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Relationships between Soldiers' PTSD Symptoms and Spousal Communication during Deployment

Sarah Carter¹, Benjamin Loew¹, Elizabeth Allen², Scott Stanley¹, Howard Markman¹, and Galena Rhoades¹

¹Department of Psychology, University of Denver, Denver, CO, 80208, USA

²Department of Psychology, University of Colorado Denver, Denver, CO, 80217, USA

Abstract

Social support, including support from spouses, may buffer against posttraumatic stress disorder (PTSD) symptoms. The current study assessed whether the frequency of spousal communication during a recent deployment, a potentially important source of support for soldiers, was related to postdeployment PTSD symptoms. Data came from 193 married male Army soldiers who returned from military deployment within the past year. For communication modalities conceptualized as “delayed” (i.e., letters, care packages, and e-mails), greater spousal communication frequency during deployment was associated with lower postdeployment PTSD symptom scores, but only at higher levels of marital satisfaction ($p = .009$). At lower marital satisfaction, more “delayed” spousal communication during deployment was associated with more PTSD symptoms ($p = .042$). For communication modalities conceptualized as “interactive” (i.e., phone calls, instant messaging, instant messaging with video), the same general direction of effects was seen, but the interaction between communication frequency and marital satisfaction predicting PTSD symptoms did not reach significance.

The prevalence of posttraumatic stress disorder (PTSD) for soldiers returning from current conflicts (Thomas et al., 2010) heightens the need to assess factors related to soldiers' PTSD symptoms. Social support has a strong influence on PTSD symptoms, possibly by creating a context of well-received disclosures and social acknowledgment of trauma (Nietlisbach & Maercker, 2009). A caring spouse may fulfill a “therapeutic spouse role” (Shehan, 1987, p. 58), wherein loving and positive communication can show the veteran he is valued and facilitate trauma disclosure. Moreover, verbal affection from one's spouse is related to better cortisol and dehydroepiandrosterone-sulfate (DHEA-S) balance, which is important for stress recovery (Floyd & Riforgiate, 2008). The current study examines frequency of communication with the spouse during deployment as a marker of support, and its relation to postdeployment PTSD symptoms.

The impact of communication between spouses during deployment is of interest due to high rates of marriage in the military, communication technology development (e.g., e-mail, cell phones), and the frequency and length of recent wartime deployments. Merolla (2010, p. 11) identified “mediated partner interaction” such as phone calls and letters as an important way spouses maintain a sense of connection during deployment. Prior research has focused on the effects of communication during deployment on civilian spouse adjustment (e.g., Merolla, 2010), but not soldier PTSD symptoms. Because support may be more beneficial immediately following trauma exposure than when delayed (Dalglish, Joseph, Thrasher,

Tranah, & Yule, 1996), spousal communication during deployment (thus, more proximal to combat exposure than postdeployment communication) may have preventative effects against soldiers' PTSD symptoms.

Present Study

This study tested the hypothesis that greater frequency of communication between spouses during deployment would correlate with lower soldier postdeployment PTSD symptoms, particularly when there is high marital satisfaction, and thus communication may be more supportive. Given their potentially greater immediacy to trauma exposure, interactive communications such as telephone conversations may demonstrate a stronger relationship with PTSD symptoms than delayed communications such as letters and care packages. In these analyses, we controlled for combat exposure during deployment, which may affect opportunities for communication and level of PTSD symptoms.

Method

Participants and Procedures

From a randomized clinical trial of marriage education for 476 Army couples at Fort Campbell, Kentucky, we selected participants for the current study who (a) were active-duty males with civilian wives; (b) had experienced deployment within the last year (as data were collected in 2007, this last deployment occurred primarily within Operations Iraqi and Enduring Freedom; mean deployment length was 11.10 months); (c) had some combat exposure during this deployment (i.e., a nonzero Combat Exposure Scale score); (d) had been married at least a year, to include only soldiers who had deployed during their current relationship; and (e) reported either no PTSD symptoms, or attributed such symptoms at least in part to military experience (thereby excluding soldiers who reported PTSD symptoms, but did not attribute them whatsoever -to military experience). Data were maintained and analyzed with PASW Statistics version 18.

From the sample of 476 couples, the selection criteria resulted in a subsample of 193 soldiers. Average age was 29.09 ($SD=5.82$). Most (76%) were White, non-Hispanic, 12% were Hispanic, 7% were African American, 1% were American Indian/Alaska Native, 1% were Asian, and 1% were Hawaiian/Pacific Islander. Maximum education level was high school or equivalent for 73% of participants. Average marriage length was 5.83 years ($SD = 4.59$). We utilized soldiers' self-reports that were completed prior to randomization in the parent clinical trial, which was conducted with internal review board (IRB) approval and followed all recommended procedures (e.g., informed consent). The current study was conducted under the general IRB approval for the overall project.

Measures

Higher scores on all measures indicate higher levels of the construct.

We used the psychometrically validated civilian version of the PTSD Checklist (PCL-C; Weathers, Litz, Herman, Huska, & Keane, 1993) to measure PTSD symptoms. Across the 17-item list of DSM-IV PTSD symptoms, participants rated how much each one bothered them in the past month (from 1 = not at all to 5 = extremely; thus total summed scores can range from 17 to 85), and whether their military experience was a source of these symptoms. Cronbach's α was .94 in the current sample.

The Combat Exposure Scale is a psychometrically validated 7-item self-report measure used to gauge combat exposure (Keane et al., 1989), on which soldiers reported their exposure to several combat situations, such as whether they fired rounds at or were surrounded by the

enemy. Possible summed total scores range from 0 to 41. Internal consistency in the current sample was $\alpha = .83$.

To measure marital communication frequency during deployment, participants indicated how often, on average, they used each of six communication modalities with their spouse while deployed: e-mails, letters, phone calls, care packages, instant messaging (IM), and IM with video (1 = Never, 2 = Daily, 3 = 3–4 times per week, 4 = 1–2 times per week, 5 = 1–2 per month). Item scores were summed to form overall (all items), interactive (telephone, IM, and IM with video only), and delayed (letters, care packages, and e-mails only) communication frequency composite scores (although e-mails could be used interactively, we assumed participants did not typically do so).

The Kansas Marital Satisfaction Scale (Schumm et al., 1986) is a 3-item scale assessing satisfaction with one's marriage. Responses on each item range from 1 = extremely dissatisfied to 7 = extremely satisfied; thus total summed scores could range from 3 to 21. Schumm et al. (1986) found excellent reliability and validity for the scale, and internal consistency in the current sample was .94.

Results

The mean total score for marital satisfaction was 17.37 ($SD = 3.55$), fairly close to the highest score possible; indicating that, overall, the sample reported high levels of marital satisfaction. The mean total score for soldiers' PTSD symptom severity was 35.93 ($SD = 15.46$) on the PCL-C, and combat exposure score was 17.89 ($SD = 8.34$). The modal frequency of phone calls, IM, and e-mails each was daily, the modal frequency of letters and care packages was 1–2 times per month, and the modal frequency of IM with video was never (but 60% of participants used it at least once a month).

Hierarchical regressions were conducted predicting PTSD symptoms, in which combat exposure was entered in Step 1 as a control variable, and marital satisfaction, communication frequency, and their interaction were entered in Step 2. Interaction effects were probed with Hayes and Matthes' (2009) MODPROBE macro, which allowed modeling of the relationship between communication frequency and PTSD symptoms at three levels of marital satisfaction: the average, and one standard deviation above ("higher marital satisfaction") and below ("lower marital satisfaction") the average. Three such regressions and probes were conducted, one each for overall, interactive, and delayed communication frequencies.

The interaction between marital satisfaction and overall communication frequency significantly predicted PTSD symptoms, $B = -0.17$, $SE\ B = 0.07$, $t(187) = -2.48$, $p = .014$. A probe (see Figure 1) confirmed that only at higher marital satisfaction did greater communication frequency predict lower PTSD symptom scores, $B = -0.75$, $SE\ B = 0.37$, $t(187) = -2.05$, $p = .042$. At lower levels of marital satisfaction, the relationship's directionality was reversed, but it did not achieve significance, $B = 0.41$, $SE\ B = 0.32$, $t(187) = 1.30$, ns.

We also found a significant interaction effect for delayed communication modalities $B = -0.52$, $SE\ B = 0.15$, $t(186) = -3.42$, $p < .001$. Probing it, we found a similar but more robust pattern wherein more communication was significantly related to lower PTSD symptom scores at higher marital satisfaction, $B = -2.10$, $SE\ B = 0.80$, $t(186) = -2.64$, $p = .009$, and significantly related to higher PTSD symptom scores at lower marital satisfaction, $B = 1.57$, $SE\ B = 0.77$, $t(187) = 2.05$, $p = .042$. At average marital satisfaction, the relationship was not significant. Interactive communication showed the same general direction of effects, but

the interaction term was not significant, $B = -0.12$, $SE\ B = 0.09$, $t(187) = -1.27$, $p = .207$, so there could not be any conditional effects.

Discussion

For these married, recently deployed male soldiers, we found that the relationship between communication during deployment with their wives and their level of current, postdeployment PTSD symptoms depended on their level of marital satisfaction. Specifically, for higher marital satisfaction, greater spousal communication frequency during deployment predicted lower levels of PTSD symptoms, supporting the primary hypothesis. However, contrary to our speculation, this was true for only delayed forms of communication. It may be that the delayed forms of communication (letters, e-mails, and care packages) provide tangible objects or written documents that may be revisited repeatedly by soldiers, thus providing repeated support. Moreover, written forms of communication could be more conducive to carefully crafted, clear, and protected expressions of love and support. In contrast, interactive communications may be more inhibited (e.g., soldiers may be less comfortable with emotional interchanges if they may be overheard), and may be more prone to including conflict. It could also be that forms of communication that require writing out one's thoughts and feelings provide an important palliative effect, consistent with the work of Pennebaker (1997) who has demonstrated the therapeutic impact of emotionally expressive journaling. Delayed communications, especially letters and care packages, could also be seen as more effortful and special, and thus more supportive.

In contrast, at lower marital satisfaction greater delayed spousal communication predicted greater PTSD symptomatology. It may be that the content of such communication includes more negative content in a maritally distressed relationship compared to spousal communication in a maritally satisfied relationship, and that more spousal communication may not be as viable a source of support for soldiers enduring marital difficulties.

Several limitations to the study should be noted. These data are cross-sectional, so these analyses must be replicated longitudinally before true predictive relationships can be established. Accuracy of communication frequency reports may have been affected by retrospective bias, and current PTSD symptomatology could also impact ratings of marital communication and satisfaction. Additionally, we lacked data on certain variables that could have afforded more analytic depth or control, including received versus initiated communication, the degree to which e-mail was a delayed rather than interactive modality of communication, communication content and timing, perceived support from communication, restrictions on communication, identifying PTSD symptoms related exclusively to military experience, and cumulative deployment and combat history.

Despite this study's limitations, its findings are consistent with prior research, and suggest that marital support has value during deployment. It may be appropriate to encourage maritally satisfied couples to exchange e-mails, letters, and care packages during deployment. Soldiers who are having marital conflict might instead benefit from seeking support from other sources, including unit members and leaders (Laffaye, Cavella, Drescher, & Rosen, 2008). Programs to help couples strengthen their marriages prior to deployment (e.g., Stanley, Allen, Markman, Rhoades, & Prentice, 2010) may increase the potential for the spouse to be a source of support.

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Figure 1.
Frequency of Delayed Communication; Mean $\pm$ SD