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## The Role of PTSD, Depression, and Alcohol Misuse Symptom Severity in Linking Deployment Stressor Exposure and Post-Military Work and Family Outcomes in Male and Female Veterans

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### Abstract

Exposure to stressors during military deployment puts veterans at risk for reduced post-military quality of life. Stress-related mental health problems may lead to decreased well-being within work and family domains, yet few studies have explored associations in the context of gender. We examined relationships between deployment stressors and post-military functioning and satisfaction in the domains of work and family, with a focus on PTSD, depression, and alcohol misuse symptomatology as potential mediators. Participants included 522 male and female Iraq and Afghanistan War veterans assessed longitudinally. Structural equation models supported several direct and indirect pathways linking deployment stressors to work and family outcomes for both men and women. PTSD had an important role in these associations. Depression also played a significant role, particularly for women. These findings build on prior research by elucidating potential gender-specific risk, which may be applied to better tailor services to veterans' unique needs.

### Keywords

quality of life; well-being; functional impairment; military

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#### Author Contributions

The data collection for the present study was part of a larger project developed by B. N. Smith and D. Vogt, with consultation from P. P. Schnurr and R. A. Matteo. B. N. Smith developed the design for this particular study, with input from all authors. A. B. Fox and E. C. Taverna managed data collection in collaboration with a contracted survey research firm. B. N. Smith and E. C. Taverna conducted the study analyses and drafted the manuscript, and all authors provided critical review. All authors approved the final version of the manuscript for submission.

#### Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Exposure to trauma and other salient stressors while deployed puts veterans at risk for reduced functioning and quality of life in the years following return from deployment, especially for those who experience greater postdeployment mental health symptomatology. The life domains of work and family represent particularly important aspects of well-being – in addition to providing basic needs for financial security and social connection, they also serve as key sources of purpose and meaning in one’s life. However, not much is known about how specific stressors experienced during deployment might be directly and indirectly predictive of reduced post-military well-being (i.e., functioning and satisfaction) in the contexts of work and family, as well as how these associations might differ for male and female veterans. Recent reports suggest that women veterans may experience relatively greater challenges than men in these important life domains, as evidenced by higher unemployment rates (U.S. Department of Labor, 2016) and greater likelihood for divorce (Negrusa, Negrusa, & Hosek, 2014) and single parenthood (U.S. Department of Defense, 2013). These findings underscore the need for further study into the role of gender in returning veterans’ well-being. The aim of the present study was to examine potential relationships between key deployment stressors and subsequent occupational and family quality of life in male and female veterans of the recent wars in Iraq (OIF) and Afghanistan (OEF), with particular attention to the role of PTSD, depression, and alcohol misuse symptomatology in these associations.

Deployments to the recent wars in Afghanistan and Iraq have demonstrated unique characteristics relative to wars of prior eras. This includes longer and more frequent deployments to environments where combat activities can be highly stressful (Tanielian & Jaycox, 2008). In addition to combat-related stressors, technological advances have allowed many service members to have regular exposure to homefront stressors while deployed (Cigrang et al., 2014). Tanielian and Jaycox (2008) also note that the increased prevalence with which service members survive combat-related injuries may have implications for their post-military well-being. The wars in Afghanistan and Iraq have also seen unprecedented combat-related involvement among female service members (Street, Vogt, & Dutra, 2009), suggesting a need for studies of the potential gender-specific effects of these experiences following military service. In sum, the nature of OEF/OIF deployments may make both male and female service members vulnerable to high levels of stress exposure with potentially detrimental effects for long-term well-being.

Gender may be a particularly important factor to consider in understanding the associations between deployment stress (e.g., warzone-related experiences, such as combat and the aftermath of battle, and military sexual harassment/assault) and subsequent well-being. First, the varying frequencies with which male and female veterans experience different types of deployment stressors may have implications for post-military functioning and satisfaction in key life domains. For example, in a study of a nationally representative sample of veterans of Iraq and Afghanistan, Vogt, Vaughn, et al. (2011) found that men reported significantly greater exposure to traditional warzone stressors (i.e., combat and the aftermath of battle) than women. However, the portion of women who experience significant levels of exposure to these warzone stressors is large enough to warrant concern about the impact on their post-military quality of life, particularly if coupled with exposure to additional stressors during deployment, including sexual harassment, which women typically experience to a greater

extent (Morrall et al., 2014; Polusny et al., 2014; Street, Gradus, Giasson, Vogt, & Resick, 2013; Vogt, Vaughn, et al., 2011). In addition to warfare exposure and military sexual harassment/assault, experiencing family stressors during deployment (e.g., conflict with a family member, experiencing infidelity, having a relationship end) may negatively impact OEF/OIF veterans' post-military mental health and quality of life (Kachadourian, Smith, Taft, & Vogt, 2015; Vogt, Smith, et al., 2011). More research is needed, however, to understand how each of these deployment exposures might have unique implications for work- and family-related well-being for male and female veterans.

While the impact of specific deployment experiences on later well-being in the work and family domains is understudied, it is well-established that both male and female veterans are at increased risk for experiencing negative mental health sequelae following deployment stress exposure (Kang, Dalager, Mahan, & Ishii, 2005; Kimerling, Gima, Smith, Street, & Frayne, 2007; King, King, Foy, Keane, & Fairbank, 1999; Vogt, Smith, et al., 2011). However, the mental health conditions most commonly diagnosed for male and female veterans differ. Maguen, Luxton, Skopp, and Madden (2012) found that while there were no gender differences in PTSD diagnoses for male and female OEF/OIF veterans, women were more likely to receive a depression diagnosis, and men were more likely to receive a diagnosis for alcohol use disorder. It is important to note, however, that these findings are limited to VA patients and do not account for veterans who may experience mental health issues but do not receive treatment through the VA. These mental health conditions, which occur with greater frequency with more exposure to deployment stress, have the potential to be causal mediators linking deployment experiences and lower quality of life in work and family domains.

A growing body of literature has demonstrated that although many recently separated veterans maintain their roles within work and family domains, they may still experience decreased functioning and satisfaction in these settings, particularly in the presence of increased mental health symptoms (Pietrzak, Goldstein, Malley, Rivers, & Southwick, 2010; Schnurr & Lunney, 2011; Shea, Vujanovic, Mansfield, Sevin, & Liu, 2010; Tsai, Harpaz-Rotem, Pietrzak, & Southwick, 2012). For example, OEF/OIF veterans are more likely to report impaired functioning at work if experiencing PTSD, depression, or alcohol abuse (Adler et al., 2011; Erbes, Kaler, Schult, Polusny, & Arbisi, 2011). Veterans with more severe traumatic stress-related mental health symptoms also experience worsened postdeployment relationship functioning and satisfaction (Allen, Rhoades, Stanley, & Markman, 2010; Gewirtz, Polusny, DeGarmo, Khaylis, & Erbes, 2010; Goff, Crow, Reisbig, & Hamilton, 2007), more functional challenges within parenting roles (Gewirtz et al., 2010), and increased family adjustment challenges overall (Sayers, Farrow, Ross, & Oslin, 2009; Tsai et al., 2012).

Given the documented gender differences in mental health symptomatology among veterans (Maguen et al., 2012), there may also be important gender differences in risk associations involving work- and family-related quality of life. However, only few studies have examined gender differences in the relationship between mental health and work and family outcomes among veterans. In their study of veterans from two randomized clinical trials for PTSD treatment, Schnurr and Lunney (2008) found that men and women were largely comparable

across quality of life domains, and that there were only minor gender differences in associations between PTSD symptom severity and quality of life. More recently, Fang et al. (2015) compared male and female OEF/OIF veterans and also found similar positive associations between PTSD diagnosis and functional impairment across life domains (e.g., occupational, romantic relationship, parental, and family functioning). Despite the lack of gender differences in these prior studies of treatment-seeking samples, it is still plausible that PTSD would differentially affect quality of life in men versus women, particularly when other salient mental health conditions for veterans (i.e., depression and alcohol misuse) are considered. Moreover, important gender differences may be uncovered once the stressful experiences that lead to PTSD and other mental health symptomatology are taken into account. In addition to examining functional impairment, large-scale studies that include representative samples capturing other facets of quality of life in work and family domains (such as satisfaction) would also build on this important early work in the area, which may further inform service needs for veterans whose quality of life may be particularly vulnerable.

To the extent that female veterans may suffer disproportionately to their male counterparts, they may substantially benefit from gender-focused research that develops understanding of the implications of deployment experiences. There is evidence that female veterans with greater PTSD symptom severity experience poorer quality of life in work (Schnurr & Lunney, 2011) and family (Creech, Swift, Zlotnick, Taft, & Street, 2015) domains. Depression symptoms, which are more commonly reported by women, are also associated with negative occupational outcomes, above and beyond PTSD symptoms (Schnurr & Lunney, 2011). These findings suggest that post-military quality of life is an especially relevant issue for female veterans with mental health conditions, indicating a need to identify potentially modifiable pathways of risk and determine whether gender-specific attention to those associations is warranted. To our knowledge, only one published study to date has examined PTSD as a mediator of the association between military stressors and family outcomes (Creech et al., 2015). Creech et al. (2015) found that greater combat exposure was associated with lower postdeployment family functioning and intimate relationship satisfaction through PTSD symptomatology. As this was a study of female veterans, gender comparisons could not be made. Further research is needed to understand how stressful deployment experiences may be associated with cascading effects, potentially undermining functioning and satisfaction in key life domains for both men and women.

In sum, the literature suggests that male and female veterans of the wars in Afghanistan and Iraq have unique experiences with regard to deployment stressors, postdeployment mental health outcomes, and the challenges they experience in work and family domains in the years following military service; however, to our knowledge no studies to date have examined longitudinal models involving these factors and how they may vary by gender. Prior work from the larger project of the current study found that overall most OEF/OIF veterans report high post-military quality of life within work and family domains (Vogt et al., 2016), an encouraging finding. However, meeting probable PTSD criteria was associated with lower work and family quality of life for both men and women, and there were notable gender differences in the prediction of functioning and satisfaction. Specifically, while probable PTSD was associated with more functional impairment in both work and romantic

relationships for men, it was only associated with functional impairment in romantic relationships for women. Likewise, whereas probable PTSD was associated with reduced satisfaction with romantic relationships and parenting for men, it was associated with reduced satisfaction with romantic relationships and work for women.

The present study sought to elaborate on these findings as well as the current literature to date on post-military well being by examining relationships between specific deployment stressors (i.e., warfare exposure, military sexual harassment/assault, and family stressors during deployment) and post-military work and family quality of life (i.e., functioning and satisfaction) for male and female veterans, with particular attention to mental health symptomatology (i.e., PTSD, depression, and alcohol misuse) as potentially important pathways in these associations. Because research on associations between specific deployment experiences and post-military well-being is sparse, we had no specific hypotheses regarding differential direct and indirect effects of deployment stressors on males' versus females' post-military work and family quality of life. However, based on prior research examining mental health in contemporary veterans, we hypothesized that while PTSD symptom severity would be an important risk mechanism for both male and female veterans' post-military quality of life, depression would have stronger implications for women veterans, whereas alcohol use would have greater implications for men.

## Method

### Participants and Procedure

Data for the current study come from a longitudinal investigation of the effects of deployment-related experiences on work- and family-related quality of life among OEF and OIF veterans. A random sample of veterans who had separated from military service and returned from a deployment to Iraq or Afghanistan within the previous two years (2008–2010) were identified using data from the Department of Defense (DoD), Defense Manpower Data Center (DMDC) at Time 1 (T1). This sample was stratified on deployment component (50% deployed from Active Duty, 50% from National Guard/Reservist units) and gender (50% women).

The T1 survey was completed by 1,046 veterans, of whom 892 agreed to be re-contacted. Three and a half years later, these participants were invited to participate in a follow up study (T2). Of the 813 participants thought to have received the T2 survey (73 post non-deliverables, 2 deceased), completed surveys were received from 522 veterans (54% female, 46% male), yielding a response rate of 64.2%. The average time between return from deployment and completion of the T1 survey was 32.37 months ( $SD=12.68$ ) for women and 34.16 months ( $SD=18.60$ ) for men, and the average time between the T1 and T2 surveys was 37.09 months ( $SD=4.47$ ) for women and 37.07 months ( $SD=4.70$ ) for men. The 522 veterans who had completed both surveys comprised the study sample.

Of the participants, 79% were White/Caucasian, 13% were Black/African American, 4% identified as Hispanic, and 9% identified as another race/ethnicity. The mean age at the time of T1 survey completion was 37.14 ( $SD=11.30$ ). Two thirds of women and about half of men had at least a four-year college degree at T2. At T2, 79% of participants (75% of women;

84% of men) were in the labor force within the previous six months, of which 96% (95% of women; 99% of men) were employed. Almost three quarters (65% of women; 77% of men) of participants had been in a romantic relationship and nearly two thirds (54% of women; 70% of men) had been in a parenting role within the previous six months. During deployment, about 78% of the sample was of an enlisted military rank (77% of men; 79% of women) compared to 22% officers (23% of men; 21% of women). The majority of the sample (65%) served in the Army (64% of men; 65% of women), followed by 15% in the Navy (14% of men; 17% of women), 13% in the Air Force (10% of men; 15% of women), and 7% in the Marines (11% of men; 3% of women). These deployment characteristics are comparable to those reported by the Department of Defense for the same time period as the study, with the exception that the proportion in the Navy was lower in this sample and the proportion of Air Force and Marine members were higher (U.S. Department of Defense, 2013).

T1 and T2 survey responders and non-responders were compared on a multitude of key demographics and military characteristics drawn from DoD administrative records to evaluate sample representativeness and non-response bias. Differences between responders and non-responders at both T1 and T2 were small with regard to gender, age, race/ethnicity, military branch, and deployment component. Specifically, responders were slightly more likely to be female (41.68% female responders versus 35.85% male at T1, 65.58% female responders versus 62.34% male at T2), older at separation from service (mean age of 33.99 for responders versus 28.43 for non-responders at T1, mean age of 33.84 for responders versus 29.97 for non-responders at T2), and racial/ethnic minorities (33.73% racial/ethnic minority responders versus 41.05% majority responders at T1, 64.58% racial ethnic minority responders versus 63.83% majority responders at T2). Differences across military branch and deployment component were also small. In sum, these comparisons between responders and nonresponders of the random national sample from DoD/DMDC yielded only modest differences, enhancing confidence that the sample was representative of the larger population.

We used a modified Dillman mail survey procedure (Dillman, Smyth, & Christian, 2009) for both data collections. The survey, a cover letter detailing study purpose, an opt-out form, a preaddressed postage-paid envelope, and a \$25.00 Visa gift card which could be kept regardless of participation were sent to potential participants via postal mail. Following the initial survey, a reminder/thank you postcard, a second survey to non-responders, and a second reminder postcard were each sent to participants two weeks apart. This procedure was repeated for a third and final mailing. Consent was implied by return of a completed survey. All study procedures and materials were approved by the institution IRB.

## Measures

**Deployment Risk and Resilience Inventory (DRRI-2)**—The Deployment Risk and Resilience Inventory-2 (DRRI-2; Vogt et al., 2013) was administered at T1 and consists of 17 scales assessing predeployment, deployment, and postdeployment risk and resilience factors with implications for postdeployment mental health. All scales have strong evidence for reliability and validity, which has been replicated in additional studies (e.g., Maoz,



Goldwin, Lewis, & Block, 2016). For the purposes of this study, the following subset of scales was used to assess salient stressors experienced during deployment, per the instrument design: Warfare Exposure, Sexual Harassment, and Deployment Family Stressors. We also included the Postdeployment Stressors and Postdeployment Social Support scales as covariates in all initial model testing, as these can be important risk and resilience factors for mental health and well-being.

**Warfare Exposure**—The assessment of Warfare Exposure is comprised of the 17-item Combat Experiences scale and the 13-item Aftermath of Battle Scale. The Combat Experiences scale assesses warfare experiences specifically related to one's direct role in combat. Example items include "I was exposed to hostile or incoming fire," "I was injured in a combat-related incident," and "I fired my weapon at enemy combatants." The Aftermath of Battle scale assesses warfare experiences related to the consequences of combat. Example items include "I took care of injured or dying people," "I saw enemy combatants after they had been severely wounded or disfigured," and "I saw the bodies of dead Americans or allies." Items for both scales are rated on a 6-point scale, ranging from 1 (*never*) to 6 (*daily or almost daily*). Coefficient  $\alpha$  in the current study was .94.

**Sexual Harassment**—The Sexual Harassment scale is an 8-item scale assessing experiences of unwanted verbal or physical interactions of a sexual nature during deployment. Example items include people one has worked with "made crude and offensive sexual remarks directed at me, either publicly or privately," "used a position of authority to pressure me into unwanted sexual activity," and "physically forced me to have sex." Responses were rated on a 4-point scale ranging from 1 (*never*) to 4 (*many times*). Coefficient  $\alpha$  in the current study was .84.

**Deployment Family Stressors**—The Deployment Family Stressors scale is a 14-item scale which assesses experiences of potentially stressful family experiences during deployment. Example items include "a family member or other loved one passed away," "my relationship with a significant other ended," and "a family member got into trouble at home, at school, or in the community." This scale uses a dichotomous (yes/no) response format to indicate whether or not each event occurred during deployment. Coefficient  $\alpha$  in the current study was .74.

**Postdeployment Stressors**—The Postdeployment Stressors scale is a 14-item scale which assesses exposure to additional life stressors after deployment. Example items include "I experienced unwanted sexual activity as a result of force, threat or harm, or manipulation," "I had problems getting access to adequate healthcare," and "I have experienced serious financial problems." This scale uses a dichotomous (yes/no) response format to indicate whether or not each event occurred following deployment. Coefficient  $\alpha$  in the current study was .68.

**Postdeployment Social Support**—The Postdeployment Social Support scale is a 10-item scale which assesses the extent to which family, friends, and others within the community provide emotional and instrumental support. Example items include "my family members and/or friends make me feel better when I am down," "I can go to family members

or friends when I need good advice,” and “when I am ill, family members or friends will help out until I am well.” Responses are indicated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Coefficient  $\alpha$  in the current study was .89.

**PTSD Checklist-Military (PCL-M)**—PTSD symptom severity was assessed at T1 using an adapted version of the 17-item PTSD Checklist-Military Version (Weathers, Litz, Herman, Huska, & Keane, 1993), which has demonstrated strong psychometric properties (e.g., Conybeare, Behar, Solomon, Newman, & Borkovec, 2012; Wilkins, Lang, & Norman, 2011). Respondents were instructed to think about the deployment event(s) that were most disturbing to them during their most recent deployment and to indicate how much they were bothered by each of the symptoms within the prior three months. Responses are recorded on a 5-point scale ranging from 1 (*not at all*) to 5 (*extremely*). Coefficient  $\alpha$  in the current study was .96.

**Beck Depression Inventory-Primary Care (BDI-PC)**—An adapted version of the 7-item Beck Depression Inventory-Primary Care was administered at T1 to assess depressive symptom severity over the most recent three months (Beck, Steer, Ball, Ciervo, & Kabat, 1997). The measure includes seven statements from the original Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) with a variation in the response format such that each item is rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Coefficient  $\alpha$  in the current study was .90.

**Alcohol Use Identification Test—Consumption questionnaire (AUDIT-C)**—Alcohol misuse was assessed at T1 (referencing the past three months) using the Alcohol Use Identification Test – Consumption questionnaire (AUDIT-C), which is a validated screening tool and has been used for routine screening in the primary care setting (Bradley et al., 2007; Bush, Kivlahan, McDonnell, Fihn, & Bradley, 1998). The AUDIT-C comprises the consumption questions of the original 10-item AUDIT (Babor & Grant, 1989) and performs similarly to the full AUDIT in terms of identifying the spectrum of alcohol misuse (Kriston, Holzel, Weiser, Berner, & Harter, 2008; Reinert & Allen, 2007). Additionally, the AUDIT-C has been found to be a valid assessment of alcohol abuse for OEF/OIF veterans (Crawford, Fulton, Swinkels, Beckham, & Calhoun, 2013). In the present study, participants were asked about their drinking in the past 3 months (rather than past year). Cronbach’s  $\alpha$  was .74.

**Inventory of Psychosocial Functioning**—The Inventory of Psychosocial Functioning (IPF; McQuaid et al., 2012; Rodriguez, Holowka, & Marx, 2012) consists of 7 scales designed to assess functional impairment in those with PTSD across several important life domains, including romantic relationships, parenting, family, friendships, work, education, and self-care. The following subscales were administered at T2 in order to assess impaired functioning, each of which were indicated in reference to the prior six months.

**Work Functioning**—A modified 14-item version of the Work scale of the IPF was used to assess functional impairment in interpersonal and performance aspects of the work domain. Confirmatory factor analysis was applied to reduce the full scale to the sub-set of 14 items capturing just the interpersonal and performance factors of work functioning. Items are rated on a 7-point scale ranging from 1 (*never*) to 7 (*always*). Example items include “I had



trouble showing up on time for work,” “I showed others as work that they could depend on me,” and “I made sure the work environment was pleasant for others.” Coefficient  $\alpha$  in the current sample was .88.

**Romantic Relationship Functioning**—A modified 9-item version of the Romantic Relationships with Spouse or Partner scale of the IPF was used to assess impairment with regard to cooperation and intimacy related aspects of romantic relationships. Items are rated on a 7-point scale ranging from 1 (*never*) to 7 (*always*). Example items include “I had trouble sharing thoughts or feelings with my spouse or partner,” “I was affectionate with my spouse or partner,” and “my spouse or partner and I did activities that brought us closer together.” Coefficient  $\alpha$  in the current sample was .90.

**Parental Functioning**—The 10-item Parenting scale of the IPF was used to assess impairment in one’s parenting role. Items are rated on a 7-point scale ranging from 1 (*never*) to 7 (*always*). Example items include “my children were able to depend on me for whatever they needed,” “I appropriately share thoughts or feelings with my children,” and “I had trouble settling conflicts or disagreements with my children.” Coefficient  $\alpha$  in the current sample was .92.

**Job Satisfaction**—To assess satisfaction with one’s job within the past 6 months, we used the abridged 8-item Job in General Scale (JIG; Russell et al., 2004) developed from the original 18-item JIG (Ironson, Smith, Brannick, Gibson, & Paul, 1989). The larger JIG has strong psychometric properties in comparison to other measures of job satisfaction (van Saane, Sluiter, Verbeek, & Frings-Dresen, 2003). The abridged JIG is a valid measure of global or overall job satisfaction in which respondents indicate whether a series of adjectives (for example, “worthwhile”) describe their job overall. In the present study, the response format was modified so that participants report to what extent they agree or disagree with whether the adjectives describe their job satisfaction over the past six months. Cronbach’s  $\alpha$  in the current study was .92.

**Relationship Satisfaction**—An adapted version of the 7-item Relationship Assessment Scale (RAS; Hendrick, 1988) was administered at T2 to assess overall satisfaction in one’s relationship over the past six months. Additional studies have demonstrated support for the reliability and validity of this scale (e.g., Vaughn & Matyastik Baier, 1999). Responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Example items include “my partner meets my needs,” “I love my partner,” and “there are problems in my relationship.” Coefficient  $\alpha$  was .92 in the current sample.

**Parental Satisfaction**—The 4-item Parental Satisfaction scale (Wickrama, Conger, Lorenz, & Matthews, 1995) was administered at T2 (referencing the prior 6 months) and assesses the extent to which parents are satisfied with their relationships with their children. Items were adapted to reference relationships with all children a participant has. Responses range from 1 (*strongly disagree*) to 5 (*strongly agree*). Example items include “being a parent has been an enjoyable experience,” “I have been satisfied with the relationship I have with my children,” “my children have been easy to raise.” Coefficient  $\alpha$  in this study was .85.

## Analyses

Descriptive statistics were calculated on all primary study variables, and women and men were compared on these constructs via independent samples *t* tests. Women and men were also compared on the potential covariates (i.e., postdeployment social support, postdeployment stressors, and time since deployment at T2). Bivariate correlations were computed to examine the relationships among all primary study variables for women and men separately. All study hypotheses were examined using structural equation modeling (SEM).

**Measurement models**—Prior to proceeding with structural models, measurement models composed of effect indicators for latent variables and causal indicators for composite variables were examined. Consistent with recommendations (Little, Cunningham, Shahar, & Widaman, 2002), items were grouped to create multiple indicators of mental health (PTSD [3 indicators], depression [2], and alcohol misuse symptom severity [3]) and work- and family-related quality of life latent constructs (work functional impairment [3 indicators], job satisfaction [2], relationship functional impairment [2], relationship satisfaction [2], parental functional impairment [2], parental satisfaction [4], and postdeployment social support [2], which was included as a potential covariate). Specifically, we used a domain-representative approach to create parcels, which involves assigning items to indicators such that each indicator of a proposed latent variable represents multiple facets of the construct (Little et al., 2002). Estimates of internal consistency reliability were satisfactory for all indicators of latent variables. Given that the deployment-related stressors (warfare exposure, sexual harassment, deployment family stressors, and postdeployment stressors, which was included as a potential covariate) were conceptualized as composite variables, which are represented by discrete, possibly uncorrelated, experiences that together “cause” or define the construct (Bollen & Lennox, 1991; MacCallum & Browne, 1993), these variables were each represented with a single causal variable. Loadings and measurement errors for causal indicators were set at 1.0, and maximum likelihood estimation was used in the estimation of measurement models.

**Structural models**—For each of the models predicting work- and family-related quality of life outcomes, functional impairment and satisfaction in the focal domain were simultaneously regressed on warfare exposure, sexual harassment, and deployment family stressors, as well as PTSD, depression, and alcohol misuse symptom severity. All possible indirect pathways connecting deployment stressors to functional impairment and satisfaction through each mental health construct were also estimated. Postdeployment social support, postdeployment stressors, and time since deployment at T2 were also included as potential covariates in the initial models, with the quality of life variables (functioning and satisfaction) regressed on each variable. Associations among variables at the same level were accounted for in the models—that is, the deployment stressors (warfare exposure, sexual harassment, and family stressors), mental health symptom levels (PTSD, depression, and alcohol misuse), and work and family quality of life variables (functional impairment and satisfaction) were allowed to freely intercorrelate, as significant associations were expected among these constructs. After reviewing models that included all possible directional

pathways predicting work and family-related quality of life (i.e., the fully saturated model), final models retained all paths that achieved at least marginal significance ( $CR > 1.65$ ).

We examined several types of evidence to evaluate study hypotheses: (1) fit indices corresponding to the overall model, including those based on the comparison of predicted versus observed covariances (model chi-square), comparison between the given model and the null model (Comparative Fit Index [CFI]), comparison of predicted versus observed covariances, penalizing for lack of parsimony (Root Mean Square Error of Approximation [RMSEA]), as recommended by Jaccard and Wan (1996), as well as the standardized difference between the observed and predicted correlation (Standardized Root Mean Square Residual [SRMR]); (2) standardized coefficients to evaluate the strength and statistical significance of direct effects; (3) and bootstrapping to evaluate the strength and statistical significance of indirect effects. All SEM analyses were conducted using MPlus Version 7 (Muthén & Muthén, 1998–2015).

## Results

Table 1 presents means and standard deviations for all deployment stressors, mental health severity scores, and work- and family-related quality of life outcomes for men and women separately. Among the deployment stressors, men reported significantly greater warfare exposure, whereas women reported significantly greater exposure to sexual harassment. While there were no significant differences between men and women on PTSD or depression symptom severity, men reported greater alcohol misuse severity. With respect to the work and family variables, the only significant gender differences observed were for work and parental functioning, with men reporting greater functional impairment in both domains. For the potential covariates that were explored, there were no significant gender differences on postdeployment social support ( $M_{\text{women}}=41.11$ ,  $M_{\text{men}}=40.75$ ), postdeployment stressors ( $M_{\text{women}}=2.33$ ,  $M_{\text{men}}=2.27$ ), and time since deployment ( $M_{\text{women}}=70.01$ ,  $M_{\text{men}}=71.73$ ).

## Measurement Model Testing

The findings from the overall measurement models were consistent with good model fit. Specifically, the RMSEA met the well-recognized .05 standard for very good fit (Browne & Cudeck, 1993; Hu & Bentler, 1998; Steiger, 1990), the CFI (Bentler, 1990) exceeded the recommended minimum values of .90 (Byrne, 1994), and the SRMR was well below the maximum recommended value of .10 (Hu & Bentler, 1998) in the work, relationship, and parenting models for both women and men.

Prior to proceeding with a multigroup SEM approach that would allow direct gender comparisons on the structural models for each quality of life domain (work, romantic relationships, and parenting), we began by testing for measurement invariance across genders, which establishes the appropriateness of testing for group comparisons in latent model testing, as well as other group comparisons (Brown, 2006). We first examined multigroup measurement models with all parameters freely estimated for women and men. Next, we compared these models with a model in which all factor loadings were constrained to be equivalent for both genders. The constrained model evidenced significantly worse fit

than a model with freed parameters in the work model,  $\chi^2_{\text{diff}}(8) = 38.64, p < .05$ , the romantic relationship model,  $\chi^2_{\text{diff}}(7) = 20.02, p < .05$ , and the parenting model,  $\chi^2_{\text{diff}}(9) = 25.46, p < .05$ , indicating that the factor loadings were not equivalent in women and men across the models for each domain. Therefore, we specified and examined separate structural models for women and men in our primary study analyses.

### Structural Model Testing

**Testing covariates**—Time since deployment and postdeployment stressors were not found to be significantly associated with functional impairment or satisfaction in the models predicting work or family related quality of life for women or men, nor did their inclusion alter findings in any meaningful way. As such, these variables were omitted from the final models. Postdeployment social support, however, was found to be significantly associated with several indicators of functional impairment and satisfaction, and therefore this variable was retained – the coefficients for the final models reflect including postdeployment social support as a covariate, which had significant or marginally significant associations with work functional impairment for women ( $\beta = -.14, p = .08$ ), work satisfaction for men ( $\beta = .18, p = .04$ ), relationship functional impairment for men ( $\beta = -.16, p = .04$ ), relationship satisfaction for men ( $\beta = .23, p = .01$ ), parental functional impairment for women ( $\beta = -.17, p = .06$ ) and men ( $\beta = -.21, p = .02$ ), and parental satisfaction for women ( $\beta = .22, p = .01$ ) and men ( $\beta = .19, p = .02$ ).

**Models predicting work-related quality of life**—The final model predicting work-related functioning and satisfaction for employed female participants is depicted in Figure 1. This model demonstrated excellent fit to the data [ $\chi^2(115) = 204.01, CFI = .97, RMSEA = .05, SRMR = .07$ ]. Greater warfare exposure was associated with lower work satisfaction, and indirectly related to higher work impairment through depression symptom severity and lower work satisfaction through PTSD symptom severity. Greater sexual harassment exposure predicted lower work satisfaction via PTSD, and work impairment via both depression and alcohol misuse symptom severity. Exposure to family stressors predicted greater work impairment via depression, and lower work satisfaction via PTSD symptom severity. Both depression and alcohol misuse symptom severity at T1 directly predicted work impairment at T2, whereas lower work satisfaction was directly predicted from PTSD symptom severity only.

The final model predicting work-related functioning and satisfaction for men, depicted in Figure 1, also demonstrated excellent fit to the data [ $\chi^2(114) = 210.20, CFI = .97, RMSEA = .06, SRMR = .09$ ]. Greater warfare exposure was associated with lower work satisfaction, and indirectly related to work impairment through PTSD and lower satisfaction through depression symptom severity. Greater sexual harassment exposure was not directly or indirectly related to work-related outcomes for men. Exposure to family stressors during deployment indirectly predicted work functional impairment via PTSD, and lower satisfaction via depression symptom severity. PTSD symptom severity at T1 directly predicted work impairment at T2, and alcohol misuse was marginally significant in predicting work impairment. Depression at T1 significantly predicted lower work satisfaction.

**Models predicting relationship-related quality of life**—The final model predicting relationship functioning and satisfaction for women in a romantic relationship is depicted in Figure 2. The model demonstrated very good fit to the data [ $\chi^2(97) = 173.74$ , CFI = .96, RMSEA = .07, SRMR = .10]. Greater warfare exposure indirectly predicted relationship impairment via PTSD. While the total indirect effect of warfare exposure on relationship satisfaction through PTSD and depression symptom severity was significant ( $\beta = -.08$ ,  $p = .04$ ), neither of the specific indirect effects reached significance. Greater sexual harassment exposure during deployment predicted relationship functional impairment through both PTSD and depression symptom severity. The total indirect effect of sexual harassment exposure on relationship satisfaction via PTSD and depression symptom severity was significant ( $\beta = -.03$ ,  $p = .04$ ), though the individual roles of PTSD and depression as mediators did not reach significance. PTSD and depression symptom severity at T1 directly predicted relationship impairment at T2. Both mental health constructs had marginally significant associations with relationship satisfaction.

The final model predicting relationship functioning and satisfaction for men, depicted in Figure 2, also demonstrated very good fit to the data [ $\chi^2(95) = 153.22$ , CFI = .97, RMSEA = .06, SRMR = .10]. Through PTSD, warfare exposure had a significant indirect effect on relationship functional impairment. Greater sexual harassment during deployment was associated with impairment, and through its effect on PTSD, sexual harassment was indirectly related to relationship impairment. Through PTSD, family stressors during deployment had significant indirect effects on relationship functional impairment. PTSD symptom severity was the only mental health construct to be significantly associated with relationship quality of life, having a significant association with functional impairment and a marginally significant association with satisfaction.

**Models predicting parenting-related quality of life**—The final model predicting parental functioning and satisfaction for women who were parents at T2 is depicted in Figure 3. The model demonstrated good fit to the data [ $\chi^2(129) = 223.08$ , CFI = .96, RMSEA = .07, SRMR = .08]. Greater warfare exposure had a significant indirect effect on parental impairment via PTSD symptom severity. Greater sexual harassment during deployment had a significant indirect association with parental functional impairment via PTSD, and marginally significant indirect association with parental satisfaction via depression symptom severity. Exposure to family stressors during deployment was associated with both parental impairment and satisfaction. Exposure to family stressors had a marginally significant indirect association with parental impairment via PTSD, and a significant indirect association with satisfaction via depression. Among the mental health constructs assessed at T1, only PTSD was significantly related to parental impairment at T2, and only depression was associated with parental satisfaction.

The final model predicting parental functioning and satisfaction for men is depicted in Figure 3. The model also demonstrated good fit to the data [ $\chi^2(132) = 270.04$ , CFI = .93, RMSEA = .08, SRMR = .10]. Greater warfare exposure had a significant indirect effect on parental impairment via PTSD symptom severity. Greater sexual harassment was significantly associated with parental impairment, whereas exposure to family stressors during deployment was associated with parental satisfaction. Exposure to family stressors

also had a significant indirect effect on parental impairment via PTSD, and a marginally significant indirect effect on satisfaction via depression. As was the case for women, PTSD was the only mental health construct at T1 found to be significantly related to parental impairment at T2, and only depression was associated with parental satisfaction.

## Discussion

It is important to advance understanding of potential pathways through which military stressor exposure may be related to veterans' well-being in key quality of life domains, such as work and family. The results of the present longitudinal study of recently separated veterans of the wars in Iraq and Afghanistan suggest that salient deployment stressors are associated with reduced post-military quality of life in the contexts of work, romantic relationships, and parenting, and that both PTSD and depression symptom severity play key roles in these associations for men and women. These findings build on the growing literature documenting the effects of deployment-related mental health symptoms and conditions, especially PTSD, on male and female veterans' quality of life (Schnurr, Lunney, Bovin, & Marx, 2009), including the specific domains of work (e.g., Adler et al., 2011; Erbes, Kaler, Schult, Polusny, & Arbisi, 2011) and family (e.g., Allen et al., 2010; Gewirtz et al., 2010).

For the past several decades, there has been a growing call for research that identifies the needs of women and ways to support them. Indeed, the Office of Research on Women's Health within the National Institutes of Health has identified "further understanding of sex/gender differences in fundamental mechanisms and patterns of behavioral and social functioning relevant to health and well-being" as part of their vision for 2020 (U.S. Department of Health & Human Services, 2010). In alignment with this aim, there has been a significant expansion of studies that address women's health concerns within the veteran literature (Bean-Mayberry et al., 2011). However, to date most studies examining gender-specific experiences have failed to account for broader aspects of the post-deployment readjustment for veterans and their families (Bean-Mayberry et al., 2011; Goldzweig, Balekian, Rolón, Yano, & Shekelle, 2006). As described by Street and colleagues (2009), the military experiences and consequences for women veterans deployed in support of OEF/OIF vary from those of their male counterparts, yet research models examining the interplay of these experiences have predominately captured male veterans. VA estimates that by 2018, women will represent 10% of all veterans. This is a substantial portion of the veteran population, suggesting a growing need to address the remaining gaps within the women veteran literature through separate examination of the needs for female and male veterans, a need that will only continue to grow as women are increasingly likely to serve in combat roles with the lifting of the 1994 Direct Ground Combat Definition and Assignment Rule.

A primary focus of this study was to examine variables potentially important for veteran readjustment in the context of gender, an understudied area in the current literature on veteran well-being and quality of life. To this end, separate models were ultimately examined in women and men to assess gender-specific associations in the constellation of constructs related to veteran work and family quality of life. While many similar associations were found for women and men, there were also a number of gender-specific



pathways. In models addressing male veterans' work-related functioning and satisfaction, greater PTSD symptoms predicted more functional impairment directly, and mediated the relationship between deployment stressors (i.e., warfare exposure and family stressors) and reduced functioning. For women, it was depression that played a particularly strong role in predicting functional impairment at work, as evidenced by both direct associations with impairment and significant mediation of the association between all three deployment stressors and work impairment. Alcohol misuse also played a significant role, albeit weaker, in predicting impairment for women, while the association was weaker still in men, and marginally significant. However, PTSD played a strong direct and mediating role in predicting lower work satisfaction for women, whereas depression was important in predicting men's work satisfaction. Notably, the strength of these associations—between PTSD and work satisfaction for women and between depression and work satisfaction for men—were comparable, at  $-.30$  and  $-.33$ , respectively. While prior studies did not find gender differences in the associations between PTSD and work functioning (Fang et al., 2015; Schnurr & Lunney, 2008), our results show that important gender differences may be found when factoring in other key mental health symptomatology (i.e., depression) and other components of quality of life (i.e., satisfaction).

These findings suggest that PTSD and depression symptomatology play important roles in linking deployment stressor exposure with differing components of work-related quality of life (functioning and satisfaction) in men and women. That is, these deployment stressors seem to be indirectly related to work outcomes for both genders, but through contrasting mental health symptomatology; thus, efforts to prevent and address functional impairment may be better served by taking into account gender-specific needs for mental health care. Further, PTSD and depression played different roles in the associations between deployment stress and job satisfaction, suggesting that mental health conditions may potentially impact aspects of well-being beyond functioning, which is an important consideration for clinicians who are treating patients with these mental health challenges.

Differential pathways were also found in examining male and female veterans' relationship and family-related quality of life. PTSD was the only significant mediator of the association between all three deployment stressors and both functional impairment and satisfaction for men, whereas both PTSD and depression mediated the relationship between deployment stressors and reduced relationship-related quality of life in women, with the strength of the indirect effects being relatively equivalent. The strength of the associations between PTSD symptoms and relationship satisfaction were essentially equivalent in women and men, whereas PTSD appeared to have a stronger association with impairment for men than for women. However, in the context of parenting, PTSD and depression played very similar roles for male and female veterans – specifically, PTSD appeared to be an important variable for parental functional impairment, and depression was a direct and indirect predictor of parental satisfaction, suggesting that intervention efforts to bolster good parenting quality of life may be gender-inclusive. These overall findings also corroborate those of Fang et al. (2015) in that PTSD was influential for both men and women with regard to the functional aspects of romantic relationships and parenting; however, the current findings also demonstrate the importance of depression, particularly for women veterans, as well as

satisfaction-related correlates of these mental health conditions. Together these studies can inform providers as to how to best cater treatment to veterans' unique needs.

In addition to the many indirect associations that were observed in the final models, there were also some noteworthy direct relationships between deployment stressors and post-military quality of life, which have been understudied in the literature to date. Exposure to warfare directly predicted lower occupational satisfaction for both men and women, with the relative strength of the associations being essentially equivalent. And military sexual harassment, which is typically experienced more frequently among female service members (Vogt, Vaughn et al. 2011), was directly associated with functional impairment in both romantic relationships and parenting among male veterans. However, among female veterans, the effects of sexual harassment on outcomes were all indirect via either PTSD or depression. It is important to note, however, that the mean levels of reported sexual harassment were quite low for men in this study, which may limit the reliability of this finding. For women, family stressors during deployment directly predicted greater functional impairment and lower satisfaction within the parenting domain, but only predicted lower satisfaction for men.

One explanation that may inform these direct associations and that could be examined in future studies is the idea that experiencing deployment stressors may produce changes in veterans' outlook on life and values in the years following return from deployment. Changes of this nature have the potential to both positively and negatively impact various aspects of quality of life. Indeed, studies of posttraumatic growth in veterans, which often entails an existential reevaluation of one's worldview and an evolving sense of overall meaning, have demonstrated positive effects of these changes (Pietrzak et al., 2010; Tsai, El-Gabalawy, Sledge, Southwick, & Pietrzak, 2015; Tsai, Sippel, Mota, Southwick, & Pietrzak, 2016). However, additional research is needed to examine possible negative consequences of a newfound perspective in life. For example, it is possible that experiencing combat and witnessing the destructive aftermath of battle may instigate a shift in the perceived importance of work for some veterans, thus undermining tolerance for their post-military employment situation. Similarly, experiencing interpersonal stressors, such as sexual harassment or family stressors, may promote changes in the way one values and engages in relationships that impact their later interpersonal functioning and satisfaction, which may partially explain the differences found for satisfaction and functioning for women and men. Future research would benefit from examining the relationships between deployment stressors and these indicators of work- and family-related quality of life with attention to the potential positive and negative roles of existential changes, both in conjunction with, and independent of, any mental health sequelae that arises in the wake of deployment.

In addition to examining deployment stressors that have received much attention in the literature to date—specifically, warfare exposure and sexual harassment—this study also examined the effects of family stressors during deployment on post-military quality of life, another understudied area. Study results corroborate previous research demonstrating that increased family stress during deployment heightens risk for developing postdeployment PTSD symptoms (Kachadourian et al., 2015; Polusny et al., 2014; Shea, Reddy, Tyrka, & Sevin, 2013; Vogt, Smith, et al., 2011) and suggest that it may also increase vulnerability to

developing depression. Due to technological advances in connectivity, this era of veterans may be more frequently exposed to stressful family situations while deployed, which may heighten their risk of developing mental health symptomatology and exacerbate problems within family units (Cigrang et al., 2014). As the stress of deployment extends beyond the service member to important loved ones (including romantic partners and children), damage to family relationships may run deep, requiring several years and collaborative effort before quality of life in these domains improves for both male and female veterans.

The findings of the present study should be considered in light of some limitations. First, the T1 assessment of exposure to stressors during deployment relied on retrospective self-reporting. While the experiences assessed consist primarily of objective experiences using well-validated measures, there is a possibility that the participants' experiences at T1, including post-military mental health symptoms, influenced their recall and reporting of earlier deployment experiences. Further, the post-military quality of life constructs under study were not assessed prior to deployment or in the first wave of data collection, and as such we were not able to account for baseline levels on these variables in our models. Future studies could include multiple assessments of both mental health and quality of life, which would provide a fuller understanding of how these constructs operate together over time.

Regarding the particular deployment stressors under study, male veterans reported very little military sexual harassment, which may have compromised our ability to detect risk associations involving this variable for men. Given that anonymous surveys may not facilitate reporting of military-related sexual trauma among men (Sheppard et al., 2015) and that military culture and myths surrounding male rape are pervasive barriers for male service members (O'Brien et al., 2015), further work in this area is needed. Additionally, we used self-report measures of mental health, rather than clinician-diagnosed assessments, though this potential limitation is perhaps less of a concern given our focus on symptom levels as potential mediators rather than meeting diagnostic criteria. Functional impairment was also assessed via self-report. Objective assessments may have revealed even stronger effects, however, as self-reported functional impairments are likely underestimates. With respect to conducting gender comparisons, not meeting the requirement for metric invariance precluded an examination as to whether associations in the final structural models for women and men were significantly different from one another. Finally, we did not have access to additional samples of veterans assessed on these same constructs, which would have allowed us to test the stability and generalizability of our models. Future studies could build on the present findings by examining these variables and models in other cohorts of veterans, including veterans deployed to other regions and in support of other conflicts, potentially facilitating further examination on the roles of different levels of deployment stress exposure on quality of life following military service.

Overall, these limitations are somewhat offset by several strengths. The longitudinal design provides for greater confidence in the directionality of the relationships. And while we were not able to test for statistical differences between women and men, the relatively equal distribution of gender in the sample allowed for examining models separately to identify potential gender-specific associations. Additionally, our assessment of quality of life was multi-faceted, consisting of both functional and satisfaction components across two key life

domains. Future studies could further investigate the longitudinal associations among these and related constructs in other large, representative samples of veterans. In addition, there are likely other important risk and resilience operating in the wake of deployment beyond mental health that are also salient for veterans' quality of life. In the present study we controlled for postdeployment social support, which had significant associations with functioning and satisfaction across work and family domains. Future studies might examine this and other potentially important resilience factors in the larger context of veteran well-being. Moreover, additional research is needed to assess the degree to which services can improve veterans' post-military quality of life in work and family domains, particularly for those suffering with mental health conditions. For example, Schnurr and Lunney (2012) found that after treatment for PTSD, women who no longer met diagnostic criteria showed greater improvements in occupational outcomes than those who still met diagnostic criteria, underscoring the potential for evidence-based treatments to improve veterans' well-being.

## Conclusions

This study found support for models linking three salient deployment stressors—warfare exposure, sexual harassment, and family stressors—with post-military functioning and satisfaction across important life domains of work and family, with the majority of the observed associations being indirect via either PTSD or depression symptom severity. Overall, PTSD, depression, and to a lesser degree, alcohol misuse are each important to contemporary male and female veterans' quality of life, and the associations with each component of work and family domains differ by gender. While PTSD symptom severity played a key role in linking deployment stressors to reduced post-military functioning and satisfaction for women and men, depression was a more present pathway for women. Findings for work- and family-related quality of life corroborate previous research documenting the impact of PTSD symptoms on functioning and satisfaction (e.g., Erbes et al., 2011; Gewirtz et al., 2010; Schnurr et al., 2009), but also extend this work by elucidating key gender differences, including differential roles for PTSD and depression symptom severity for this important population, as well as linking current well-being back to specific stressors experienced during military deployment. This understanding of men and women's complex sequelae may provide important insight as to how best to cater post-military treatment and services to veterans' unique needs in the years following their military service.

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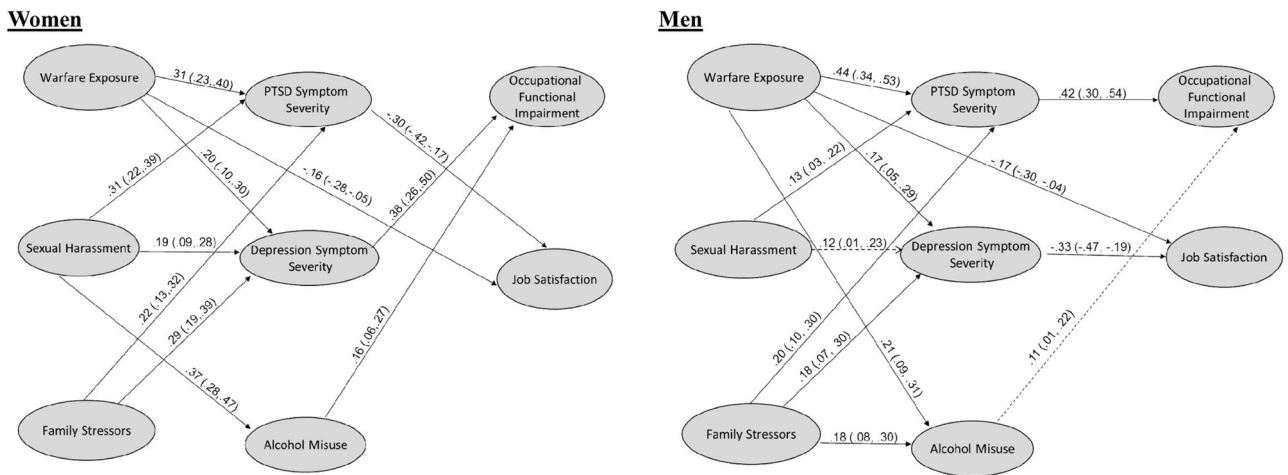
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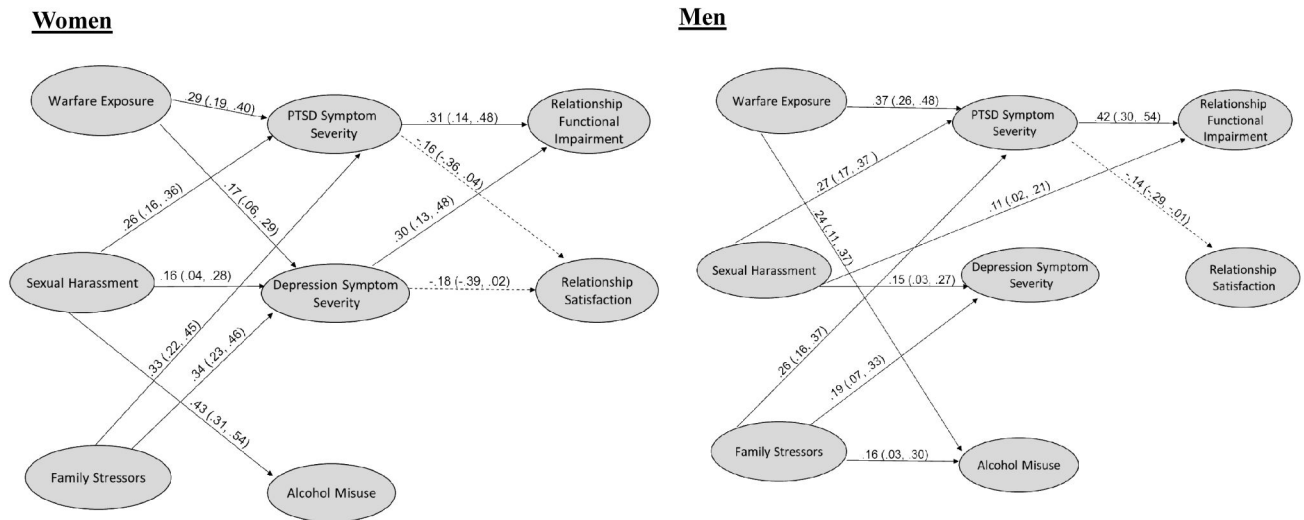


**Figure 1.**  
Models for work by gender

Note: Standardized path coefficients using SEM for the final models (95% confidence intervals are in parentheses) for women (N=212) and men (N=197). Significant and marginally significant paths and estimates have solid ( $p < .05$ ) and dashed ( $p < .10$ ) lines, respectively.

**Significant indirect effects for women:** warfare exposure on work functional impairment via depression ( $\beta = .08, p = .008$ ); warfare exposure on work satisfaction via PTSD ( $\beta = -.10, p = .022$ ); sexual harassment on work functional impairment via depression ( $\beta = .07, p = .007$ ) and alcohol misuse ( $\beta = .06, p = .046$ ); sexual harassment on work satisfaction via PTSD ( $\beta = -.09, p = .029$ ); family stressors on work functional impairment via depression ( $\beta = .11, p = .001$ ); family stressors on work satisfaction via PTSD ( $\beta = -.07, p = .027$ ).

**Significant indirect effects for men:** warfare exposure on work functional impairment via PTSD ( $\beta = .19, p < .001$ ); warfare exposure on work satisfaction via depression ( $\beta = -.06, p = .039$ ); family stressors on work functional impairment via PTSD ( $\beta = .09, p = .006$ ); family stressors on work satisfaction via depression ( $\beta = -.06, p = .049$ ).



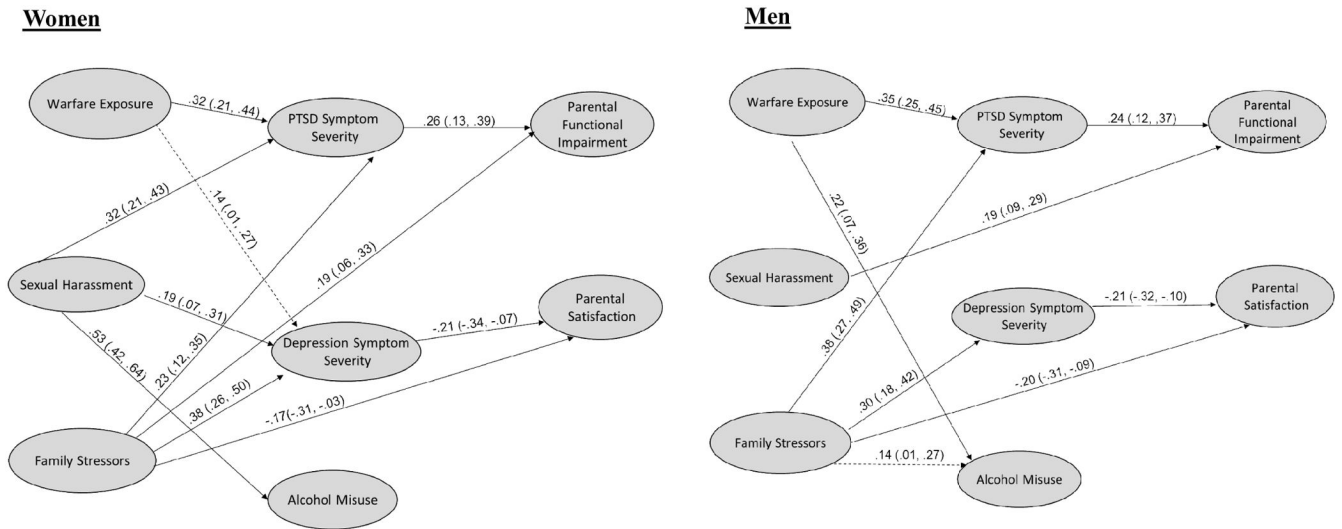
**Figure 2.**

Models for romantic relationships by gender

Note: Standardized path coefficients using SEM for the final models (95% confidence intervals are in parentheses) for women (N=184) and men (N=173). Significant and marginally significant paths and estimates have solid ( $p < .05$ ) and dashed ( $p < .10$ ) lines, respectively.

**Significant indirect effects for women:** warfare exposure on relationship functional impairment via PTSD ( $\beta = .09, p = .020$ ); sexual harassment on relationship functional impairment via PTSD ( $\beta = .08, p = .043$ ); marginally significant effect for sexual harassment on relationship functioning impairment through depression ( $\beta = .05, p = .076$ )

**Significant indirect effects for men:** warfare exposure on relationship functional impairment via PTSD ( $\beta = .16, p = .001$ ); sexual harassment on relationship functional impairment via PTSD ( $\beta = .11, p = .010$ ); family stressors on relationship functional impairment via PTSD ( $\beta = .11, p = .005$ ).



**Figure 3.**

Models for parenting by gender

Note: Standardized path coefficients using SEM for the final models (95% confidence intervals are in parentheses) for women (N=160) and men (N=157). Significant and marginally significant paths and estimates have solid ( $p < .05$ ) and dashed ( $p < .10$ ) lines, respectively.

**Significant indirect effects for women:** warfare exposure on parental functional impairment via PTSD ( $\beta = .08, p = .050$ ); sexual harassment on parental functional impairment via PTSD ( $\beta = .08, p = .025$ ); marginally significant effect for sexual harassment on parental satisfaction via depression ( $\beta = -.04, p = .065$ ); marginally significant effect for family stressors on parental functional impairment via PTSD ( $\beta = .06, p = .07$ ); family stressors on parental satisfaction via depression ( $\beta = -.08, p = .037$ ).

**Significant indirect effects for men:** warfare exposure on parental functional impairment via PTSD ( $\beta = .08, p = .022$ ); family stressors on parental functional impairment via PTSD ( $\beta = .09, p = .031$ ); marginally significant effect for family stressors on parental satisfaction via depression ( $\beta = -.06, p = .080$ ).



**Table 1**

Descriptive Statistics and Intercorrelations Among Study Variables for Women and Men.

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. War. Exp.		.16*	.27*	.49*	.22*	.23*	.31*	-.26*	.28*	-.18*	.19*	-.08
2. Sx. Har.	.16*		.30*	.25*	.18*	-.03	.13	-.21*	.25*	-.18*	.21*	-.09
3. Fam. Stress.	.29*	.30*		.36*	.26*	.20*	.10	-.13	.19*	-.26*	.19*	-.31*
4. PTSD	.42*	.41*	.39*		.61*	.21*	.47*	-.28*	.49*	-.25*	.39*	-.37*
5. Depression	.28*	.28*	.37*	.66*		.14*	.35*	-.39*	.33*	-.15*	.35*	-.36*
6. Alc. misuse	.07	.32*	.11	.21*	.20*		.18*	-.24*	.08	-.04	.19 <sup>†</sup>	-.13
7. Work Fx.	.19*	.19*	.24*	.36*	.41*	.25*		-.58*	.60*	-.37*	.46*	-.39*
8. Job Sat.	-.23*	-.15*	-.11	-.37*	-.30*	-.04	-.54*		-.31*	.16*	-.28*	.18
9. Rel. Fx.	.22*	.21*	.28*	.57*	.51*	.06	.50*	-.28*		-.76*	.52*	-.44*
10. Rel. Sat.	-.07	-.20*	-.20*	-.38*	-.36*	.02	-.35*	.19*	-.74*		-.37*	.40*
11. Par. Fx.	.27*	.30*	.36*	.43*	.42*	.11	.40*	-.38*	.57*	-.40*		-.71*
12. Par. Sat.	-.20*	-.20*	-.36*	-.40*	-.44*	-.02	-.30*	.23*	-.51*	.45*	-.77*	
N	265/208	274/231	274/229	278/230	276/234	280/233	196/180	206/168	205/198	216/206	157/154	159/153
Minimum	30/30	0/0	0/0	17/17	7/7	0/0	21/21	8/8	11/11	7/7	10/10	5/6
Maximum	123/159	23/12	11/12	82/85	35/35	11/12	84/131	40/40	71/69	35/35	53/57	20/20
<i>M</i>	42.6/55.8	1.6/0.3	2.6/2.4	33.5/36.4	20.6/20.0	2.7/4.0	40.8/44.9	32.9/32.9	31.5/30.6	28.2/28.1	18.7/23.5	4.3/4.2
<i>SD</i>	16.0/24.4	3.3/1.2	2.5/2.6	16.4/17.0	7.5/7.5	2.4/2.8	13.6/16.8	6.9/6.3	12.7/11.9	7.2/6.7	10.4/10.1	0.8/0.8
<i>t</i>	7.10*	-5.69*	-.85	1.89	-.99	5.88*	2.58*	-.02	-.77	-.15	4.18*	-1.42
Cohen's <i>D</i>	.65	.51	.08	.17	.09	.52	.27	.21	.08	.02	.48	.16

Note: Upper section reflects intercorrelations for men, bottom section reflects intercorrelations for women Slashes separate women (left) and men (right)

\*  $p < .05$

<sup>†</sup>  $p < .10$