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Supporting a Spouse With Military Posttraumatic Stress: Daily Associations With Partners' Affect

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Abstract

Service members and veterans (SM/Vs) with posttraumatic stress disorder (PTSD) can receive significant benefits from social support by a spouse or romantic partner. However, little is known about how providing support impacts partners. This study sought to identify (a) how provision of support is associated with partners' daily negative and positive affect and (b) how SM/Vs' PTSD symptom severity might moderate such associations. In a 14-day daily-diary study that assessed 64 couples in which one member was an SM/V with PTSD symptoms, partners reported nightly on whether or not they provided instrumental support and/or emotional support that day as well as their current negative and positive affect. Multilevel modeling showed that the provision of emotional and instrumental support were both significantly related to partners' lower levels of negative affect, $f^2 = 0.09$, and higher levels of positive affect, $f^2 = 0.03$, on that same day but not the next day. The positive same-day effects were seen if any support was given, with no additive effects when both types of support were provided. Severity of SM/V PTSD moderated the association between provision of emotional support and lower same-day negative affect such that the association was significant only when PTSD symptoms were more severe. Overall, these findings indicate that support provision to a partner with PTSD is associated with improved affect for the romantic partner providing support. However, given that only same-day affect was associated with support, the findings may also suggest that positive affect increases the provision of support.

Romantic partners are a primary source of support for service members and veterans (SM/Vs) who are experiencing posttraumatic stress disorder (PTSD; Tanielian, Ramchand, Fisher, Simms, & Harris, 2013). Social support has been associated with clear benefits, such as reduced distress and mental health symptoms (Pietrzak et al., 2014; Thoits, 2011). Much less is known about how providing support may be associated with the well-being of support providers. On one hand, providing support to a spouse has been associated with positive

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outcomes, such as increased intimacy or feelings of esteem and efficacy related to being helpful (e.g., Monin, Brown, Poulin, & Langa, 2017; Morelli, Lee, Arnn, & Zaki, 2015). On the other hand, providing such support has also been associated with negative outcomes, such as psychological distress and even suicidality (e.g., Dekel, Solomon, & Bleich, 2005; Manguno-Mire et al., 2007).

Research has shown that romantic partners of individuals with PTSD symptoms have elevated psychological distress (Lambert, Engh, Hasbun, & Holzer, 2012). Some researchers have speculated that empathizing with trauma survivors who are experiencing PTSD symptoms can become overwhelming over time (e.g., Nelson Goff & Smith, 2005). Although such speculations imply that people who provide support to individuals with PTSD symptoms might experience increased distress, no empirical research has evaluated the daily associations between affect and provision of support to a partner with PTSD symptoms. Thus, the first aim of the current study was to assess how providing support to SM/Vs with PTSD symptoms was associated with their romantic partners' daily affect.

Prior research has distinguished between two major types of support: instrumental and emotional (House, Kahn, McLeod, & Williams, 1985; Thoits, 2011). Instrumental support encompasses behavioral and material assistance. For instance, partners of SM/Vs have described providing instrumental support by completing household and childcare tasks or leaving work early to care for an SM/V, which, in turn, has been associated with increased distress and feelings of burden (Dekel, Solomon et al., 2005; Dekel, Goldblatt, Keidar, Solomon, & Polliack, 2005; Manguno-Mire et al., 2007). Thus, we hypothesized that partners' provision of instrumental support would be significantly associated with (a) higher negative affect and (b) lower positive affect on the same and next day. Emotional support includes actions such as listening to, empathizing with, reassuring, and offering statements of love and encouragement to others (Helgeson & Cohen, 1996). Although some partners positively described communicating with SM/Vs about PTSD symptoms (Dekel, Solomon et al., 2005), veterans' disclosures of traumatic experiences have also been linked to partners' reports of higher levels of psychological distress (Campbell & Renshaw, 2012). Thus, we made no a priori hypotheses regarding associations between emotional support and same- and next-day affect.

To understand the well-being of support providers, it is also important to consider the severity of the support recipient's mental health symptoms (Iida, Seidman, Shrout, Fujita, & Bolger, 2008). As noted earlier, in veterans with high levels of PTSD, more disclosure about their deployment has been associated with higher levels of distress in their partners, possibly due to the difficulties of hearing about traumatic events or pain one's partner has experienced (Campbell & Renshaw, 2012). In addition, overall PTSD symptom severity has been consistently associated with higher levels of distress in romantic partners (Lambert et al., 2012). However, the presence of severe PTSD symptoms might make providing support to an SM/V feel more meaningful and necessary to the SM/V's partner, thereby reducing the partner's perception of burden (Monin et al., 2017). Thus, we hypothesized that same-day and next-day associations between instrumental support provision and higher negative affect and lower positive affect would be stronger in the context of a higher level of SM/V PTSD

symptoms. Again, due to conflicting findings regarding components of emotional support, no specific hypotheses were made for associations of emotional support.

A final exploratory aim was to identify how, if at all, the provision of emotional and instrumental support might interact in relation to affect. Recent research has demonstrated that in close friendships, the provision of instrumental support is more beneficial to the provider's well-being when the provider is also providing emotional support (Morelli et al., 2015). It is possible that the provision of both types of support on the same day might be additive in terms of enhancing a partner's sense of well-being; alternatively, provision of both types of support might feel more draining and instead reduce any positive associations between providing support and affect. Thus, we also explored whether provision of the two types of support interacted in associations with positive and negative affect, with no specific a priori hypothesis generated.

Method

Participants and Procedure

Participants were 64 male SM/Vs and their female civilian romantic partners. To be eligible for the study, SM/Vs were required (a) to have served in the U.S. military (currently or previously), (b) to have deployed on at least one deployment following the September 11, 2001, terrorist attacks, (c) to report at least moderate PTSD symptoms related to military experiences as operationalized by a score of 35 or higher on the PTSD Checklist–Military Version, and (4) be in a cohabitating, committed heterosexual relationship for at least 6 months with a partner willing to participate in the study.

A detailed description of recruitment and procedures can be found in Campbell, Renshaw, Kashdan, Curby, and Carter (2017). From April 2014 to February 2015, SM/Vs and partners were recruited via online postings on military forums, social media groups, and listservs. Couples who met the study's eligibility criteria completed online consent forms and individual background questionnaires, which were followed by 14 consecutive nightly surveys that assessed experiences during that day. Procedures were approved by George Mason University's Institutional Review Board as well as the National Institutes of Health (NIH) Office of Human Subjects Research Protections.

Couples were required to be in a committed, cohabitating relationship for at least 6 months. Couples were primarily married (95.3%), with a mean relationship length of 9.45 years ($SD = 5.86$). Participants described themselves primarily as non-Hispanic White (84.4%) and aged in their mid-30s ($M_{age} = 34.94$ years, $SD = 7.53$ for SM/V and $M_{age} = 34.14$ years, $SD = 7.48$ for partners). The majority of SM/Vs were from the Army (81.3%), with the remaining serving or having served in the Navy (9.4%), Marine Corps (4.7%), and Air Force (4.7%). At the time of study, 46.9% of participants were veterans, 35.9% were active duty, and 17.2% were National Guard/Reserves.

Measures

Support.—On each nightly questionnaire, partners were asked a single item drawn from previous daily diary studies (e.g., Shrout, Herman, & Bolger, 2006): “Did you provide

support to your spouse/partner in the past 24 hours?" Measure instructions indicated that "support can be emotional (e.g., listening, comforting) or practical (e.g., doing something concrete)" and participants were able to answer: 1 (*no*), 2 (*yes, emotional and practical support*), 3 (*yes, emotional support only*), or 4 (*yes, practical support only*). From these four response options, two dichotomous variables (yes or no) were created that indicated (a) if instrumental support was given and (b) if emotional support was given.

Affect.—On each nightly questionnaire, partners completed the 10-item Positive and Negative Affect Scale–Short Form (PANAS-SF; Watson, Clark, & Tellegen, 1988). Participants indicated how much they were currently experiencing each of 10 feelings using a Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). Negative affect was scored as a sum of responses to five adjectives (afraid, upset, nervous, scared, and distressed), and positive affect was scored as a sum of response to the remaining five adjectives (alert, inspired, excited, enthusiastic, and determined). Thus, scores could range from 5 to 25 for each subscale. Both the Negative (Cronbach's $\alpha = .86$) and Positive (Cronbach's $\alpha = .84$) Affect subscales showed good internal consistency.

PTSD.—The SM/Vs completed the PCL-M (Weathers, Litz, Huska, & Keane, 1993) as part of their background questionnaires. The PCL-M contains 17 items that correspond to the PTSD symptoms outlined in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*; American Psychiatric Association, 1994) and specifically focuses on "stressful military experiences." For each item, participants indicate how much the symptom has bothered them in the past month, using a scale of 1 (*not at all*) to 5 (*extremely*). Responses were summed for a total score ranging from 17 to 85. Weathers et al. (1993) recommended a cutoff score of 50 to indicate likely PTSD, but Bliese et al. (2008) found a cutoff score of 34 or 35 to maximize specificity and sensitivity in estimating a PTSD diagnosis. In the current sample, SM/Vs endorsed high levels of symptom severity ($M = 63.55$, $SD = 13.07$). Internal consistency of the PCL-M was high for the current sample (Cronbach's $\alpha = .93$).

Data Analysis

Multilevel models were run in HLM 7.0 (Raudenbush, Bryk, Fai, Congdon, & Du Toit, 2011), with daily reports nested within couples. Restricted maximum likelihood estimation and an unstructured covariance structure were utilized (McNeish, & Stapleton, 2016). R^2 scores were calculated per Snijders and Bosker (2012) and used to compute f^2 scores (Lorah, 2018). Although participants, on average, completed 88.4% of their nightly surveys, given the nature of nested analyses, missing nightly surveys do not function as missing data but instead represent fewer observations within the person (Nezlek, 2011).

Level 1 predictors included grand mean-centered instrumental and emotional support and the interaction between the two, which was created by multiplying centered versions of the dichotomous variables. Baseline PCL-M scores for SM/Vs were entered as a Level 2 predictor of both the intercept and all Level 1 coefficients. Associations with same-day positive and negative affect were assessed as separate outcomes of the following model:

Level 1 Model

$$Affect_{ij} = \beta_{0j} + \beta_{1j}(Instrumental\ Support_{ij}) + \beta_{2j}(Emotional\ Support_{ij}) + \beta_{3j}(Instrumental\ Support_{ij} * Emotional\ Support_{ij}) + r_{ij}$$

Level 2 Model

$$\begin{aligned}\beta_{0j} &= \gamma_{00} + \gamma_{01} * (PTSD_j) + u_{0j} \\ \beta_{1j} &= \gamma_{10} + \gamma_{11} * (PTSD_j) \\ \beta_{2j} &= \gamma_{20} + \gamma_{21} * (PTSD_j) \\ \beta_{3j} &= \gamma_{30} + \gamma_{31} * (PTSD_j)\end{aligned}$$

To assess associations with next-day affect, the given model was used with next-day affect as the outcome, created as lead variables wherein the next-day affect score for Day 1 was the same value as Day 2 affect, with the pattern continuing for the subsequent days. To control for affect on the day support was assessed, same-day affect (i.e., the outcome variable in the given model) was added as a grand mean-centered Level 1 predictor.

Results

Measure scores were all within normal limits of skewness and kurtosis, with no outlying scores except negative affect. In line with psychometric analyses of the PANAS (e.g., Merz et al., 2013), negative affect had moderately elevated kurtosis (3.49) as well as eight outlying scores. Although nested linear models are robust to nonnormal kurtosis (Arnau, Bono, Blanca, & Bendayan, 2012), analyses were rerun with log-transformed negative affect, which showed no outliers, normal skewness (0.68) and kurtosis (0.23), and appropriate residuals. Thus, results that were obtained using the nontransformed outcome variable are reported to maximize interpretability.

Across all days and participants, partners of SM/Vs reported giving only instrumental support on 14.8% of days ($M = 2.07$ days; $SD = 2.19$), only emotional support on 12.7% of days ($M = 1.78$ days; $SD = 1.95$), both types of support on 54.8% of days ($M = 7.67$ days; $SD = 7.48$), and neither type of support on 17.7% of days ($M = 2.47$ days; $SD = 3.28$). The average affect across all days and participants was 8.89 ($SD = 4.03$) for positive affect and 7.74 ($SD = 3.85$) for negative affect.

The results of the multilevel models are shown in Table 1. Intraclass correlation coefficient (ICC) scores from null models indicated that a majority of the variance for positive, $ICC = 0.50$, and negative affect, $ICC = 0.58$, was attributable to the group level, supporting nested models. In contrast to our hypotheses, the provision of instrumental support and emotional support to SM/Vs were both related to higher levels of positive affect and lower levels of negative affect in partners that night. The models assessing instrumental and emotional support explained 3.2% of the variance in same-day positive affect, $f^2 = 0.03$, and 8.5% in same-day negative affect, $f^2 = 0.09$, representing small effect sizes (Cohen, 1992). Neither type of support was directly associated with positive or negative affect the following day, although the model explained 33.4% of the variance in positive affect, $f^2 = 0.33$, and 17.7%

of negative affect, $f^2 = 0.18$. Additionally, there were significant Level 1 interactions between instrumental and emotional support in predicting same-day positive affect and next-day negative affect. Due to the dichotomous nature of both variables, we evaluated this effect by exploring mean levels of affect when each type of support was or was not provided. First, same-day positive affect was lowest when no support was provided ($M = 7.84$). In comparison, positive affect was higher and nearly identical when partners of SM/Vs reported providing only instrumental support ($M = 9.32$), only emotional support ($M = 9.35$), or both types of support ($M = 9.73$). In other words, giving any support was associated with higher affect. There was no additive effect of giving both instrumental and emotional support on a single day. Second, next-day negative affect was lowest when only one type of support was given (only instrumental support: $M = 6.89$; only emotional support: $M = 7.33$) as compared to when partners reported providing neither type of support ($M = 7.72$) or both types of support ($M = 7.90$).

Baseline self-assessments of SM/V PTSD symptoms were associated with overall higher reports of same-day and next-day negative affect in partners. Symptoms of PTSD were unrelated to same-day positive affect but were associated with higher next-day positive affect in partners. Additionally, SM/V PTSD symptoms only moderated the association between providing emotional support and same-day negative affect. Further probing, using guidelines given by Aiken, West, and Reno (1991), indicated that providing emotional support was significantly and negatively associated with same-day negative affect when SM/Vs reported higher levels (1 standard deviation above the mean) of PTSD, $B = -1.30$, $SE = 0.38$, $t(721) = -3.41$, $df = 721$, $p = .001$, but nonsignificantly associated with negative affect when SM/Vs reported lower levels (1 standard deviation below the mean) of symptoms, $B = -0.01$, $SE = 0.34$, $t(721) = -0.04$, $df = 721$, $p = .970$. This pattern of findings contradicted our expectation that PTSD would be more likely to moderate the association between instrumental support and positive and negative affect. However, the finding that provision of emotional support was associated with lower ratings of negative affect when a higher level of PTSD symptoms was reported was consistent with our general expectation of the directions of effects.

Discussion

This study is the first to examine partners' day-to-day experience of providing support to an SM/V with PTSD symptoms. Although prior research using global measures has found support provision to be associated with positive outcomes for the provider (e.g., Monin et al., 2017), other research documenting feelings of burden in partners of individuals with PTSD symptoms has raised speculations that support provision may be associated with partners' emotional distress (e.g., Dekel, Goldblatt et al., 2005; Manguno-Mire et al., 2007). Contrary to this latter research, our results indicated that a partner's provision of both instrumental and emotional support was associated with same-day decreased negative affect and increased positive affect. These findings are aligned with those reported in previous research in community samples. For example, Gleason, Iida, Bolger, and Shrout (2003) found that day-to-day provision of support to partners had beneficial same-day effects, and a similar study found that increased time actively spent as a caregiver for a spouse predicted significant increases in a caregiver's positive affect (Poulin et al., 2010). Although the

mechanisms of such associations require additional research, it is possible that providing support to a romantic partner aligns with the well-established benefits of prosocial behaviors, such as volunteering, buying gifts, and doing random acts of kindness, which have been consistently associated with improved well-being and health for the person engaging in the behavior (Post, 2005). In support of this idea, Monin and colleagues (2017) found that when spouses believed that they were increasing their partners' happiness, the association between support provision and the support-provider's positive affect was strengthened.

Interestingly, in the current study, emotional support provision was only associated with reduced same-day negative affect at higher levels of SM/V PTSD. It is possible that support provision to someone in more distress may lead to a stronger sense of altruism and feeling needed (Post, 2005). Alternatively, partners of SM/Vs with higher level of symptoms may be more likely to attribute an SM/V's need for support to PTSD symptoms rather than more internal factors (e.g., an SM/V's personality), which has been linked to reduced distress in partners (e.g., Renshaw, Allen, Carter, Markman, & Stanley, 2014). Importantly, the effects of PTSD symptoms on support provision and partner affect may vary based on the SM/V's constellation of PTSD symptoms. For instance, symptoms related to emotional numbing and avoidance have shown strong associations with partner distress (LeBlanc et al., 2016; Renshaw & Campbell, 2011). Future studies may benefit from assessing how particular PTSD symptom clusters may influence partners' provision of support and well-being.

Notably, neither type of support was directly associated with partners' next-day affect. Thus, only a cross-sectional association between support provision and affect is suggested. It is possible that individuals with higher positive affect are simply more likely to provide support on that day. Consistent with this idea, Iida and colleagues (2008) found that in a nonclinical population, the positivity of a person's mood in the morning predicted his or her provision of support to a partner that day. Although we measured day-to-day associations, the dichotomous nature of our support questions did not provide adequate range and variation for a nuanced assessment of causality.

Importantly, the positive same-day effects of support provision were seen when any support was given, with no additive benefits when both types of support were given. In contrast, negative affect on the day after support provision was lowest when only one type of support was given. These findings are consistent with the overarching conceptualization of prosocial behavior, which suggests that engaging in helping behaviors is typically related to positive outcomes unless the helping behaviors become physically, financially, or mentally overwhelming (Post, 2005). Given that the current study did not support a within- or between-day association between support provision and distress, it is possible that the repetition of giving support becomes distressing and burdensome for partners. For example, there may be costs of support that compound over time, such as reduced time for self-care activities, financial strains, or a decrease in pleasurable activities. Our findings fill a gap in our understanding of the day-to-day experiences of partners, but we were not able to assess such cumulative effects with our data. Measurement-burst designs would be well suited to answer such questions in future research.

It is important to consider the limitations of the current study. First, the support measure was dichotomous and did not assess the intensity and frequency of support. Although PTSD was assessed with the psychometrically robust PCL-M, the study did not employ gold-standard diagnostics, such as a clinical interview or comprehensive assessment of Criterion A stressors. Additionally, we assessed only one marker of functioning in partners in a sample that reported relatively low levels of both negative and positive affect. Studies that explore additional outcomes, such as caregiver burden, may produce a more nuanced understanding of how support provision may be associated with a partner's well-being. Importantly, the current sample comprised female support-providers and male recipients. Findings may not generalize to couples outside of this configuration, such as male support providers or same-sex couples (e.g., Verhofstadt, & Devoldre, 2012). Further, the present study covered just 14 days and provided only a brief snapshot of functioning. The effects of support for both the provider and recipient may differ depending on a wide variety of factors, including length of time since the trauma (Kaniasty & Norris, 2008), SM/V mental health treatment (Monson, Taft, & Fredman, 2009), and other responsibilities of a partner, such as outside employment or the care of children (Kossek, Colquitt, & Noe, 2001). Although outside of the scope of the current study, a better understanding of these potential moderators is critical for helping to identify effective ways for romantic partners to support traumatized loved ones while also maintaining their own well-being.

Despite these limitations, the findings of this study offer an important contribution to a greater clinical understanding of the day-to-day experiences of the romantic partners of SM/Vs with PTSD symptoms. Future research would benefit from a focus on how day-to-day experiences may relate to more global and long-term measures of mental health to better understand the nuances of how PTSD symptoms and related support influence couples.

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Table 1

Multilevel Modeling Analyses of Instrumental and Emotional Support and Interaction

Variable	Negative Affect						Positive Affect					
	Same Day			Next Day			Same Day			Next Day		
	B	SE	t(df)	B	SE	t(df)	B	SE	t(df)	B	SE	t(df)
Intercept	7.88	0.37	21.24(62)***	7.46	0.28	27.13(62)***	9.06	0.37	24.45(62)***	8.86	0.31	28.43(62)***
PTSD (L2)	0.09	0.03	3.38(62)**	0.06	0.02	2.86(62)**	0.05	0.03	1.70(62)	0.05	0.02	2.13(62)*
Instrumental support	-0.80	0.26	-3.04(721)**	-0.14	0.30	-0.47(721)	0.93	0.29	3.24(721)**	0.20	0.32	0.62(721)
PTSD (L2)	-0.02	0.02	-0.97(721)	-0.01	0.02	-0.49(721)	0.02	0.02	1.13(721)	0.01	0.02	0.47(721)
Emotional support	-0.66	0.26	-2.46(721)*	0.31	0.28	1.10(721)	0.96	0.28	3.42(721)***	-0.01	0.31	-0.04(721)
PTSD (L2)	-0.05	0.02	-2.49(721)*	-0.00	0.02	-0.10(721)	-0.03	0.02	-1.23(721)	0.01	0.02	0.23(721)
Instrumental Support X Emotional Support	0.41	0.48	0.86(721)	1.41	0.53	2.64(721)**	-1.11	0.52	-2.12(721)*	0.04	0.58	0.08(721)
PTSD (L2)	0.04	0.04	1.15(721)	0.06	0.04	1.50(721)	-0.01	-0.04	-0.30(721)	0.04	0.04	0.88(721)
Same-day affect	-	-	-	0.19	0.04	4.30(721)***	-	-	-	0.19	0.04	5.14(721)***
PTSD (L2)	-	-	-	0.00	0.00	1.05(721)	-	-	-	0.00	0.00	0.07(721)

Note. PTSD = posttraumatic stress disorder

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