triage into appropriate services for treatment may facilitate early intervention and reduce the functional impact of TE (Management of Post-Traumatic Stress Working Group, 2010). It is also recommended that screening procedures maximize confidentiality and reduce stigma and adverse occupational consequences that may be limiting veterans from getting screened and receiving treatment (Management of Post-Traumatic Stress Working Group, 2010; Tanielian et al., 2008).

The sample was a large population of returning Iraq and Afghanistan veterans seeking health care at the VASDHS. Because of the large sample, we were able to examine physical and mental health indicators in a sample that contained a higher proportion of men who reported MST than other studies of MST in veterans. Nonetheless, this study has some limitations. The CE by MST interaction may be insufficiently powered due to the relatively small number of veterans with both CE and MST and our use of a dichotomous CE variable as opposed to a continuous measure of CE. Therefore, nonsignificant interaction terms should be interpreted with caution and studies with larger samples of veterans with both CE and MST are needed to further examine the combined and moderated effects of these two TE with health outcomes. Despite having data on men with MST, our MST/no CE and CE plus MST groups were too small to allow us to examine sex differences. We only examined CE and MST as trauma types and did not have information on other types of trauma that the veterans may have experienced during and before their service. We also were unable to examine or account for the severity or frequency of TE during deployment or from the veterans’ premilitary history. There is evidence that both women and men who enter military service may be more likely to have a history of trauma, future TE, and more severe PTSD symptoms (Clancy et al., 2006; Dedert et al., 2009; Zinzow et al., 2007). Thus, future studies are needed that more comprehensively assess for TE over time including examining predeployment risk factors for developing mental and physical health symptoms after deployment-related TE. Our findings are limited by the self-report nature of the data and by the use of single items for assessing MST and CE rather than more thorough measures like the Combat Exposure Scale (Keane et al., 1989). Relatively, clinically significant scores on the PCL-C do not necessarily demonstrate a PTSD diagnosis. The cross-sectional design of the study does not allow us to infer causation. As much of the research on TE and health has studied cohorts before Iraq and Afghanistan veterans our literature review may be limited in how well it applies to the current cohort of newly returning veterans. Finally, this study used a convenience sample of veterans’ enrolling in VA health care and was subject to health care seeking and other biases. Future studies need to examine larger cohorts of returning Iraq and Afghanistan veterans, analyze the impact of severity and frequency of military-related TE, stratify the sample by sex to examine its possible moderating effects, assess a history of trauma before entering the military, and explore what might account for group differences.

In conclusion, we found that in a large sample of returning Iraq and Afghanistan veterans seeking services at the VASDHS, MST and CE were associated with worse somatic and mental health symptoms, and CE was related to lower physical functioning and higher alcohol use. Number of deployments had a linear relationship with higher BMI and a nonlinear relationship with alcohol use. Generally, findings support a relationship between TE and number of deployments and worse physical and mental health. These findings also highlight the need for further research on mediators and potential moderating effects of sex on the association of TE and negative physical and mental health indicators.

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Sexual Trauma in the Military: Exploring PTSD and Mental Health Care Utilization in Female Veterans

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Sexual trauma remains a pervasive problem in the military. The deleterious mental health outcomes related to incidents of sexual assault have been well-documented in the literature, with particular attention given to the development of posttraumatic stress disorder (PTSD) and utilization of mental health services. Much effort has focused on addressing issues of sexual trauma in the military. The purpose of this study was to examine the incidences of sexual assault in female veterans, the relationship to PTSD and mental health care utilization. The research explored differences in pre- and post-9/11 veterans. Data were collected using a 6-prong recruitment strategy to reach veterans living in Southern California. A total of 2,583 veterans completed online and in-person surveys, of which 325 female veterans were identified for inclusion in the analysis. Forty percent of the sample reported experiencing sexual assault during their military service. A history of military sexual trauma was found to be a substantial contributor to symptoms of PTSD. A majority of female veterans who indicated being sexually assaulted during their military service met the cutoff for a diagnosis of PTSD. Although only a minority of participants who indicated being a victim of sexual assault reported receiving immediate care after the incident, most had received mental health counseling within the past 12 months. Findings point to the need for additional prevention programs within the military and opportunities for care for victims of military sexual assault.

*Keywords:* military sexual trauma, PTSD, mental health care utilization, female veterans

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**Editor’s Note.** This is one of thirteen articles in a special issue on Military Sexual Trauma.

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Government Accountability Office, 2008). This can result in victims receiving little, inadequate, or delayed care for the resulting psychological and physical injuries (Kimerling et al., 2010). Although sexual assault in the military is a problem faced by both men and women, this study aims to highlight the experiences of sexual assault in the military among female veterans across various eras of military service, as well as the impact on their psychological and utilization of care.

Reports of sexual assault in the military have risen by approximately 88% between 2007 (2,688 reports) and 2013 (5,061 reports; Department of Defense, 2011, 2014). However, the Department of Defense (DOD) has also acknowledged that less than 15% of military sexual assault victims report the matter to a military authority (Department of Defense, 2013). Therefore, peer-reviewed research may provide more reliable estimates of the incidence of sexual assault. A recent review of research on military sexual trauma (MST) indicated that between 9.5% and 33% of women report experiencing an attempted or completed rape during military service. When examining MST, including all forms of assault and harassment, between 22% and 84% of women report having these experiences during service (Turchik & Wilson, 2010). For example, in FY 2012, the army had the highest rate of sexual assault reports (2.3 per 1,000 service members), while the marine corps had the lowest (1.7 per 1,000; Department of Defense, 2013). Incidence of sexual assault can also vary across studies due to assessment and methodological differences (Bell, Turchik, & Karpenko, 2014). Moreover, measuring these issues is often a challenge due to their sensitive nature, especially within military contexts (Groves, 2013).
As females are serving in the military in “unprecedented” numbers, and as increasing numbers of service members from Operations Iraqi Freedom and Enduring Freedom (OIF/OEF) are transitioning out of the military, the female veteran population is expected to grow rapidly, composing nearly 15% of the nation’s total living veterans by 2035 (Conard, Young, Hogan, & Armstrong, 2014, p. 280). Therefore, it is increasingly important for veteran-serving providers and care systems to be able to identify and address gender-specific challenges to successful transitions, including those related to military sexual assault.

Sexual Trauma in the Military and PTSD

The effects of being exposed to trauma are varied and can negatively impact both mental and physical health (Smith et al., 2011). This is particularly important when considering women in the military, who are often susceptible to multiple types of trauma. During OIF/OEF, more women were placed in roles on the front lines, putting them in direct exchange with combat violence (Kelly, Skelton, Patel, & Bradley, 2011). Women who enlist in the military also have higher rates of childhood sexual trauma than nonmilitary women (Himmelfarb, Yaeger, & Mintz, 2006). These various types of trauma, compounded by experiences of sexual assault, can place female veterans at an increased risk for posttraumatic stress disorder (PTSD) both during and after their military service (Süris, Lind, Kashner, & Borman, 2007).

Women who experience a sexual trauma in the military are 4–9 times more likely to suffer from PTSD compared with female veterans with no sexual-assault histories (Himmelfarb et al., 2006; Maguen et al., 2012; Turchik & Wilson, 2010). Research suggests that some of the contributing factors include military culture and the nature in which the trauma is addressed. For example, military culture teaches soldiers to suppress individual pain and emotions so that their attention can better be focused on high-stakes tasks (Bell & Reardon, 2011). Unit cohesion is also strongly enforced—a critical element in creating bonds that will allow a unit to effectively protect for and care for one another. However, when a sexual trauma in the military occurs, especially in cases where the perpetrator is in the same unit as the victim, unit cohesion disintegrates and trust is broken (Süris et al., 2007). This makes it difficult for the victim to find the needed support within their unit, leaving them feeling isolated and without the proper resources to deal with the emotional aftermath of trauma (Scott et al., 2014).

The effects of sexual trauma and resulting posttraumatic stress on women are wide-ranging, and can include physical effects (e.g., chronic pain, pelvic pain, menstrual problems, chronic fatigue, headaches, and gastrointestinal symptoms) and psychological effects (e.g., eating disorders, depression, dissociative disorder, personality disorder, substance abuse, panic disorder; Bell & Reardon, 2011; Süris et al., 2007). These effects can lead to higher rates of comorbidity, where a person is suffering from multiple mental health and/or physical health issues—research among veterans of OIF/OEF has found that those with MST are more likely than those without MST to have at least three comorbid mental health diagnoses (Maguen et al., 2012). Furthermore, psychological and emotional problems can affect one’s ability to perform physically, to maintain full employment, and overall can reduce quality of life (Süris et al., 2007; Turchik & Wilson, 2010). Thus, it is crucial to acknowledge the psychological impact of sexual assault on women in the military, in an effort to link victims with timely and appropriate care and support.

Health Care Utilization

A history of sexual assault is associated with increased use of both mental health services and other kinds of health services among both civilians (Golding, Stein, Siegel, Burnam, & Sorenson, 1988; Koss, Koss, & Woodruff, 1991; New & Berliner, 2000) and veterans (Kimerling, Street, Gima, & Smith, 2008; Sadler, Booth, Mengeling, & Doebbeling, 2004; Süris, Lind, Kashner, Borman, & Petty, 2004; Valdez et al., 2011; Zinzow, Grabaugh, Frueh, & Magruder, 2008). However, few studies have focused on access to and utilization of sexual assault-related treatment specific to military populations (Street, Kimerling, Bell, & Pavao, 2011; Turchik, Bucossi, & Kimerling, 2014), and those that do exist tend to report inconsistent results, often related to sampling strategies. For example, one study which examined utilization of Veterans Administration (VA) health care services among veterans of OIF/OEF who reported an experience of MST found that three quarters reported at least one MST-related visit to the VA, with over half having at least one MST-related mental health care visit (Turchik, Pavao, Hyun, Mark, & Kimerling, 2012). However, the sample of veterans in this study was derived from veterans who both reported MST and were accessing care at the VA, and thus may not represent those MST victims who do not report and/or seek health care. Another study among a broader sample of female military personnel found that approximately one third of those who experienced sexual assault in the military sought care following the incident, with approximately 25% reporting mental health care and 16% reporting medical care. In general, women veterans who experience military sexual assault have reported less or delayed use of health care services and have a lower average annual cost of health care than those who experience civilian sexual assault, despite a higher likelihood of having PTSD (Süris et al., 2004; Washington, Bean-Mayberry, Riopelle, & Yano, 2011). However, since the Veteran’s Health Administration made all MST-related care free in 1995 and mandated universal screening in 2000 (Turchik et al., 2012), we now have a better sense of utilization of MST-related care among veterans. MST programs are now available in 92% of VA health centers (Watkins et al., 2011), and nearly 590,000 health care outpatient visits were designated as MST-related in 2009 (Military Sexual Trauma Support Team, 2010).

Despite increased attention paid to treatment of sexual trauma experienced during military service, a number of barriers continue to impede service utilization. In general, female veterans’ use of VA health care services has been linked to their perceived concerns about the quality and availability of gender-sensitive care within a primarily male-dominated environment (Washington, Kleinmann, Michelini, Kleinmann, & Canning, 2007)—this may be especially true for victims of MST, who have previously reported dissatisfaction with various facets of MST-related care within the VA (Kimerling et al., 2011). Anecdotal reports from victims indicate that they may be reluctant to seek treatment at VA health centers, due to factors such as their relationship with a military system they believe has failed them, and a perception that VA providers rely heavily on prescription medication for symptom reduction rather than fully examining the impact of the trauma in a more holistic fashion (Brown, 2013; Cruz & Anchan, 2013).
Other barriers may include psychological avoidance, stigma, lack of knowledge, and gender-related concerns such as perceived lack of support from a male-dominated environment and discomfort with male service providers (Turchik et al., 2014). In addition, institutional factors—such as the lower disability claim approval rate given to PTSD claims related to MST compared with all other PTSD claims (32% and 53%, respectively; American Civil Liberties Union, 2013)—may further contribute to negative perceptions of the VA and thus impact care-seeking behavior among victims, despite the availability of free MST-related health care at VA health centers (U.S. Department of Veterans Affairs, 2013).

Much remains unknown about the long-term mental and physical health needs and service utilization of veterans who experienced sexual trauma in the military (Turchik et al., 2012). The current study assesses sexual assault in the military among a sample of female veterans from both pre-9/11 and post-9/11 service eras, as well as symptoms of PTSD and mental health care utilization associated with experiences of sexual trauma in the military.

Method

Sample data was obtained from a survey of 2,583 veterans living in Southern California, in both the Los Angeles and Orange counties. A six-pronged directed recruitment strategy was used to achieve maximum variability and representativeness for potential participants from a nonprobability sample. The first strategy enlisted a state agency that provided access to contact information of veterans who reported transitioning to the area after discharging from the military. Those veterans identified in each of the two counties were contacted by the state agency through e-mail, and were invited to participate in the study utilizing an online survey link.

The second strategy utilized the community call centers within each county to identify potential participants by assessing the information provided during the initial screening process. If the caller self-identified as a veteran, they were asked permission to be contacted for participation in studies involving veterans. If the caller agreed, they were added to a list that was provided to the researchers on a weekly basis. Upon receiving the list, researchers contacted participants by phone to enlist their participation in the survey. If the participant agreed to partake in the survey, they were provided the option of either receiving the survey through e-mail or of being mailed a hard copy with a stamped return envelope for their convenience.

The third sampling strategy utilized a national veteran organization that identified potential participants through county zip codes. Individuals identified as living within the target zip codes of the two counties were then e-mailed by the organization and invited to participate in the study using an online survey link.

The fourth sampling method involved collaboration with agencies that provide services to veterans. Collaborating agencies offered a multitude of services such as behavioral health, employment, legal, and housing services. The identified agencies used two methods of communication to enlist participants for the survey. The first method for the agencies was to send an e-mail to the veterans within their database inviting them to participate in the survey utilizing the online link. The second method used an on-ground survey approach where the host agency worked in collaboration with the researchers to hold data collection events on-site, to recruit participants to complete hard copy surveys. Research staff attended and conducted all data collection events. Similar to the fourth sampling strategy, the fifth sampling approach targeted college veteran agencies and organizations, utilizing both e-mail and data collection events to enlist participants. The final sampling approach used TV and printed advertisements, public service announcements, and social media platforms to build a presence within the Los Angeles County community. Avenues such as Twitter, Facebook, LinkedIn, mass e-mail, and a dedicated website for the survey, endorsed the opportunity for involvement to potential participants. All participants received a $15 gift card for completing the survey, which took approximately 60–90 min per contributor. The Institutional Review Board at the University of Southern California approved all data collection methods and procedures.

Study Variables and Measures

Demographic variables. Demographic variables on the survey to be reported here include age, race, gender, and level of educational attainment. Military background variables of service branch and service era were also included.

PTSD checklist. The PTSD Checklist (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993) is a brief, self-report inventory for assessing the 17 symptoms of PTSD outlined in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM–IV; American Psychiatric Association, 2000). The measure asks participants how they have been impacted by exposure to stressful life experiences, rating each item on a 5-point Likert scale ranging from 1 (not at all) to 5 (extremely), based on how much they have been bothered by the problem in the last 30 days. Scores on the PCL range from 17 to 85. A score of 50 or above has been demonstrated as an indication of clinically significant PTSD (Hoge et al., 2004; Weathers et al., 1993). The measure has demonstrated strong internal consistency and test–retest reliability (α = .96; r = .96; Weathers et al., 1993). The internal consistency in this study was excellent (α = .97).

Sexual trauma in the military. The two-item VA screen examines instances of sexual harassment and sexual assault (Kroenke, Spitzer, & Williams, 2002). The second item, which asks “During your military service, did someone ever use force or threat of force to have sexual contact with you against your will?”, measures instances of sexual assault during military service. Respondents were provided three answer choices: no, yes, or unsure. Only those participants who answered yes were considered as endorsing the question.

Utilization of mental health services. Two questions were used to examine utilization of services. Immediately following the MST questions, participants were asked to indicate whether they received help following instances of sexual assault (yes/no). Participants were also asked to indicate whether they have received mental health counseling within the past 12 months (yes/no).

Results

Of the original sample, 327 veterans were identified as female for inclusion in the analysis. The sample population was divided into participants that served before and after 9/11 in order to more
closely examine the difference in period of service. Pre-9/11 veterans consisted of 46% of the sample with 55% serving post-9/11. The majority of pre-9/11 veterans identified as White (48%) or African American (30%), whereas the majority of post-9/11 identified as Hispanic or Latino (40%) or White (31%). About 44% of pre-9/11 veterans sampled were between the ages of 51 and 60, while 43% of the post-9/11 veterans were between the ages of 21 and 30. Approximately 40% of both pre- and post-9/11 veterans reported obtaining a bachelor’s degree or higher. Over a quarter of pre-9/11 veterans (27%) indicated being married at the time of the survey while 40% of post-9/11 veterans reported being married. Over half of post-9/11 veterans (52%) had separated from the military within the last 6 years. Table 1 displays the sample characteristics.

### Sexual Trauma in the Military and PTSD

About 40% of the sample of female veterans reported experiencing sexual assault during their military service. Scores on the PCL, measuring PTSD, ranged from 17–85 with a mean score of 42 (SD = 20.37). About 35% of the sample met the clinically significant cutoff score of 50 on the PCL, indicating a probable diagnosis of PTSD. Of the 35% with probable PTSD, 76% reported experiencing sexual assault during their military service.

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Pre-9/11 N (%)</th>
<th>Post-9/11 N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>2 (1.3%)</td>
<td>12 (6.7%)</td>
</tr>
<tr>
<td>Black/African American</td>
<td>45 (30.2%)</td>
<td>34 (19.0%)</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>22 (14.8%)</td>
<td>72 (40.4%)</td>
</tr>
<tr>
<td>White (not Hispanic)</td>
<td>71 (47.7%)</td>
<td>55 (30.8%)</td>
</tr>
<tr>
<td>Other</td>
<td>9 (6.0%)</td>
<td>5 (2.8%)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GED/High school diploma</td>
<td>9 (6.3%)</td>
<td>7 (4.1%)</td>
</tr>
<tr>
<td>Some college</td>
<td>74 (52.1%)</td>
<td>93 (54.7%)</td>
</tr>
<tr>
<td>Bachelors degree or higher</td>
<td>54 (38.0%)</td>
<td>68 (40.0%)</td>
</tr>
<tr>
<td>Other</td>
<td>5 (3.5%)</td>
<td>2 (1.2%)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>38 (27.1%)</td>
<td>69 (40.6%)</td>
</tr>
<tr>
<td>Separated, divorced, widowed</td>
<td>59 (42.1%)</td>
<td>33 (19.4%)</td>
</tr>
<tr>
<td>Single</td>
<td>43 (30.7%)</td>
<td>68 (40.0%)</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21–25</td>
<td>0 (0%)</td>
<td>18 (10.6%)</td>
</tr>
<tr>
<td>26–30</td>
<td>0 (0%)</td>
<td>55 (32.4%)</td>
</tr>
<tr>
<td>31–40</td>
<td>16 (11.3%)</td>
<td>67 (39.4%)</td>
</tr>
<tr>
<td>41–50</td>
<td>34 (23.9%)</td>
<td>15 (8.8%)</td>
</tr>
<tr>
<td>51–60</td>
<td>63 (44.4%)</td>
<td>14 (8.2%)</td>
</tr>
<tr>
<td>Over 61</td>
<td>28 (19.7%)</td>
<td>1 (0.6%)</td>
</tr>
<tr>
<td>Branch of service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Force</td>
<td>22 (15.5%)</td>
<td>26 (15.3%)</td>
</tr>
<tr>
<td>Army</td>
<td>67 (47.2%)</td>
<td>72 (42.4%)</td>
</tr>
<tr>
<td>Coast Guard</td>
<td>1 (0.7%)</td>
<td>4 (2.4%)</td>
</tr>
<tr>
<td>Marines</td>
<td>15 (10.6%)</td>
<td>28 (16.5%)</td>
</tr>
<tr>
<td>Navy</td>
<td>37 (26.1%)</td>
<td>40 (23.5%)</td>
</tr>
<tr>
<td>Years since service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–2 years</td>
<td>0 (0%)</td>
<td>38 (22.4%)</td>
</tr>
<tr>
<td>3–5 years</td>
<td>0 (0%)</td>
<td>51 (30.0%)</td>
</tr>
<tr>
<td>6–9 years</td>
<td>0 (0%)</td>
<td>50 (29.4%)</td>
</tr>
<tr>
<td>10+ years</td>
<td>142 (100%)</td>
<td>31 (18.2%)</td>
</tr>
</tbody>
</table>

### Pre-9/11 versus post-9/11 female veterans

When examining sexual assault, almost half of pre-9/11 veterans (48%) and 30% of post-9/11 veterans reported sexual contact against their will during their military service. Of the pre-9/11 female veterans who reported sexual assault, 53% met the cutoff score on the PCL indicating a probable diagnosis of PTSD. Only 10% of pre-9/11 veterans who did not report experiencing sexual assault during military service met the diagnostic cutoff for PTSD. About 65% of post-9/11 female veterans who indicated being sexual assaulted during their military service met the cutoff score indicating a probable diagnosis of PTSD. About 24% of those female post-9/11 veterans who were not sexually assaulted during their military service met the diagnostic criteria for PTSD.

### Service Utilization

The majority of both pre- and post-9/11 female veterans reported not seeking help after being sexually assaulted during military service. Only 10% of pre-9/11 and 18% of post-9/11 veterans indicated receiving help after their sexual assault. However, more pre-9/11 and post-9/11 female veterans who were sexually assaulted during their military service reported receiving mental health counseling within the past year, 81% and 76%, respectfully. For those pre- and post-9/11 veterans who did not report experiencing sexual assault during their military service, 27% and 32%, respectively, reported receiving mental health counseling within the past year. Table 2 represents the sample reports of sexual assault and harassment in the military, PTSD, and service utilization.

### Discussion

This study adds to the growing body of literature describing the pervasive nature of sexual assault in the U.S. military. To our knowledge, this is the first study examining differences related to military sexual assault and mental health care, between pre- and post-9/11 female veterans. The incidence of sexual assault reported in this study is generally consistent with what has been previously reported among female veteran samples—with approximately 20% to 43% reporting experiencing sexual assault while in the military (Surís & Lind, 2008). Although this is higher than what is found in the military’s anonymous Workplace Gender Relations Survey of Active Duty members (Defense Manpower Data Center, 2013) where reported rates of sexual assault in the military have remained between 4% and 7% since 2004, data collected from veteran samples often describes higher incidence than those found in active duty samples.

The prevalence of sexual assault during military service in pre-9/11 female veterans was particularly high with almost half reporting being the victim of sexual assault during their military service. Although this is consistent with similar studies (Fontana & Rosenheck, 1998; Sadler, Booth, Cook, Torner, & Doebbeling, 2001), incidences reported in our study were higher than most of what has been reported in previous research on female veterans serving before 9/11; several studies have reported a prevalence of sexual assault in the military of approximately 23%–33% (Butterfield, McIntyre, Stechuck, Nanda, & Bastian, 1998; Coyle, Wolan, & Van Horn, 1996; Frayne et al., 1999; Hankin et al., 1999; Sadler et al., 2004; Sadler, Booth, Nielson, & Doebbeling,
for women to deploy regularly and engage in combat with men. Conflicts in Iraq and Afghanistan represented the first opportunity for roles may also have an effect on sexual assault in the military. The integration of women into more military combat contributed to the lower incidence among post-9/11 veterans in our sample. In addition, increased visibility and awareness of MST in the military environment, and attitudes of service members may have indicated a probable diagnosis of PTSD, including over half of women in our study who had experienced sexual assault in the military service may have likely contributed to a majority of clinically significant PTSD symptoms. Among women in our study, sexual assault during military service may have likely contributed to a majority of clinically significant PTSD symptoms. About one third of women in our study reported clinically significant PTSD symptoms. This is similar to what has been found in previous research. Dobie et al. (2004) reported a 36% prevalence of PTSD in a sample of female veterans as measured by the PCL. Benda and House (2003) found 40% of female veterans in their sample scored in the PTSD range on the Clinician-Administered PTSD Scale. Many of the women in our study who had experienced sexual assault in the military indicated a probable diagnosis of PTSD, including over half of pre-9/11 veterans and two thirds of post-9/11 veterans. The high likelihood of PTSD associated with sexual assault during military service is also consistent with what has been found in previous research demonstrating a significantly increased risk of developing PTSD for those with a history of MST (Maguen et al., 2012; Surís et al., 2007). The complete picture of sexual assault in the military and its relationship to PTSD represented in this sample may demonstrate the potentially enduring and long-term impact of MST on well-being.

Encouraging, was the finding that reported sexual assaults during military service among post-9/11 female veterans were lower than those among pre-9/11 female veterans. Several important factors may influence this difference. For one, the establishment of the Sexual Assault Prevention and Response (SAPR) program in 2004 and the availability of services for the last decade may have contributed to fewer incidents of sexual assault. The existence of this program represents an increased institutional focus on the problem of sexual trauma in the military and its impact on the military environment, and attitudes of service members may have contributed to the lower incidence among post-9/11 veterans in our sample. In addition, increased visibility and awareness of MST in the media may have had a similar impact on the military environment. Finally, the integration of women into more military combat roles may also have an effect on sexual assault in the military. The conflicts in Iraq and Afghanistan represented the first opportunity for women to deploy regularly and engage in combat with men. Although not all positions are currently open to women, their increased presence in the military may result in perceptions of a more gender-balanced environment, and positively impact attitudes toward female comrades and women in general. Thus, as men become more accustomed to working with female service members and within a more gender-balanced environment, they may be less likely to commit sexual assault or harassment.

Despite the efforts to address sexual trauma in the military, of the women from both pre- and post-9/11 eras who experienced sexual assault during military service, very few reported seeking help after the incident. Although almost twice as common among post-9/11 veterans than pre-9/11 veterans, the reported use of acute sexual trauma-related services remained below 20%. Women with a history of sexual abuse tend to be high utilizers of health care (Campbell, Greeson, Bybee, & Raja, 2008; Hulme, 2000), but women in the military face various barriers to disclosure of the incident and seeking related care. While serving on active duty, immediate help for sexual trauma-related problems may require filing a restricted or unrestricted report, therefore linking receiving help to reporting. Dissatisfaction with aspects of SAPR services may also impact utilization of care services (Defense Manpower Data Center, 2013). Regardless of the specific barrier, it is apparent much work is needed in providing access to immediate care for victims of sexual assault who are serving in the military.

Higher reports of recent mental health care utilization among women in our study may also represent the extended psychological burden of sexual assault during military service among victims. In our study, the majority of both pre- and post-9/11 female veterans with a history of military sexual assault reported seeking mental health services at the VA within the previous year. Barriers to care within both the military and VA health care systems may prolong the time an individual takes to seek treatment for MST-related health problems. Recent research has also indicated that perceived barriers to help-seeking following military sexual assault, particularly those related to logistical factors (e.g., difficulty getting time off work) and stigma (e.g., being perceived as weak), may contribute to the risk of experiencing depressive or PTSD symptoms (Holland, Rabelo, & Cortina, 2015). In addition, it may take years for one to recognize an incident as sexual trauma, and in some cases, a fragmented memory of the event may delay acknowledgment even more (Himmelfarb et al., 2006). The high utilization of VA mental health services in the last year among female veterans in our sample, especially those from the pre-9/11 era, could represent the long-term psychological impact of military sexual assault and continued need for comprehensive mental health services among victims.

Table 2

<table>
<thead>
<tr>
<th>Experienced MSA</th>
<th>Probable PTSD</th>
<th>Received immediate treatment</th>
<th>Received MH care within the past year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-9/11 (n = 149)</td>
<td>Yes</td>
<td>48%</td>
<td>53%</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>52%</td>
<td>10%</td>
</tr>
<tr>
<td>Post-9/11 (n = 178)</td>
<td>Yes</td>
<td>30%</td>
<td>65%</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>70%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Note. MSA = military sexual assault; PTSD = posttraumatic stress disorder; MH = mental health.
Although the demographics of the sample were generally representative of the make-up of female veterans, the geographic location from which the sample was obtained, as well as the cross-sectional design of the study, may limit the generalizability of these findings. Additionally, due to the descriptive nature of the statistics provided, a causal relationship between sexual trauma in the military and PTSD cannot be determined.

Findings of this study demonstrate that there still is much to be done in addressing sexual assault in the military. Although fewer post-9/11 female veterans indicated experiencing sexual assault during their military service, still a significant portion of the sample reported experiencing MST. Based on the information obtained from this study, continued programs should work to target the prevention of sexual assault in the military and take into account the multifaceted causes and contributors. Programs should also be continuously evaluated for effectiveness and improved based on those findings.

This study also provides significant contribution in considering the needs of female veterans who have experienced sexual assault. Efforts should be made in increasing accessibility and acceptability of immediate care for victims of sexual trauma in the military. The ability to and likelihood of seeking mental health care while in the military are dependent on a range of individual and environmental characteristics, but previously noted barriers have largely related to stigma surrounding mental health, concerns about the impact on one’s military career, and tenets of military culture which encourage “toughness” and stoicism (Eckart & Dufrene, 2015; Greene-Shortridge, Britt, & Castro, 2007; Holland et al., 2015; Mengeling, Booth, Torner, & Sadler, 2015). For military victims of sexual trauma, these barriers may be compounded by the need to report the trauma in order to receive treatment, as well as concerns about confidentiality and retaliation (Burns, Grindlay, Holt, Manski, & Grossman, 2014). Future research is needed to investigate alternative pathways to receiving care for victims of sexual trauma in the military, as well as strategies for reducing stigma and discrimination associated with mental health and sexual trauma in the military.

Results from this sample demonstrate the enduring impact sexual trauma can have on mental health. Future research should explore how targeted intervention directly after the trauma may assist in reducing the long-term effects of MST over the lifetime. Such interventions should be implemented in a manner that is nonjudgmental and supportive, and address concerns about privacy and confidentiality, while providing appropriate and gender-sensitive care to victims (Turchik et al., 2013, 2014). It is critically important that treatment providers have a clear understanding of the mental health needs of female veterans who have experienced sexual assault, such interventions can help to normalize mental health care treatment among military personnel, and thus buffer against long-term deleterious consequences of sexual trauma that may develop if left unaddressed. Additionally, future research and programming should explore the use of technology to encourage utilization of mental health care services among military personnel and veterans, as Internet-based technologies may provide an effective tool for reaching and treating those with a history of sexual trauma (Nichols, 2015).

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