
Does It Help? The Contribution of Wives' Ways of Giving Support to Their Veteran Husbands' Posttraumatic Stress Symptoms and Functional Impairment

Rachel Dekel, Alana Siegel, Shimon Fridkin, and Vlad Svetlitzky
The Louis and Gabi Weisfeld School of Social Work, Bar-Ilan University, Ramat Gan, Israel

In this study, we aimed to understand female partners' ways of giving support to their male military veteran partners' adjustment. Specifically, we examined the direct and moderating contributions female partners' ways of giving support—active engagement, protective buffering, or overprotection—make on their male partners' posttraumatic stress symptoms (PTSS) and functional impairment. Our hypotheses were that (a) female partners' active engagement would be negatively correlated with male veterans' PTSS and positively associated with veterans' functioning, (b) female partners' protective buffering and overprotection would be positively correlated with veterans' PTSS and negatively associated with veterans' functioning, and (c) female partners' ways of giving support would moderate the association between their secondary PTSS and male partners' adjustment. Participants were 300 male Israeli veterans of the 2006 Israel–Lebanon War and their female partners, all of whom completed self-report questionnaires. Active engagement did not contribute to female partners' or veterans' adjustment. In addition, whereas the correlations showed both female partners' protective buffering and overprotection were associated with male veterans' adjustment, the regression analysis showed only protective buffering made a direct, $\eta^2 = .040$ and $.053$, and moderating contribution to veterans' adjustment, $\eta^2 = .019$ and $.016$. Results revealed that when the level of protective buffering was high, female partners' secondary PTSS was associated more positively and strongly with veterans' PTSS than when protective buffering was low. The discussion reviews the complexity of giving support in couples when the veteran has PTSS.

When military veterans return home from war, they may be dealing with physical or psychological concerns stemming from their deployment. One such psychological problem is posttraumatic stress disorder (PTSD), which in the United States has been found to impact 4–17% of veterans (Creamer, Wade, Fletcher, & Forbes, 2011). Similar PTSD diagnosis rates have been found among Israeli veterans as well (Solomon et al., 1993; Zohar & Fostick, 2013). According to the *Diagnostic Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychiatric Association [APA], 2013), PTSD comprises symptoms of intrusion, hyperarousal, avoidance, and persistent negative alterations in cognitions and mood. An untold number of veterans also suffer from posttraumatic stress symptoms (PTSS), meaning that they experience PTSD symptoms but not to a great enough extent to meet the criteria for a formal diagnosis.

An important aspect of coping with PTSS occurs in dyadic contexts (Monk & Goff, 2014), as PTSS can have negative effects on the well-being of spouses. Specifically relevant to

this study, PTSS has been found to be associated with various aspects of the romantic relationship between a male veteran and his wife, impacting their marital relations and elevating the female partner's anxiety, depression, functional impairment, mental stress, and feelings of caregiver burden (Dirkzwager, Bramsen, Adèr, & van der Ploeg, 2005; Evans, Mchugh, Hopwood, & Watt, 2003). Researchers have found that approximately 10% of the wives of male veterans who suffer from PTSD symptoms will also experience secondary PTSS (Dekel, Levinstein, Siegel, Fridkin, & Svetlicky, 2016; Renshaw, Rodrigues, & Jones, 2008); these studies have demonstrated a strong association between the veteran's PTSS and the partner's general distress and secondary PTSS. Moreover, the partner's level of distress has been found to be associated with the veteran's recovery (Greene, Lahav, Kanat-Maymon, & Solomon, 2015).

It is also important to point out that spouses may have resources that can contribute positively to veterans' recoveries. Studies have focused on wives' ways of helping to ameliorate their veteran husbands' distress, including the wife's role as a resource (Yambo et al., 2016) and source of social support (Laffaye, Cavella, Drescher, & Rosen, 2008) for the veteran. Research has revealed that social support in general, and wives' support in particular, contributes to lower PTSD (Buchanan et al., 2011; Hoyt & Renshaw, 2014). However, studies have

Correspondence concerning this article should be addressed to Rachel Dekel, Ph.D., The Louis and Gabi Weisfeld School of Social Work, Bar-Ilan University, Ramat-Gan, 5290002, Israel. E-mail: Rachel.dekel@biu.ac.il

© 2018 International Society for Traumatic Stress Studies. View this article online at wileyonlinelibrary.com
DOI: 10.1002/jts.22343

also suggested that this transaction is more complex than it may appear; that is, not every type of support helps, but it has yet to be determined which kind of support is most beneficial for both the receiver and provider (Dekel et al., 2005).

In the current study, we examined the contribution of male veterans' spouses' personal characteristics—that is, wives' distress and ways of giving support (provider)—to veterans' PTSS and functioning (receiver). Specifically, the first aim of the current study was to examine the direct contribution of the different types of wives' ways of giving support to their partners' PTSS and functioning. The second aim was to examine moderating role of wives' ways of giving support to the association between veterans' distress and wives' distress.

Previous researchers have described several conceptualizations of ways of giving support and the distinctions between them. Coyne and Smith (1991, 1994) suggested three possible ways of giving support (WOGS)—active engagement, protective buffering, and overprotection—which are methods that healthy partners use to help their ill partners. Previous studies have found correlations between these coping behaviors, with higher active engagement being associated to higher overprotection, for example (Hagedoorn et al., 2000; Kuijer, Ybema, Buunk, Thijs-Boer, & Sanderman, 2000). Active engagement is when one partner tries to involve the other in a discussion about his or her situation, exploring the partner's emotions in order to initiate constructive problem-solving activities (Bodenmann, Pihet, & Kayser, 2006; Coyne & Smith, 1994; Hinnen, Ranchor, Baas, Sanderman, & Hagedoorn, 2009). Protective buffering occurs when a partner hides problems, denies concerns, negates worries, suppresses anger, or yields to disagreements so that his or her stress will not affect the other partner (Bodenmann et al., 2006; Vilchinsky et al., 2011). Overprotection is when one partner underestimates the other partner's capabilities and consequently attempts to restrict activities or offers excessive assistance or praise for accomplishments (Vilchinsky et al., 2011). In the current study, we sought to understand the way female partners give support to their male veteran spouses as they deal with PTSS following military service, a sample that has not yet been explored to our knowledge.

Studies of the ways support is given have primarily focused on couples in which one member has suffered from a physical impairment or physical illness. These studies have demonstrated that active engagement can have a positive effect on each member of the couple. In a study of support among couples coping in the aftermath of one partner's cardiac illness, active engagement was found to be positively associated with better odds that the ill partner would cease smoking (Vilchinsky et al., 2011). In a study of couples in which one partner had cancer, partners who thought that their significant others were coping well with the cancer demonstrated more active engagement and less overprotection; furthermore, the study researchers found that the way in which the support was given was associated with the patient's relationship satisfaction and well-being (Kuijer et al., 2000).

Compared to the positive findings regarding active engagement, findings regarding protective buffering have been negative. That is, low levels of protective buffering have been found to result in higher stress levels and lower marital satisfaction for both the “protector” and the “protected” among couples with physical ailments such as cardiac illness, diabetes, or cancer (Coyne & Smith, 1994; Joseph & Afifi, 2010; Suls, Greene, Rose, Loundsbury, & Gordon, 1997), and to be positively associated with depressive symptoms among cardiac patients' partners (Vilchinsky et al., 2011). Protective buffering has also been found to be associated with higher levels of relationship distress (Manne et al., 2007) and lower levels of relationship satisfaction (Langer, Rudd & Syrjala, 2007) and functioning (Traa, De Vries, Bodenmann, & Oudsten, 2014). In a study of couples in which one partner survived a myocardial infarction, protective buffering was found to lead to greater levels of distress both in the patient and in his or her partner (Suls et al., 1997). In the only study to the best of our knowledge of military wives and their use of protective buffering with their spouses, protective buffering was associated with negative health symptoms whereas disclosure was related to wives' higher marital satisfaction (Joseph & Afifi, 2010). In contrast to active engagement, but similar to protective buffering, overprotection was found to be a negative way of giving support to one's partner. In a study of couples in which the male partner experienced cardiac illness, the female partner's overprotection was associated with higher levels of harmful blood lipids in the male's blood tests but only when the male patient perceived his partner's overprotection as high (Vilchinsky et al., 2011). In couples in which one partner had diabetes, overprotection by partners was associated with greater diabetes-related distress among patients (Schokker et al., 2011). Additionally, cancer patients have reported feeling less control and more distress when their partners were overprotective (Kuijer et al., 2000). Overprotection may result in the partner feeling helpless and less in control of his or her situation; paradoxically, despite the partner's good intentions, overprotection can negatively impact the spouse's health.

A great deal of literature exists on the negative associations between male veterans' PTSS and their wives' distress; much less literature exists in regard to the contribution of wives' ways of giving support to their male veteran spouses in order to ameliorate the veterans' distress. Although the association between wives' ways of giving support and husbands' distress has been studied in regard to various physical illnesses, the same is not true in regard to PTSS. We hypothesized that wives' higher secondary PTSS would be associated with veterans' higher PTSS and lower functioning. In relation to spouses' ways of giving support, our first hypothesis was that females' active engagement would be negatively correlated with male veterans' PTSS and positively associated with veterans' functioning. Second, female partners' protective buffering and overprotection were expected to be positively correlated with their veteran spouses' PTSS and negatively associated with the veterans' functioning.

Third, we also wished to examine the moderating role of each of the ways of giving support; that is, whether the association between wives' levels of secondary PTSS and their husbands' levels of PTSS would be moderated by the wives' ways of giving support. However, we could not find a direct study that specifically assessed wives' ways of giving support. A study on wives of former prisoners of war found a significant association between the level of the wives' secondary PTSS and each spouse's own level of differentiation (Solomon, Dekel, Zerach, & Horesh, 2009). Highly differentiated individuals are thought to be more flexible and adaptive under stress as they are more capable of modulating emotional arousal and maintaining clear emotional boundaries with others. In the study, however, wives' higher secondary PTSS was found to be associated with their lower differentiation, stronger detachment, and ability to maintain distance from their husbands, suggesting that the wives' secondary PTSS was related to their coping (Solomon, Dekel, Zerach, & Horesh, 2009).

Therefore, we predicted that for women who used higher protective buffering and overprotection, there would be a stronger association between the wives' and husbands' PTSS in comparison to women who used lower protective buffering and overprotection. Among women who used higher active engagement, we predicted that this same association would be lower in comparison to women who used lower active engagement.

Method

Participants

The study sample consisted of 300 male veterans of the 2006 Israel–Lebanon War and their wives or female partners. The 2006 Israel–Lebanon War was a 33-day military conflict between Hezbollah paramilitary forces in Lebanon and the Israel Defense Forces (IDF). In order to track those soldiers who were most likely to experience PTSS as a consequence of their active service in the war, the study group included all male soldiers who requested assistance from the IDF's mental health services. However, as we recognized that veterans who requested mental health assistance might have differed in background variables (Pietrzak, Johnson, Goldstein, Malley, & Southwick, 2009) as well as in levels of distress (Brown, Creel, Engel Herrell, & Hoge, 2011; Erbes, Westermeyer, Engdahl, & Johnsen, 2007) from veterans who did not request help, the sample was then doubled with an additional matched group of veterans who served in the war but did not turn to the IDF's mental health services for assistance.

As expected, the mean score of PTSS in the study group was significantly higher ($M = 2.23$, $SD = 0.83$) than that of the comparison group ($M = 1.28$, $SD = 0.39$), $t(298) = 12.75$, $p < .001$. No other differences in the sociodemographic information of the veterans in the two groups were found, thus allowing us to combine the two groups into one. Veterans' female partners were similar to one another in terms of age, level of education, and negative life events. There were no significant differences

between the study and control groups in terms of marital status, length of relationship, and number of children.

The male veterans' average age was 35.5 years ($SD = 5.45$; range: 27–61 years) and their female partners' average age was 33.8 years ($SD = 5.57$; range: 24–62 years). The majority of veterans and their partners were born in Israel (87.0% and 85.8%, respectively). The average number of years of education among the male veterans was 14.89 ($SD = 2.83$; range: 10–25 years) and 15.21 years ($SD = 2.44$; range: 11–22 years) among the female partners.

The majority of couples were married (78.6%) and the remainder cohabited (21.4%). On average, couples had been together for 6.5 years ($SD = 5.28$; range: 6 months to 37 years) and had an average of 1.57 children ($SD = 1.65$; range: 0–10 children). The majority of veterans (61.1%) reported that their incomes were above average whereas the remainder (38.9%) reported their incomes as average or below. Most of the veterans (89.3%) had held combat positions; the rest (10.7%) had held noncombat positions. Their military ranks included officers (14.0%) and enlisted men (86.0%).

Procedure

Participant recruitment began from an IDF-provided list of male military veterans who had requested mental health services from the IDF in the aftermath of the 2006 Israel–Lebanon war. As the vast majority of Israeli combatants of wars in Israel are, in general, male, we focused on and conducted the study with male veterans and their female spouses or partners. Less than 3% of enlisted women served as combatants during the 2006 Israel–Lebanon War (Blum, 2016, November 20). For this reason, the current study focused on male veterans only.

Research assistants telephoned all potential participants and asked whether they were currently in a heterosexual relationship of at least 6-months duration; 369 veterans fulfilled this criterion. The research assistants explained the aims of the study to the veterans and obtained their consent to participate and recruit their partners into the study. The couples were sent questionnaires via the Internet or by mail. Of the 369 couples, 150 completed the surveys, resulting in a 40% response rate.

The comparison group consisted of randomly selected individuals who had also served in the 2006 Israel–Lebanon war and were from the same military units as the study group participants but had not asked for mental health assistance. These individuals were chosen from a list, obtained from the IDF for the purposes of this study, of approximately 5,000 veterans who participated in the 2006 Israel–Lebanon War and who served in the same units in which the study group veterans served. Every fifth veteran on this list was contacted at random and invited to participate in the study, and collection ceased when 150 couples were gathered. Approximately 30% of the couples who were contacted agreed to participate in the study, and male veterans were matched in age and rank. All 300 couples were compensated, with each couple receiving a total of \$25 for their participation. For instances in which a participating veteran or

his partner displayed emotional or marital distress, the research team referred the individual to a treatment facility. The institutional review boards of both The Helsinki Committee of the Medical Corps of the IDF and Bar-Ilan University approved the proposal for this study. Each partner was instructed to complete his or her questionnaire separately, and it generally took 20–25 minutes for participants to complete this task. Data collection took place from February 2011 through June 2013.

Measures

Sociodemographic variables. We collected sociodemographic data on the following variables for all participants: age, gender, country of birth, education, income, length of relationship with partner, number of children, rank, and veteran's military role. Participants filled out a brief questionnaire containing this information.

Lifetime traumatic event exposure. The occurrence of earlier traumatic events was measured using the Traumatic Life Events Questionnaire (Solomon et al., 1993), which provides a standard list of 13 traumatic life events (e.g., car accidents, etc.). For each item, the female partners were asked whether they had ever experienced such an event. The total score of the mean number of traumatic events the women had experienced was calculated. This questionnaire has been used to measure the occurrence of earlier traumatic events in various studies (Dekel & Hobfoll, 2007).

Ways of providing support. Female partners' ways of providing support were measured using the Ways of Giving Support Questionnaire (WOGS; Buunk, Angleitner, Oubaid, & Buss, 1996). The questionnaire consists of 19 items: 5 items measuring active engagement (e.g., "I try to discuss it with my partner openly"), 8 items measuring protective buffering (e.g., "I try to hide my worries about my partner"), and 6 items measuring overprotection (e.g., "I more or less treat my partner like a baby"). Items are measured on a 5-point scale ranging from 1 (*never*) to 5 (*very often*). This questionnaire has been used extensively (e.g., De Ridder et al., 2005; Hagedoorn et al., 2000; Hinnen et al., 2009), and in the current study we used the validated Hebrew version (Vilchinsky et al., 2010). The Cronbach's alpha values for female partners were .82, .69, and .79 for the Active Engagement, Protective Buffering, and Overprotection subscales, respectively.

PTSS. The PTSD Inventory (Solomon et al., 1994), a 17-item, self-report symptom scale that corresponds to the fourth edition of the *DSM (DSM-IV)* was used to assess PTSS and was administered to both male and female participants. Male participants were asked to indicate the frequency with which they had experienced each symptom in relation to their wartime service during the preceding month, using a 4-point scale ranging from 1 (*never*) to 4 (*very often*). Women's secondary PTSS was measured using a similar questionnaire, and

they were asked about experiencing each symptom in relation to their partners' wartime service. This questionnaire is used to assess symptom severity as measured by the mean number of symptoms experienced by participants and has been found to be highly valid and reliable. Additionally, this scale has been used widely with Israeli populations and found to be highly valid and reliable. Cronbach's alpha reliability estimates for the current study were strong, with values of .96 and .90 for PTSD symptom total scores for male and female participants, respectively.

Functional impairment. The level of daily functioning was assessed by the Life Functioning Scale (trauma version; Green, Lowry & Kopta, 2003). Male participants were asked to rate their level of functioning in 11 areas related to their daily life (e.g., work and physical health) over the previous 2 weeks on a 5-point Likert-type scale ranging from 0 (*barely functioning*) to 4 (*functioning very well*). Scores were calculated as the mean of the items, and the higher the score, the higher the veteran's level of functioning ($M = 3.14$, $SD = 0.24$). In this study, Cronbach's alpha was .90.

Data Analysis

Preliminary analyses of the participants revealed that 84% of the variables and 87% of the cases contained incomplete data (ranging from 1–15% across variables). We therefore performed Little's Missing Completely At Random (MCAR) test, which revealed that the data were not missing completely at random. We then employed multiple imputation (MI), which is the preferred technique for handling missing data. Multiple imputation involves the generation of multiple "complete" datasets by imputing possible values for missing values and then provides pooled estimates based on combining results across the complete datasets. After analyzing the pattern of missingness, the Markov chain Monte Carlo (MCMC) method of the MI procedure of SPSS (Version 22) was applied to create 50 imputed datasets concerning the respondents. The resultant sample size for the final analyses was 300.

Analyses began with Pearson correlations between the study variables. Next, we ran two hierarchical regressions (the first with veterans' PTSS and the second with veterans' functioning as the dependent variables) with four steps to test the study hypotheses. In Step 1, we entered the female partners' sociodemographic variables: years of education, length of relationship, spouse or partners' age, and their own preexisting traumatic life events. In Step 2, we added female participants' secondary PTSS. In the third step, we added the WOGS subscales. In the fourth and final step, the two-way interactions between female participants' secondary PTSS and the WOGS subscales were added. The interactions were the product of the centered predictor variable, which was entered into the regression following the steps that included the predictor and the moderator. As the product term was significant ($p < .05$), we created a graph illustrating its nature by plotting two predictor-criterion regression lines on

Table 1
Correlations Among Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	<i>M</i>	<i>SD</i>
1. Wives' age	–	.39**	.76**	.02	.67***	.04	–.13*	.11*	.03	.03	.00	33.80	5.57
2. Wives' education		–	.26**	–.06	.27***	–.16**	–.01	–.16**	–.09	–.16**	.14*	15.22	2.44
3. Relationship length			–	–.08	.71***	.01	–.10	.13*	.01	.00	.00	6.43	5.30
4. Traumatic life events				–	–.07	.23**	–.03	.06	.14*	.22**	–.21**	2.82	1.86
5. Number of children					–	–.05	–.15*	.05	–.05	–.16**	.11	1.57	1.65
6. Wives' PTSS (sum)						–	–.01	.35**	.27**	.50**	–.36**	24.67	7.98
7. Wives' active engagement							–	.01	.24**	.00	.07	4.27	0.64
8. Wives' protective buffering								–	.55**	.38**	–.35**	2.61	0.65
9. Wives' overprotection									–	.25**	–.19**	2.91	0.86
10. Veterans' PTSS (sum)										–	–.65**	29.91	13.58
11. Veterans' functioning											–	29.71	8.84

Note. *N* = 300. PTSS = posttraumatic stress symptoms.

p* < .05. *p* < .01. ****p* < .001.

the basis of moderator scores 1 standard deviation above and below the mean (Cohen, Cohen, West, & Aiken, 2003). We conducted complementary simple slope tests to examine whether the slopes of these lines were significantly different from zero (Herold, Fedor, Caldwell, & Liu, 2008).

Results

Table 1 shows the correlation matrix between the study variables. As the correlations displayed in Table 1 indicate, the female partners' lower education attainment and higher number of previous traumatic events were significantly associated with higher levels of secondary PTSS. An examination of the associations between female partners' ways of giving support and their secondary PTSS revealed that whereas their active engagement was not associated with their secondary PTSS, their protective buffering and overprotection were significantly correlated with their level of secondary PTSS. Finally, female participants' secondary PTSS was positively and significantly associated with male veterans' PTSS and negatively and significantly associated with male veterans' functioning. Female partners' protective buffering and overprotection were significantly associated with male veterans' higher levels of PTSS and lower levels of functional impairment, whereas active engagement was not associated with either of these veteran outcomes. In sum, active engagement was not associated with the female partners' or male veterans' PTSS or functioning.

The correlations displayed in Table 2 present the results of the hierarchical regression for the two dependent variables of the study: male veterans' PTSS and functioning. On the whole, the variables included in the model significantly predicted males' PTSS, explaining 35.7% of the variance. Step 1 explained 12.2% of the variance. Of the variables included in Step 1, age and traumatic life events were positively and significantly associated, whereas number of children and female partners' education were negatively and significantly associ-

ated with male veterans' PTSS, $F(5, 293) = 8.16, p < .001, R^2 = .122$. In Step 2, female partners' secondary PTSS was added and was positively and significantly associated with male partners' PTSS, adding 17.9% to the explained variance, $F(6, 292) = 20.99, p < .001, \Delta R^2 = .179, R^2 = .301$. In Step 3, active engagement, protective buffering, and overprotection were added. Of the three added variables, only female participants' protective buffering, $\beta = .23, p < .001$, was positively and significantly associated with male participants' PTSS, $F(9, 289) = 16.80, p < .001, \Delta R^2 = .042, R^2 = .343$. In Step 4, three interactions were added, but only Female Partners' Secondary PTSS \times Protective Buffering was positively and significantly associated with male partners' PTSS, adding 1.4% to the explained variance, $F(12, 286) = 13.26, p < .001, \Delta R^2 = .014, R^2 = .357$.

To investigate the Female Partners' Secondary PTSS \times Protective Buffering interaction effect on male partners' PTSS, we performed simple effects tests in which we evaluated the regression coefficients for female partners' secondary PTSS when protective buffering was high (1 standard deviation above the mean) and when protective buffering was low (1 standard deviation below the mean). Results of the simple slopes are displayed in Table 3.

Figure 1 depicts the interaction of female partners' secondary PTSS with their protective buffering to predict male partners' PTSS. This analysis revealed that when protective buffering was high, female partners' secondary PTSS was associated more positively and strongly with male partners' PTSS, $\beta = .50, p < .001$, than when protective buffering was low, $\beta = .26, p < .001$.

On the whole, the variables included in the model explained 24.8% of the variance in male partners' functioning. Step 1 significantly predicted male partners' functioning, $F(5, 293) = 5.35, p < .001, R^2 = .084$. Female participants' education and number of children were positively and significantly associated with male participants' functioning, whereas female

Table 2
Last Step of the Regression Analysis Predicting Male Partners' Posttraumatic Stress Symptoms (PTSS) and Functional Impairment

Predictive Variables	Predicted Variable					
	Male Partners' PTSS ^a			Male Partners' Functioning		
	<i>b</i>	<i>SE</i>	β	<i>b</i>	<i>SE</i>	β
Female partners' age	0.22	0.20	.09	0.01	0.14	.01
Female partners' education	-0.23	0.30	-.04	0.09	0.21	.02
Relationship length	0.26	0.21	.10	-0.17	0.15	-.10
Traumatic life events	0.73	0.36	.10*	-0.64	0.26	-.14*
Number of children	-2.08	0.58	-.25***	0.94	0.41	.18*
Female partners' PTSS	0.60	0.10	.35***	-0.20	0.07	-.18**
Female partners' active engagement	-0.15	1.08	-.01	1.19	0.76	.09
Female partners' protective buffering	4.45	1.29	.21***	-3.62	0.91	-.27***
Female partners' overprotection	-0.02	0.97	.00	0.18	0.69	.02
Female Partners' PTSS × Active Engagement	0.19	0.70	.02	0.34	0.49	.05
Female Partners' PTSS × Protective Buffering	1.64	0.70	.14*	-1.05	0.49	-.14*
Female Partners' PTSS × Overprotection	-0.50	0.86	-.04	0.09	0.61	.01

Note: *N* = 300. Step 1 variables included background variables; Step 2 variables included female partners' PTSS; Step 3 variables included ways of giving support; Step 4 variables included interactions.

^aMale partners' PTSS: Step 1, $R^2 = .122$; Step 2, $\Delta R^2 = .179$, $R^2 = .301$; Step 3, $\Delta R^2 = .042$, $R^2 = .343$; Step 4, $\Delta R^2 = .014$, $R^2 = .357$.

^bMale partners' Functioning: Step 1: $R^2 = .084$; Step 2, $\Delta R^2 = .08$, $R^2 = .168$; Step 3, $\Delta R^2 = .064$, $R^2 = .232$; Step 4, $\Delta R^2 = .016$, $R^2 = .248$.

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

partners' traumatic life events were negatively and significantly associated with male partners' functioning. In Step 2, female partners' secondary PTSS was negatively and significantly associated with male partners' functioning, adding an additional 8.4% to the variance, $F(6, 292) = 9.82$, $p < .001$, $\Delta R^2 = .084$, $R^2 = .168$. In Step 3, only female partners' protective buffering, $\beta = -.28$, $p < .001$, was negatively and significantly associated with male partners' functioning, adding an additional 6.4% to the variance, $F(9, 289) = 9.71$, $p < .001$, $\Delta R^2 = .064$, $R^2 = .232$. In Step 4, three interactions were added, but only Female Partners' secondary PTSS × Protective Buffering was negatively and significantly associated with male partners' functioning, adding an additional 1.6% to the variance, $F(12, 286) = 7.86$, $p < .001$, $\Delta R^2 = .016$, $R^2 = .248$. To investigate the Female Partners' Secondary PTSS × Protective Buffering interaction effect on male partners' functioning, we performed

simple effects tests in which we evaluated the regression coefficients for female partners' secondary PTSS when protective buffering was high (1 standard deviation above the mean) and low (1 standard deviation below the mean).

Figure 2 provides graphic depictions of the interaction of female partners' secondary PTSS with their protective buffering to predict male partners' functioning. This analysis revealed that when protective buffering was low, female partners' secondary PTSS was associated more strongly with male partners' functioning, $\beta = -.12$, $p < .050$, than when protective buffering was high, $\beta = -.35$, $p < .001$.

Discussion

The first finding of the study supported the strong positive associations between female partners' secondary PTSS and

Table 3
Results of the Simple Slopes at Protective Buffering^a

Protective Buffering	Male Partners' Functioning				Male Partners' PTSS			
	<i>b</i>	β	<i>SE</i>	<i>t</i> (294)	<i>B</i>	β	<i>SE</i>	<i>t</i> (294)
-1 SD	-0.12	-.14	0.09	-2.43*	0.26	.44	0.13	3.35***
Mean	-0.23	-.26	0.06	-4.11***	0.38	.64	0.09	7.07***
+1 SD	-0.35	-.38	0.07	-5.43***	0.5	.84	0.1	8.34***

Note. The following variables were mean centered prior to analysis: female partners' PTSS and female partners' protective buffering. PTSS = posttraumatic stress symptoms.

^a1 SD above and below the mean.

* $p < .05$. *** $p < .001$.

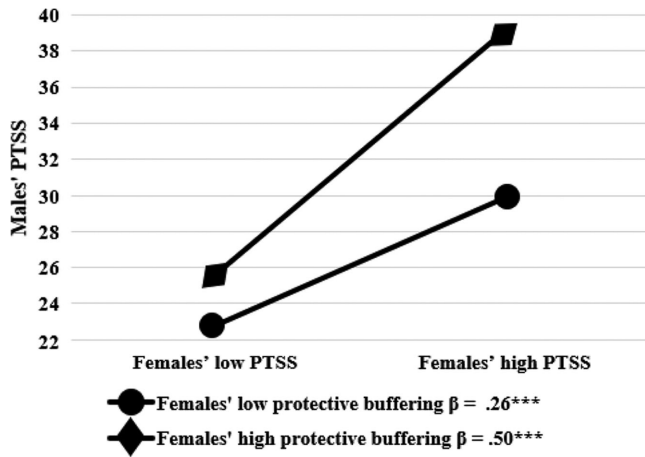


Figure 1. The interaction of female partners' posttraumatic stress symptoms (PTSS) with female partners' protective buffering to predict male partners' PTSS. The following variables were mean centered prior to analysis: female partners' PTSS and female partners' protective buffering. *** $p < .001$.

their male veteran partners' PTSS and lower functioning. This finding was in line with earlier findings showing that both members of a couple are affected and experience distress following the veteran's participation in combat (Campbell & Renshaw, 2013).

The second aim of the study was to learn more about the ways in which spouses cope and give support and the ways in which the female partner's distress moderates her efforts to give support. Based on the literature, we first examined the direct contribution of each way support is given. In the current study, active engagement had neither a direct nor a moderating role. As active engagement is conceptualized to be a collaborative form of spousal coping that is assumed to be associated with better adjustment (as a result of joint problem-solving

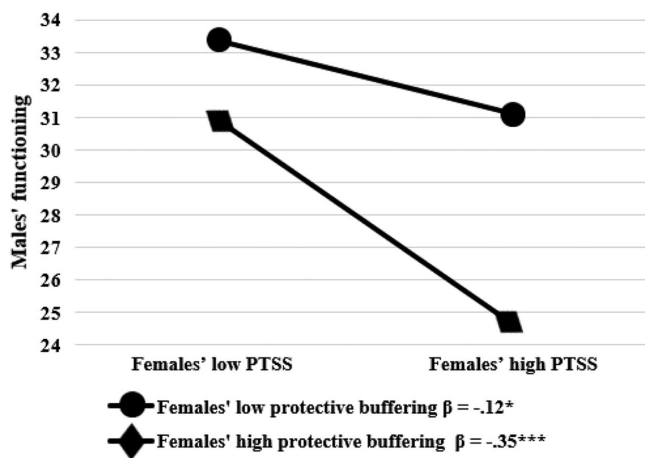


Figure 2. The interaction of female partners' posttraumatic stress symptoms (PTSS) with female partners' protective buffering to predict male partners' functioning. The following variables were mean centered prior to analysis: female partners' PTSS and female partners' protective buffering. * $p < .05$. *** $p < .001$.

and the involvement of both partners in "illness management"), the nonsignificant contribution was surprising. Findings from previous studies have suggested that the contribution of active engagement is dependent on earlier levels of support between the partners (Hagedoorn et al., 2011; Lambert, Engh, Hasbun, & Holzer, 2015). Evidently, for active engagement to be effective, the context of the relationship between patient and partner, the support provided by the partner, and the patient's perception of this support must be taken into account.

The findings with regard to protective buffering were in line with our hypothesis and with the findings of other previously conducted studies on military wives (Joseph & Afifi, 2010) and among couples in which the wife had breast cancer (Manne et al., 2007). Another point to consider is that protective buffering may feed into avoidant behavior, which may in turn decrease a couple's likelihood of dealing with relationship problems. Although the intent of protective buffering may be to protect a loved one, our findings were in line with existing studies demonstrating that protective buffering can be counterproductive and lead to potentially negative outcomes (Langer, Brown, & Syrjala, 2009).

The finding that protective buffering explained distress better than did active engagement supports the idea that unsupportive interactions have a greater impact on patients' well-being than do supportive interactions (Pistrang & Barker, 1995; Schroevers, Ranchor, & Sanderman, 2003). In other words, the presence of negative support may be more detrimental than the absence of positive support (Manne et al., 1997).

Although overprotection was negatively associated with the outcomes for the male partners at the level of the correlations, only protective buffering was significant in the regression analysis. This finding may be a result of the high correlation between these two types of coping (see Table 1). Although overprotection and protective buffering represent different coping strategies, they do share one common factor: Not seeing the spouse as an equal partner in coping. As partners engage in multiple ways of coping simultaneously, the interactive effect of these distinct ways of coping should be further explored (for an exception, see Schokker et al., 2010).

Our third hypothesis predicted that for women who used higher protective buffering and overprotection, there would be a stronger association between the wives' and husbands' PTSS in comparison to women who used lower protective buffering and overprotection. Among women who used higher active engagement, we predicted that this same association would be lower in comparison to women who used lower active engagement. We found that only protective buffering had a moderating effect on PTSS; that is, there was a stronger association among the women who reported a higher level of protective buffering between the female partners' secondary PTSS and their male partners' PTSS in comparison with the women who reported a lower level of protective buffering. Protective buffering represents a communal coping framework, generally enacted when an individual decides that although a stressor is "our problem," it is "my responsibility to come up with the solution"

(Lyons, Miickelson, Sullivan, & Coyne, 1998). This strategy is used when an individual wants to shield others from information that may cause worry and increased stress; more specifically, in these cases, female partners may wish to spare their male veteran partners by not sharing information, personal worries, or their children's concerns as to the ways the veterans' PTSS is affecting the whole family. However, this tactic is not very effective and may in fact serve to increase the veteran's distress as well as the association between the female partner's and the veteran's distress (Campbell et al., 2017).

Limitations of this study included the fact that it was cross-sectional. The rationale of this study was to examine the female partner's contribution to the PTSS and functioning of her male partner. Although we assumed that the female partner's ways of giving support would contribute to the outcomes in her male veteran partner, effects could, of course, have operated in the other direction as well (e.g., a veteran's higher distress and lower level of functioning may have been associated with the female partner's greater use of protective buffering and lesser use of active engagement). Future studies should employ more complex designs and examine the contribution of both partners' backgrounds, distress levels, and coping variables. It should also be noted that in this study, the distress of both partners could have been attributed to additional stressors for which we did not sufficiently control as well as other variables, such as gender and earlier traumatic events, which could have moderated the distress levels. Future studies would benefit from a longitudinal design to further validate the role of ways of giving support, both partners' additional traumatic stressors, and both partners' perceptions of support.

Given the focus on male veterans and their female partners in this study, future studies would also do well to examine couples in which the female is a military veteran with PTSS. It would also be useful to examine a range of couples, such as same-sex couples or couples in which both partners are veterans. Such a wide-ranging investigation could help elucidate the systemic effects of PTSS and the role of additional moderators.

The current study contributes further knowledge about spouses' ways of giving support in a previously unexamined context: that is, families in which the veteran partner suffers from PTSS. Although the findings showed a strong association between the two partners' distress and indicated the challenging nature of providing support to one's partner, they also highlighted the need for clinicians to conceptualize PTSS as something that affects the couple system as a whole and the need to offer help to the dyad. As such, clinicians should discuss the ways in which spouses or partners can provide support for each other and ideally provide couples with information and feedback on the differences among active engagement, protective buffering, and overprotection, emphasizing the importance of modulating the extent of support given. Clinicians would also do well to reinforce the importance of communication and transparency and sharing when an individual is navigating PTSS with a partner.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- Bodenmann, G., Pihet, S., & Kayser, K. (2006). The relationship between dyadic coping and marital quality: A 2-year longitudinal study. *Journal of Family Psychology, 20*, 485–493. <https://doi.org/10.1037/0893-3200.20.3.485>
- Blum, M. (2016, November 20). Women increasingly join the fight in Israel's army. *Times of Israel*. Retrieved from: <https://www.timesofisrael.com/women-increasingly-join-the-fight-in-israels-army/>
- Brown, M., Creel, A., Engel, C., Herrell, R., & Hoge, C. (2011). Factors associated with interest in receiving help for mental health problems in combat veterans returning from deployment to Iraq. *Journal of Nervous Mental Health, 10*, 797–801. <https://doi.org/10.1097/NMD.0b013e31822fc9bf>
- Buchanan, C., Kemppainen, J., Smith, S., MacKain, S., & Cox, C. W. (2011). Awareness of posttraumatic stress disorder in veterans: A female spouse/intimate partner perspective. *Military Medicine, 176*, 743–51.
- Buunk, B. P., Angleitner, A., Oubaid, V., & Buss, D. M. (1996). Sex differences in jealousy in evolutionary and cultural perspective: Tests from the Netherlands, Germany, and the United States. *Psychological Science, 7*, 359–363. <https://doi.org/10.1111/j.1467-9280.1996.tb00389.x>
- Campbell, S. B., Renshaw, K. D., Kashdan, T. B., Curby, T. W., & Carter, S. P. (2017). A daily diary study of posttraumatic stress symptoms and romantic partner accommodation. *Behavior Therapy, 48*, 222–234. <https://doi.org/10.1016/j.beth.2016.04.006>
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the social sciences*. Mahwah, NJ: Erlbaum.
- Coyne, J. C., & Smith, D. A. (1991). Couples coping with a myocardial infarction: A contextual perspective on wives' distress. *Journal of Personality and Social Psychology, 61*, 404–412. <https://doi.org/10.1037/0022-3514.61.3.404>
- Coyne, J. C., & Smith, D. A. (1994). Couples coping with a myocardial infarction: A contextual perspective on patient self-efficacy. *Journal of Family Psychology, 8*, 43–54. <https://doi.org/10.1037/0893-3200.8.1.43>
- Creamer, M., Wade, D., Fletcher, S., & Forbes, D. (2011). PTSD among military personnel. *International Review of Psychiatry, 23*, 160–165. <https://doi.org/10.3109/09540261.2011.559456>
- de Ridder, D. T. D., Schreurs, K., & Kuijer, R. (2005). Is spousal support always helpful to patients with asthma or diabetes? A prospective study. *Journal of Psychology and Health, 20*, 497–508. <https://doi.org/10.1080/14768320500098699>
- Dekel, R., Goldblatt, H., Keidar, M., Solomon, Z., & Polliack, M. (2005). Being a wife of a veteran with posttraumatic stress disorder. *Family Relations, 54*, 24. <https://doi.org/10.1111/j.0197-6664.2005.00003.x>
- Dekel, R., & Hobfoll, S. (2007). The impact of resource loss on Holocaust survivors facing war and terrorism in Israel. *Aging & Mental Health, 11*, 159–167. <https://doi.org/10.1080/13607860600736141>
- Dekel, R., Levinstein, Y., Siegel, A., Fridkin, S., & Svetlitzky, V. (2016). Secondary traumatization of partners of war veterans: The role of boundary ambiguity. *Journal of Family Psychology, 30*, 63–71. <https://doi.org/10.1037/fam0000163>
- Dirkzwager, A. J. E., Bramsen, I., Adèr, H., & van der Ploeg, H. M. (2005). Secondary traumatization in partners and parents of Dutch peacekeeping soldiers. *Journal of Family Psychology, 19*, 217–226. <https://doi.org/10.1037/0893-3200.19.2.217>
- Erbes, C., Westermeyer, J., Engdahl, B., & Johnsen, E. (2007). Post-traumatic stress disorder and service utilization in a sample of service members from Iraq and Afghanistan. *Military Medicine, 172*, 359–363.

Ways of Giving Support

- Evans, L., McHugh, T., Hopwood, M., & Watt, C. (2003). Chronic post-traumatic stress disorder and family functioning of Vietnam veterans and their partners. *Journal of Family Psychology, 23*, 531–539. <https://doi.org/10.1037/a0015877>
- Green, J. L., Lowry, J. L., & Kopta, S. M. (2003). College students versus counseling center clients: What are the differences? *Journal of College Student Psychotherapy, 17*, 25–37. https://doi.org/10.1300/J035v17n04_05
- Greene, T., Lahav, Y., Kanat-Maymon, Y., & Solomon, Z. (2015). A longitudinal study of secondary posttraumatic growth in wives of ex-POWs. *Psychiatry, 78*, 186–197. <https://doi.org/10.1080/00332747.2015.1051451>
- Hagedoorn, M., Dagan, M., Puterman, E., Hoff, C., Meijerink, W. J. H. J., Delongis, A., & Sanderman, R. (2011). Relationship satisfaction in couples confronted with colorectal cancer: The interplay of past and current spousal support. *Journal of Behavioral Medicine, 34*, 288–297. <https://doi.org/10.1007/s10865-010-9311-7>
- Hagedoorn, M., Kiujer, R. G., Buunk, B. P., De-Jong, G. M., Wobbles, T., & Sanderman, R. (2000). Marital satisfaction in patients with cancer: Does support from intimate partners benefit those who need it the most? *Health Psychology, 19*, 274–282. <https://doi.org/10.1037/0278-6133.19.3.274>
- Herold, D. M., Fedor, D. B., Caldwell, S., & Liu, Y. (2008). The effects of transformational and change leadership on employees' commitment to a change: A multilevel study. *Journal of Applied Psychology, 93*, 346–357. <https://doi.org/10.1037/0021-9010.93.2.346>
- Hinnen, C., Ranchor, A. V., Baas, P. C., Sanderman, R., & Hagedoorn, M. (2009). Partner support and distress in women with breast cancer: The role of patients' awareness of support and level of mastery. *Psychology & Health, 24*, 439–455. <https://doi.org/10.1080/08870440801919513>
- Hoyt, T., & Renshaw, K. (2014). Emotional disclosure and posttraumatic stress symptoms: Veteran and spouse reports. *International Journal of Stress Management, 21*, 186–206. <https://doi.org/10.1037/a0035162>
- Joseph, A. L., & Afifi, T. D. (2010). Military wives' stressful disclosures to their deployed husbands: The role of protective buffering. *Journal of Applied Communication Research, 38*, 412–434. <https://doi.org/10.1080/00909882.2010.513997>
- Kuijer, R. G., Ybema, J. F., Buunk, B. P., Thijs-Boer, F., & Sanderman, R. (2000). Active engagement, protective buffering, and overprotection: Three ways of giving support by intimate partners of patients with cancer. *Journal of Social and Clinical Psychology, 19*, 256–285.
- Laffaye, C., Cavella, S., Drescher, K., & Rosen, C. (2008). Relationships among PTSD symptoms, social support, and support source in veterans with chronic PTSD. *Journal of Traumatic Stress, 21*, 394–401. <https://doi.org/10.1002/jts.20348>
- Lambert, J. E., Engh, R., Hasbun, A., & Holzer, J. (2012). Impact of posttraumatic stress disorder on the relationship quality and psychological distress of intimate partners: A meta-analytic review. *Journal of Family Psychology, 26*, 729–737. <https://doi.org/10.1037/a0029341>
- Langer, S. L., Brown, J. D., & Syrjala, K. L. (2009). Intrapersonal and interpersonal consequences of protective buffering among cancer patients and caregivers. *Cancer, 115*(18 Suppl), 4311–4325. <https://doi.org/10.1002/cncr.24586>
- Langer, S. L., Rudd, M. E., & Syrjala, K. L. (2007). Protective buffering and emotional desynchrony among spousal caregivers of cancer patients. *Health Psychology, 26*, 635–643. <https://doi.org/10.1037/0278-6133.26.5.635>
- Lyons, R. F., Mickelson, K. D., Sullivan, M. J. L., & Coyne, J. C. (1998). Coping as a communal process. *Journal of Social and Personal Relationships, 15*, 579–605.
- Manne, S. L., Norton, T. R., Ostroff, J. S., Winkel, G., Fox, K., & Grana, G. (2007). Protective buffering and psychological distress among couples coping with breast cancer: The moderating role of relationship satisfaction. *Journal of Family Psychology, 21*, 380–388. <https://doi.org/10.1037/0893-3200.21.3.380>
- Monk, J. K., & Goff, B. N. (2014). Military couples' trauma disclosure: Moderating between trauma symptoms and relationship quality. *Psychological Trauma Theory Research Practice and Policy, 6*, 537–545. <https://doi.org/10.1037/a0036788>
- Pietrzak, R., Johnson, D., Goldstein, M., Malley, J., & Southwick, S. (2009). Perceived stigma and barriers to mental health care utilization among OEF-OIF veterans. *Psychiatric Services, 60*, 1118–1122. <https://doi.org/10.1176/appi.ps.60.8.1118>
- Pistrang, N., & Barker, C. (1995). A partner relationship in psychological response to breast cancer. *Social Science & Medicine, 40*, 789–797. [https://doi.org/10.1016/0277-9536\(94\)00136-H](https://doi.org/10.1016/0277-9536(94)00136-H)
- Renshaw, K. D., Rodrigues, C. S., & Jones, D. H. (2008). Psychological symptoms and marital satisfaction in spouses of Operation Iraqi Freedom veterans: Relationships with spouses' perceptions of veterans' experiences and symptoms. *Journal of Family Psychology, 22*, 586–594. <https://doi.org/10.1037/0893-3200.22.3.586>
- Solomon, Z., Benbenishty, R., Neria, Y., Abramowitz, M., Ginzburg, K., & Ohry, A. (1993). Assessment of PTSD: Validation of the revised PTSD Inventory. *The Israel Journal of Psychiatry and Related Sciences, 30*, 110–115.
- Solomon, Z., Dekel, R., Zerach, G., & Horesh, D. (2009). Differentiation of the self and posttraumatic symptomatology among ex-POWs and their wives. *Journal of Marital and Family Therapy, 35*, 60–73. <https://doi.org/10.1111/j.1752-0606.2008.00102.x>
- Schokker, M., Links, T., Bouma, J., Keers, J., Sanderman, R., Wolffenbuttel, B., & Hagedoorn, M. (2011). The role of overprotection by the partner in coping with diabetes: A moderated mediation model. *Psychology & Health, 26*, 95–111. <https://doi.org/10.1080/08870440903342325>
- Schokker, M. C., Links, T. P., Bouma, J., Keers, J. C., Sanderman, R., Wolffenbuttel, B. H. R., & Hagedoorn, M. (2010). The role of overprotection by the partner in coping with diabetes: A moderated mediation model. *Psychology and Health, 26*, 95–111. <https://doi.org/10.1080/08870440903342325>
- Schroevers, M. J., Ranchor, A. V., & Sanderman, R. (2003). The role of social support and self-esteem in the presence and course of depressive symptoms: A comparison of cancer patients and individuals from the general population. *Social Science and Medicine, 57*, 375–385. [https://doi.org/10.1016/s0277-9536\(02\)00366-0](https://doi.org/10.1016/s0277-9536(02)00366-0)
- Solomon, Z. (1995). The effect of prior stressful experience on coping with war trauma and captivity. *Psychological Medicine, 25*, 1289–1294. <https://doi.org/10.1017/S0033291700033250>
- Solomon, Z., Neria, Y., Ohry, A., Waysman, M., & Ginzburg, K. (1994). PTSD among Israeli former prisoners of war and soldiers with combat stress reaction: A longitudinal study. *American Journal of Psychiatry, 151*, 554–559. <https://doi.org/10.1176/ajp.151.4.554>
- Suls, J., Green, P., Rose, G., Lounsbury, P., & Gordon, E. (1997). Hiding worries from one's spouse: Associations between coping via protective buffering and distress in male post-myocardial infarction patients and their wives. *Journal of Behavioral Medicine, 20*, 333–349. <https://doi.org/10.1023/A:1025513029605>
- Traa, M., De Vries, J., Bodenmann, G., & Den Oudsten, B. (2015). Dyadic coping and relationship functioning in couples coping with cancer: A systematic review. *British Journal of Health Psychology, 20*, 85–114. <https://doi.org/10.1111/bjhp.12094>

- Vilchinsky, N., Dekel, R., Leibowitz, M., Reges, O., Khaskia, A., & Mosseri, M. (2011). Dynamics of support perceptions among couples coping with cardiac illness: the effect on recovery outcomes. *Health Psychology, 30*, 411–419. <https://doi.org/10.1037/a0023453>
- Vilchinsky, N., Haze-Filderman, L., Leibowitz, M., Reges, O., Khaskia, A., & Mosseri, M. (2010). Spousal support and cardiac patients' distress: The moderating role of attachment orientation. *Journal of Family Psychology, 24*, 508–512. <https://doi.org/10.1037/a0020009>
- Yambo, T. W., Johnson, M. E., Delaney, K. R., Hamilton, R., Miller A. M., & York, J. A. (2016). Experiences of military spouses of veterans with combat-related posttraumatic stress disorder. *Journal of Nursing Scholarship, 48*, 543–551.
- Zohar, J., & Fostick, L. (2014). Mortality rates between treated post-traumatic stress disorder Israeli male veterans compared to non-diagnosed veterans. *European Psychopharmacology, 24*, 117–124. <https://doi.org/10.1016/j.euroneuro.2013.10.009>