Couple Adjustment and Posttraumatic Stress Disorder Symptoms in National Guard Veterans of the Iraq War

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Relationship adjustment and posttraumatic stress disorder (PTSD) symptoms were assessed across two time points in a sample of 313 married or partnered National Guard soldiers recently returned from combat duty in Iraq. Structural equation modeling using a four-factor model for PTSD found the latent variable dysphoria (reflecting generalized distress including aspects of emotional numbing and arousal) had the strongest independent contribution to predicting relationship adjustment at Time 1 and indirectly predicted poorer relationship adjustment at Time 2. Exploratory analysis of gender differences (n = 33 women; n = 280 men) suggested a different pattern of relations between PTSD factors and relationship adjustment among female soldiers at Time 1, with a trend toward trauma specific avoidance being more highly related to relationship adjustment. Clinical and research implications are discussed.

Keywords: PTSD, couple adjustment, dysphoria, war/armed conflict in military role, veteran mental health

Among previous generations of combat veterans, posttraumatic stress disorder (PTSD) has been linked to greater relationship distress, poorer communication and intimacy, sexual dysfunction, intimate partner violence, and greater relationship instability (Monson, Taft, & Fredman, 2009). Emerging research with veterans returning from Iraq (Operation Iraqi Freedom; OIF) and Afghanistan (Operation Enduring Freedom; OEF) alludes to similar concerns. Symptoms of PTSD in OEF/OIF veterans are linked to problems with relationship adjustment (Goff, Crow, Reisbig, & Hamilton, 2007; Meis, Erbes, Polusny, & Compton, 2010), relationship confidence, positive bonding, commitment, and negative communication (Allen, Rhoades, Stanley, & Markman, 2010).

Specific symptoms or symptom clusters of PTSD may explain impairments in intimate relationships (Sherman, Zanotti, & Jones, 2005; Taft, Schumm, Panuzio, & Proctor, 2008). Although the Diagnostic and Statistical Manual defines PTSD based on three clusters of symptoms (reexperiencing, avoidance, and hyperarousal; American Psychiatric Association, 2000), research in areas of couple and family functioning has often discriminated between trauma specific avoidance symptoms and more general avoidance symptoms, referred to as emotional numbing. Numbing symptoms have been found to load on a separate factor from trauma-specific avoidance symptoms, consistent with a four-factor numbing model of PTSD with reexperiencing, trauma-specific avoidance, emotional numbing, and hyperarousal symptom clusters. Confirmatory factor analyses have suggested that symptoms of emotional numbing include the inability to express or experience a range of emotions, a sense of detachment from others, loss of interest and pleasure in activities, sense of foreshortened future, and amnesia for the traumatic event (King, Leskin, King, & Weathers, 1998). Emotional closeness and intimacy are core predictors of couple satisfaction and stability over time (Gottman & Levenson, 1986), and the ability to express and experience intimacy may be greatly limited among those with these symptoms of emotional numbing.

Some symptoms within the hyperarousal cluster of PTSD, including irritability, anger, and difficulty sleeping, may also have implications for couple functioning. These
symptoms may contribute to tension and stress, impair the couple’s ability to effectively solve problems, and lead the nonveteran partner to feel a sense of “walking on eggshells” (Riggs, Byrne, Weathers, & Litz, 1998; Sherman et al., 2005). General arousal symptoms such as anger may be particularly damaging through corroding positive feelings, contributing to emotional disengagement or increasing critical behavior (Sherman et al., 2005).

Research on PTSD symptoms supports the unique importance of the symptoms labeled as emotional numbing in understanding relationship distress, while associations with the cluster of arousal symptoms are more mixed. Among studies assessing both numbing and arousal independently, some research indicates only the numbing cluster is uniquely associated with relationship adjustment (Cook, Riggs, Thompson, Coyne, & Sheik, 2004), while others link both numbing and arousal uniquely to relationship adjustment (Riggs et al., 1998) and family adjustment (Taft et al., 2008). Hyperarousal broadly has been indirectly linked to relationship functioning through associations with verbal aggression (Solomon, Dekel, & Zerach, 2008), while anger has been found to mediate associations between hyperarousal and family functioning (Evans, McHugh, Hopwood, & Watt, 2003) and both physical and psychological abuse (Taft, Street, Marshall, Dowdall, & Riggs, 2007). These findings suggest that only some aspects of the subset of hyperarousal symptoms (e.g., anger/irritability), rather than the entire cluster of symptoms, may be primarily responsible for relations between hyperarousal and relationship dysfunction. This may help explain the inconsistent links between arousal and relationship adjustment.

Understanding how symptoms of PTSD predict relationship adjustment is complicated by the lack of consensus regarding the underlying structure of PTSD itself. Several recent studies have supported a four-factor dysphoria model that reconceptualizes PTSD as being comprised of four underlying symptom clusters. As shown in Table 1, three are unique to PTSD: reexperiencing, intentional avoidance of trauma memories, and PTSD-specific hyperarousal. The fourth factor, dysphoria (defined as general distress or negative affectivity that is common to both anxiety and depression; Simms et al., 2002), includes emotional numbing symptoms as well as nonspecific arousal symptoms of irritability/anger, sleep disturbance, and impaired concentration (Simms, Watson, & Doebbeling, 2002). Simms and colleagues (2002) argue that these symptoms better reflect general distress than the “trauma-specific” symptoms of hyperarousal (i.e., exaggerated startle and hypervigilance), specific to PTSD.

While debates continue over the merits of this dysphoria model relative to the four-factor numbing model described above, the dysphoria model has demonstrated better fit than other established models of PTSD, including those with an emotional numbing component, in many studies (e.g., Palmieri, Weathers, Difede, & King, 2007; Simms et al., 2002). In two samples of National Guard soldiers who had been deployed to Iraq, assessed over a total of 6 different time points, Meis, Erbès, Kaler, Arbisi, and Polusny (in press) found that the dysphoria model had superior fit to all competing models across samples and time points. In addition, the dysphoria symptom cluster has demonstrated stronger links in correlational and factor analytic research to multiple measures of general distress than the PTSD-specific symptom clusters, including depression, anxiety, anger, hopelessness, and distress severity (e.g., Grant, Beck, Marques, Palya, & Clapp, 2008; Palmieri et al., 2007), and trauma exposure is more closely linked to PTSD-specific symptom clusters than the dysphoria symptom cluster (Meis et al., in press; Simms et al., 2002). This broad dysphoria factor encapsulates symptoms most likely to predict relationship adjustment and may provide an efficient conceptualization of the link between PTSD and relationship adjustment. It is important to note that depressive symptoms, which overlap with dysphoria, have been repeatedly linked to relationship dissatisfaction (e.g., Beach & O’Leary, 1993; Dehle & Weiss, 1998). Thus, it is possible that nonspecific distress (i.e., dysphoria) provides the key to understanding how PTSD predicts couple adjustment.

We are unaware of any studies that have examined associations between factor-analytically derived symptom clusters of PTSD and relationship adjustment among OEF/OIF veterans. In addition, prior work is largely cross-sectional and has yet to explicitly address the role of nonspecific dysphoria symptoms in predicting couple distress. One further area of inquiry involves the role of gender in predicting the associations between PTSD and relationship adjustment. Women account for approximately 14% of the military force (Office of the Under Secretary of Defense for Personnel & Readiness, 2007) and have been frequently deployed as part of OEF/OIF. Studies of civilians suggest that women may be at risk for more severe symptoms of PTSD than men (Brewin, Andrews, & Valentine, 2000) and may respond

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**Table 1**

<p>| Posttraumatic Stress Disorder (PTSD) Symptoms by Symptom Cluster With Factor Loadings |
|--------------------------------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Symptom</th>
<th>Loading*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re-experiencing</td>
<td></td>
</tr>
<tr>
<td>Intrusive memories</td>
<td>.84</td>
</tr>
<tr>
<td>Nightmares</td>
<td>.76</td>
</tr>
<tr>
<td>Flashbacks</td>
<td>.74</td>
</tr>
<tr>
<td>Emotional reactivity to trauma cues</td>
<td>.80</td>
</tr>
<tr>
<td>Physical reactivity to trauma cues</td>
<td>.77</td>
</tr>
<tr>
<td>Avoidance</td>
<td></td>
</tr>
<tr>
<td>Avoidance of thoughts and conversation</td>
<td>.84</td>
</tr>
<tr>
<td>Avoidance of reminders</td>
<td>.77</td>
</tr>
<tr>
<td>Dysphoria</td>
<td></td>
</tr>
<tr>
<td>Trouble remembering parts of the trauma</td>
<td>.66</td>
</tr>
<tr>
<td>Loss of interest and pleasure in activities</td>
<td>.77</td>
</tr>
<tr>
<td>Feeling distant or cut off from others</td>
<td>.83</td>
</tr>
<tr>
<td>Affective numbing</td>
<td>.80</td>
</tr>
<tr>
<td>Sense of foreshortened future</td>
<td>.60</td>
</tr>
<tr>
<td>Impaired sleep</td>
<td>.61</td>
</tr>
<tr>
<td>Irritability</td>
<td>.77</td>
</tr>
<tr>
<td>Difficulty concentrating</td>
<td>.72</td>
</tr>
<tr>
<td>Arousal</td>
<td></td>
</tr>
<tr>
<td>Hypervigilance</td>
<td>.81</td>
</tr>
<tr>
<td>Exaggerated startle response</td>
<td>.89</td>
</tr>
</tbody>
</table>

*Standardized factor loadings from the Time 1 Measurement Model from for PTSD factors.*
with greater individual symptoms of distress (i.e., depression) when faced with relationship problems (Fincham, Beach, Harold, & Osborne, 1997). Consequently, examining the role of PTSD and relationship adjustment between genders is warranted.

The present study addresses gaps in the literature by using structural equation modeling (SEM) to examine the unique contributions of symptom clusters from the dysphoria model of PTSD to the prediction of relationship adjustment among OIF National Guard veterans, both cross-sectionally and longitudinally. After examining whether to control for demographic factors that have been linked to postdeployment stress and marital adjustment in prior research (e.g., age, rank, and education; Anderson, Van Ryzin, & Doherty, 2010; Riddle, Sanderra, Jones, & Webb, 2008), we hypothesized that the latent factor of dysphoria would predict relationship adjustment over and above other factors of PTSD. In secondary analyses, we examined gender differences in associations with symptoms clusters of PTSD and relationship adjustment.

**Method**

**Participants**

As described elsewhere (Meis, Barry, Kehle, Erbes, & Polusny, 2010; Polusny et al., 2011), participants were part of a prospective, longitudinal study of 522 National Guard Brigade Combat Team soldiers deployed to Iraq in 2006. The study protocol was approved by institutional review boards at the University of Minnesota and Minneapolis VA Medical Center and National Guard command; all participants provided informed consent. Soldiers were mailed surveys within 2–3 months of their return from combat deployment to Iraq (Time 1) and 1 year later (Time 2). Most of the original predeployment sample (424, or 81%) returned surveys at Time 1 and 343 (65.7%) returned surveys at Time 2. Questionnaires assessed deployment and postdeployment experiences and functioning. Of the 424 Time 1 respondents, 313 reported that they were either married or in an intimate relationship and were included in Time 1 cross-sectional analyses. Of these, 246 returned Time 2 surveys and 225 reported they were still in a relationship and were included in Time 2 longitudinal analyses.

At Time 1, the average soldier (n = 280 or 89% men; n = 33 or 11% women) was 31 years old (SD = 8.72; range = 18–57), deployed for 16 months (SD = 2.93; range = 2–23), and identified primarily as White or Caucasian (94%). In terms of education, 14% obtained a high school diploma or GED, 40% attended some college, and 46% completed at least a 2-year college degree. Most were currently employed (62.1%) or students (14.9%). Most were enlisted rank (86%), with 1% warrant officers and 13% officers. Twelve percent were in a relationship less than 6 months, 20% for 7 months to 2 years, and 68% for 3 or more years (Median = 3–5 years; Mode = 6 or more years). Sixty-four percent were married, 3% currently lived with a romantic partner, and half (50%) had at least one child. Time 2 participants did not differ significantly from nonresponders in gender, deployment length, ethnicity, having children, or Time 1 relationship adjustment. However, Time 2 responders were more likely older (33.56, SD = 8.68 vs. 30.60, SD = 8.42, t = 2.73, p = .007), married or cohabiting (87% vs. 59%, χ² = 29.67, df = 1, p < .001), in longer relationships (χ² = 15.79, df = 3, p = .001), better educated (χ² = 17.27, df = 7, p = .02), and of officer rank (6% vs. 4%, χ² = 7.868, df = 1, p = .005).

**Measures**

**Demographics.** Binary variables were used for gender, marital status (married/cohabiting vs. not), and rank (officer vs. nonofficer). Education was coded as an ordinal variable with five levels: high school/GED, some college, 2-year college degree, 4-year college degree, or graduate degree. Age was examined as a continuous variable.

**Abbreviated Dyadic Adjustment Scale (ADAS; Sharpley & Rogers, 1984).** A 7-item version of the Dyadic Adjustment Scale (Spanier, 1976) was used as a brief measure of relationship adjustment. The ADAS includes items assessing satisfaction and general relationship adjustment and has been shown to correlate with other measures of couple functioning, satisfaction, communication, and cohesion (Hunsley, Pinsent, Lefebvre, James-Tanner, & Vito, 1995; Sharpley & Rogers, 1984) and demonstrates similar associations with relationship functioning, cohesion, and satisfaction as the full version of the DAS (Hunsley et al., 1995). Internal consistency reliability in the current sample was .86 at Time 1 and .85 at Time 2.

**Navy Quality of Life Survey (NQOLS; Wilcove, 2005).** Two indices of relationship adjustment were extracted from the NQOLS: total score on the NQOLS Marriage/Intimate Relationship Satisfaction (NQOLS-MIRS) and a single relationship satisfaction item (NQOLS-SAT). This NQOLS-MIRS consists of eight 7-point Likert items assessing satisfaction with areas of couple functioning including communication, intimacy, conflict resolution, support, respect, physical closeness, and time spent away from each other (present sample, Time 1 and 2 α = .92). The single item (NQOLS-SAT) was assessed in a later section of the survey, in which respondents rated on a 7-point Likert scale, “How satisfied are you OVERALL in each of these areas: Marriage/Intimate Relationship.”

**PTSD Checklist – Military Version (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993).** The PCL is a widely used 17-item measure that assesses the 17 symptoms of PTSD on a 5-point Likert scale. Internal consistency reliability for the measure is excellent (.94 in the present sample). Validity for the PCL comes from its established correlations with other self-report measures of PTSD and PTSD diagnoses (e.g., Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). Following recommendations (e.g., Hoge et al., 2004), we used a cutoff score of 50 and required respondents endorse 1 criterion B, 3 criterion C, and 2 criterion D symptoms as at least “moderately” for a determination of likely PTSD diagnoses. Present sample α = .88, .79, .89, and .84 for reexperiencing, avoidance, dysphoria, and hyperarousal, respectively.
Analytic Plan

The relationships between PTSD symptom factors and relationship adjustment were examined using SEM with maximum likelihood estimation in the MPlus analysis program, Version 5.1. Analysis of missing data (16 participants and 1.5% of data points for Time 1; 18 participants and less than 1% of data points at Time 2) suggested that data were missing at random. Maximum likelihood estimation was used to address missing data in all analyses.

For Time 1, SEM analyses proceeded along several steps. First, confirmatory factor analyses (i.e., measurement models) were examined for the latent variables of each of the 4 factors of PTSD (as listed in Table 1), and relationship adjustment. The latter was comprised of three indicator variables, the ADAS, NQOLS-MIRS, and NQOLS-SAT, and was termed “relationship adjustment,” because it included measures of relationship satisfaction as well as broader adjustment (see, e.g., Heyman, Sayers, & Bellack, 1994). Indicator-factor loadings and fit indices were examined to ensure an adequate measurement model. Next, the relationship between the latent factor of relationship adjustment and demographic covariates was examined using bivariate analyses (t tests for binary variables and correlations for continuous variables). Because none of the covariates (age, gender, marital status, education, and rank) were related to relationship adjustment, only the four factors of PTSD were then entered into the final multivariate model predicting relationship adjustment. Time 1 SEM analyses specified independence of error variances. Possible gender effects were examined by comparing fit indices from the final structural model estimated in the subsample of men only to the model estimated when using the whole sample. Correlations between latent constructs were compared between male and female participants.

The longitudinal relationship between Time 1 PTSD symptom clusters and Time 2 relationship adjustment was again investigated using SEM, using only those participants who had responded, and were in a relationship, at both time points. Time 1 relationship adjustment and PTSD symptom clusters were specified exactly as in Time 1 analyses, using indicators collected at Time 2. Error for relationship adjustment indices was specified to be correlated across time for each variable. The SEM simultaneously analyzed two potential pathways through which PTSD symptom clusters may lead to decreases in relationship adjustment over time: (a) the degree to which Time 1 PTSD predicted relationship adjustment at Time 2, controlling for Time 1 relationship adjustment (i.e., a direct effect) and (b) the degree to which PTSD at Time 1 predicted relationship adjustment at Time 2 through PTSD’s associations with Time 1 relationship adjustment (i.e., a mediation or indirect effect where Time 1 relationship adjustment mediated the relationship between Time 1 PTSD and Time 2 adjustment). Because of the smaller Time 2 sample size, gender effects were not examined in Time 2 results.

Results

Seventeen percent of the sample (n = 54) screened positive for PTSD at Time 1. As shown in Table 2, soldiers screening positive for PTSD reported significantly poorer relationship adjustment on all measures at both time points. Correlations between total severity scores for each PTSD subscale and Time 1 and 2 relationship indicators are listed in Table 3.

Time 1 PTSD and Relationship Adjustment

In the PTSD measurement model, 4 factors were delineated: reexperiencing (5 items), avoidance (2 items), dysphoria (8 items), and hyperarousal (2 items). This 4 factor solution obtained reasonable fit ($\chi^2 = 288.53, df = 113, p < .001$; Comparative Fit Index [CFI] = .94; Root Mean Square Error of Approximation [RMSEA] = .07; Standardized Root Mean Square Residual [SRMR] = .04) with good to excellent item factor loadings, as shown in Table 1. Because the model for relationship adjustment had three indicators, fit indices were not interpretable (i.e., perfect fit was automatic) but item loadings were again favorable (.85, .94, and .83 for NQOLS-SAT, NQOLS-MIRS, and ADAS, respectively). A structural model was then estimated simul-

<table>
<thead>
<tr>
<th>Variable</th>
<th>No PTSD</th>
<th>Probable PTSD</th>
<th>Comparisona</th>
<th>Effect sizeb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 1 (N = 313)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADAS</td>
<td>25.41 (5.27)</td>
<td>22.22 (6.90)</td>
<td>3.66***</td>
<td>.43</td>
</tr>
<tr>
<td>NQOLS-MIRS</td>
<td>43.31 (10.14)</td>
<td>35.19 (11.92)</td>
<td>5.06***</td>
<td>.52</td>
</tr>
<tr>
<td>NQOLS-SAT</td>
<td>5.58 (1.52)</td>
<td>4.31 (1.67)</td>
<td>5.32***</td>
<td>.58</td>
</tr>
<tr>
<td>Time 2 (N = 225)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADAS</td>
<td>23.98 (5.40)</td>
<td>20.68 (6.16)</td>
<td>2.97**</td>
<td>.40</td>
</tr>
<tr>
<td>NQOLS-MIRS</td>
<td>42.55 (9.53)</td>
<td>37.30 (11.87)</td>
<td>2.60*</td>
<td>.35</td>
</tr>
<tr>
<td>NQOLS-SAT</td>
<td>5.45 (1.41)</td>
<td>4.71 (1.65)</td>
<td>2.52*</td>
<td>.34</td>
</tr>
</tbody>
</table>

*Note. ADAS = Abbreviated Dyadic Adjustment Scale; NQOLS-MIRS = Navy Quality of Life Scale–Marital/Intimate Relationship Satisfaction Scale; NQOLS-SAT = Navy Quality of Life Satisfaction Item.

a Independent samples t test. b Cohen’s d.

*p < .05. **p < .01. ***p < .001.
taneously evaluating the effect of each PTSD symptom cluster on relationship adjustment (Figure 1). The overall structural model again obtained reasonable fit ($\chi^2 = 348.26$, $df = 160, p < .001; \text{CFI} = .95, \text{RMSEA} = .06, \text{SRMR} = .04$). Significant relationships were found between relationship adjustment and both dysphoria (standardized path coefficient $= -.71, p < .001$) and reexperiencing (standardized path coefficient $= .37, p < .05$). The positive relationship between reexperiencing and relationship adjustment found in the structural model was opposite the bivariate correlation between these latent constructs (Table 4).

### Time 1 Gender Effects

When examining the structural model in Figure 1 for the total sample of 313 participants compared with the men only subsample ($n = 280$), the two models did not differ in terms of overall fit or the relations that emerged between latent constructs. The sample had insufficient numbers of female participants ($n = 33$) to test for differences between men and women on the structural model parameters using SEM. Instead, we compared the magnitude of zero-order correlations between PTSD symptom clusters and relationship adjustment between the genders using Fisher $Z$ transformations. As shown in Table 5, the correlations between symptom clusters and relationship adjustment were generally higher for women than for men, and this difference in correlations approached significance for the Avoidance factor ($Z = 1.90, p = .06$).

#### Time 2 PTSD and Relationship Adjustment

Overall, fit statistics for the longitudinal model tested in the Time 2 sample were again adequate ($\chi^2 = 401.86, p < .001, \text{CFI} = .94, \text{RMSEA} = .06, \text{SRMR} = .05$). As shown in Figure 2, the relationship between Time 1 PTSD symptom clusters and Time 1 relationship adjustment was largely unchanged in the reduced Time 2 sample. However, after controlling for all other paths in the model, the relationship between Time 1 PTSD symptoms and Time 2 relationship adjustment was not independently significant for any symptom clusters, with standardized path coefficients ranging from $.29$ to $-.32$. Analyses of indirect (mediated) effects suggested that dysphoria predicted Time 2 relationship adjustment through its association with Time 1 relationship adjustment (standardized coefficient for indirect effect $= -.53, p < .001$). No other significant indirect relationships were found for the remaining symptom clusters (standardized coefficients for reexperiencing $= .12$, avoidance $= .09$, or arousal $= .12$, all with $p > .10$).

### Discussion

Findings from the current study replicate previous research showing that soldiers with PTSD report poorer relationship adjustment than soldiers who do not screen positive for PTSD in a sample of National Guard soldiers recently returned from OEF/OIF. The current study examined associations between each of 4 interrelated PTSD factors identified in previous research (Simms et al., 2002)—

![Figure 1. Structural model: Posttraumatic stress disorder (PTSD) and relationship functioning at Time 1. Single-headed arrows are standardized path weights. Double-headed arrows are correlation coefficients. REEXP = Re-experiencing; AVOID = Avoidance; DYSPH = Dysphoria; AROUS = Arousal; RELADJ = Relationship adjustment. ** $p < .01$. *** $p < .001$.](image-url)
reexperiencing, avoidance, dysphoria, and hyperarousal—and relationship adjustment. Each symptom cluster demonstrated significant bivariate correlations with poorer relationship adjustment at Time 1, and avoidance and dysphoria were also correlated with relationship adjustment at Time 2. However, when symptom clusters were modeled simultaneously, the PTSD dysphoria symptom cluster was the most important factor explaining intimate relationship adjustment among National Guard soldiers within the 6-month period following their return from deployment (Time 1), and the only significant factor, through its effect on Time 1 relationship adjustment, predicting relationship adjustment 1 year later (Time 2).

Dysphoria symptoms, characterized by internalization and emotional distress, are likely to increase emotional withdrawal from partners and decrease the capacity for positive engagement and emotion experiencing. Emotional withdrawal is particularly harmful for relationship adjustment (Gottman & Levenson, 1986). Lack of emotional involvement and expression may reduce opportunities for closeness and intimacy, validation, and effective communication. Results of the present study are consistent with previous studies demonstrating that emotional numbing symptoms contribute to lower rates of couple adjustment, even after controlling for other PTSD symptoms (Cook et al., 2004; Monson et al., 2009). However, the dysphoria cluster also includes the symptom of increased irritability which can have implications for couple adjustment. Angry and hostile outbursts can lead to reduced communication, ineffective problem solving, and decreased partner social support (Sherman et al., 2005). It is important to note that the symptoms of the dysphoria factor are for the most part not specific to PTSD (Simms et al., 2002), which implies that much of the impact of PTSD on couple adjustment may be because of the generalized distress that accompanies the disorder.

In cross-sectional analyses at Time 1, reexperiencing was uniquely, positively related to relationship adjustment in the structural model, despite its negative zero-order relationship with relationship adjustment. This association was unexpected but not unprecedented. Solomon and colleagues (2008) found a similar change in the direction of the relationship between reexperiencing and relationship adjustment when considering a model of intercorrelated PTSD factors and attributed results to a suppression effect. We similarly believe that this finding arises from the substantial intercorrelations of the PTSD factors as shown in Table 3 and, as such, is a statistical artifact. In longitudinal analyses this path is no longer statistically significant.

To our knowledge, this is the first study to longitudinally examine the relationship between reexperiencing, avoidance, dysphoria, arousal and relationship adjustment. While both dysphoria and avoidance at Time 1 were related to relationship adjustment at Time 2 on a bivariate level, the structural model (Figure 2) demonstrates that these relationships do not contribute independently to the prediction of Time 2 relationship adjustment when Time 1 relationship adjustment is considered. Taken together with the significant indirect effect of dysphoria on later relationship adjustment, this implies that while dysphoria has a significant and lasting association with relationship adjustment over time,
dysphoria does not lead to further decrements in relationship adjustment beyond its initial effect at Time 1.

Although the sample was primarily male (89%), preliminary analyses show that the extent to which some PTSD symptoms predicted relationship disruption was substantially greater for female soldiers. There was a trend for PTSD avoidance symptoms (e.g., avoiding internal and external reminders of the trauma) to have a greater impact on couple relationships among female soldiers than male soldiers. It is possible that different gender roles may lead to greater consequences for avoidant behaviors among women than men. However, the small number of women present in our sample limits statistical power and makes any conclusions about these differences tentative. This is an important area for future study.

It is interesting to note that neither reexperiencing symptoms (intrusive memories, nightmares, flashbacks, and emotional and physiological reactivity to trauma cues) nor arousal symptoms (hypervigilance, exaggerated startle response) were independently associated with poorer relationship adjustment for either gender. Consistent with previous research on family functioning among psychologically impaired family members (Hooley, Richters, Weintraub, & Neale, 1987), perhaps the clear link between these symptoms and combat trauma (an apparent cause) results in less negative attributions among couples about the meaning or function of these symptoms in the couple relationship. That is to say, symptoms such as nightmares, flashbacks, and hypervigilance may be viewed by the couple as being caused by combat deployment, and thus, may lead to fewer attributions of blame and less resentment and perhaps generate increased tolerance, patience, and empathy, buffering the negative effects of PTSD on intimate relationships, at least in the short term. In contrast, it is possible that symptoms of dysphoria, including anger, irritability, and emotional numbing may be perceived by partners as being under the control and responsibility of the soldier (as they are less obviously linked to the trauma), and may be more likely to contribute to negative changes in couple relationships. Findings from Renshaw, Rodriguez, and Jones (2008) support this interpretation. Renshaw found that the inverse relationship between PTSD symptoms and partners ratings of relationship satisfaction was only present when partners did not believe soldiers had experienced high levels of combat. They interpreted these findings to indicate that negative attributions about PTSD symptoms, and thus relationship impairment, were more likely when this explanation for symptoms was not present.

Clinical Implications

PTSD has largely been conceptualized as an intrapersonal disorder and most empirically supported treatments do not emphasize the interpersonal context in which it occurs. However, many returning combat veterans experience significant and immediate disruptions in their intimate relationships. It is important that treatment providers routinely assess for interpersonal consequences of PTSD as there is consensus among trauma researchers that social factors have an important role in PTSD recovery. Stressors common during reintegration, such as negative social interactions and life events, can substantially erode social support and increase the risk of PTSD (Brewin et al., 2000). Moreover, PTSD symptoms have been shown to predict deteriorating social support over time (King, Taft, King, Hammond, & Stone, 2006), underscoring the disorder’s negative effects on social functioning and family members. In addition, treatment approaches addressing avoidance and/or management of intense emotions such as Cognitive Behavioral Conjoint Therapy for PTSD (Monson, Schnurr, Stevens, & Guthrie, 2004), Strategic Approach Therapy (Sautter, Glynn, Thompson, Franklin, & Han, 2009), Emotion Focused Couple Therapy (Johnson, 2002), or Integrative Behavioral Couple Therapy for PTSD (Erbes, Polusny, MacDermd, & Compton, 2008) may be particularly helpful, yet empirical support for these interventions remains in its infancy.

Limitations

Data were self-reported only from the soldier’s perspective. Many effect sizes were modest, and further research is needed to examine the clinical significance of findings. While factor loadings for the NQOLS strongly support its relationship with the ADAS in this sample, the NQOLS subscale and items used have not received extensive validation. Results for women are from a small subset of participants and also require replication. Participants were all from one ethnically homogenous National Guard brigade. Furthermore, differences in demographics between those who did and did not complete Time 2 may limit our ability to generalize results to younger, unmarried, and less educated soldiers. The high levels of intercorrelation among PTSD symptoms suggests that the tests for independent relationships among PTSD symptoms are statistically conservative. While this makes the findings about dysphoria’s
unique relationship all the more impressive, it is possible other unique associations could emerge if there was less multicollinearity. Future studies may benefit from examining reports of relationship adjustment from both partners and more objective behaviorally based observations of couple interactions.

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