Factor Structure of the PTSD Checklist in a Sample of OEF/OIF Veterans Presenting to Primary Care: Specific and Nonspecific Aspects of Dysphoria

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Abstract Although *DSM-IV-TR* diagnostic criteria for posttraumatic stress disorder (PTSD) include three primary symptom clusters, recent evidence from confirmatory factor analyses suggest that the latent structure of PTSD is better represented by four factors, which will likely be reflected in the upcoming *DSM-5*. Given this likely transition from three to four clusters, the present study sought to examine specific and non-specific aspects of dysphoria in the factor structure of PTSD symptoms in a sample of OEF/OIF combat veterans presenting to a Veterans Affairs primary care clinic. PTSD symptoms were assessed using the PCL-M (Weathers et al. 1993). Results from confirmatory factor analyses suggested that a dysphoria factor involving a number of non-specific distress symptoms may be an important part of the PTSD symptom profile. After controlling for variance due to general psychological distress, we further found that factor loadings on the dysphoria factor were attenuated but continued to significantly load onto the factor, suggesting that dysphoria may be a specific part of the PTSD symptom constellation.

Keywords Posttraumatic stress disorder · OEF/OIF veterans · Confirmatory factor analysis · Dysphoria

Symptoms of posttraumatic stress disorder (PTSD) are currently conceptualized in the *Diagnostic and Statistical*

Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association [APA], 2000) as falling into three distinct symptom clusters including re-experiencing (Cluster B), avoidance/numbing (Cluster C), and hyperarousal (Cluster D). Recent evidence from a number of confirmatory factor analytic (CFA) studies, however, has yielded little support for this three-factor model of PTSD (e.g., Palmieri et al. 2007), and a number of alternative models have been suggested. Currently, the models receiving the most support are variants of correlated four-factor models (i.e., King et al. 1998; Simms et al. 2002).

In one four-factor model, the avoidance and emotional numbing symptoms of Cluster C are separated into two unique factors: an avoidance symptom cluster and an emotional numbing cluster (King et al. 1998). Although King et al. (1998) found support for this model using the Clinician Administered PTSD Scale (CAPS; Blake et al. 1990), a structured clinical interview for PTSD, other CFA studies using the PTSD Checklist (PCL; Weathers et al. 1993), a self-report instrument, also suggest that this model is a good fit in terms of the factor structure of PTSD. For instance, the King et al. model of PTSD was found to provide the best model fit in samples of primary care patients (Asmundson et al. 2000), cancer survivors (DuHamel et al. 2004), community violence victims (Marshall 2004), and sexual harassment victims (Palmieri and Fitzgerald 2005) where PTSD symptoms were assessed using the PCL. A more recent CFA study involving a 2005 sample of active duty military personnel also found support for this model using the PCL (Mansfield et al. 2010).

A second four-factor model proposed by Simms et al. (2002) retains the re-experiencing, avoidance, and hyperarousal factors as symptom constellations unique to PTSD. However, this model combines indicators of emotional numbing and some indicators of hyperarousal, including

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disturbed sleep, irritability, and difficulty concentrating, into what Simms et al. termed a dysphoria, or general distress, factor (Palmieri et al. 2007), so named because of the conceptual overlap of these symptoms with those of other mood and anxiety disorders and negative affect in general. For example, symptoms loading onto the dysphoria factor include anhedonia (a symptom shared with major depressive disorder, or MDD), irritability (a symptom shared with generalized anxiety disorder, or GAD), and disturbed sleep and difficulty concentrating (symptoms shared with both MDD and GAD; Frueh et al. 2010). Thus, one possible implication is that the dysphoria factor may represent non-specific symptoms of PTSD, and, consequently, has been implicated in the high degree of diagnostic comorbidity between PTSD and other mood and anxiety disorders (e.g., Kessler et al. 1995; Spitzer et al. 2007). Simms et al. found support for this model in a sample of veterans that included veterans deployed during the first Gulf War and used the PCL to assess PTSD symptoms. CFA studies with other samples using the PCL also support the Simms et al. four-factor model, including one sample of survivors of intimate partner violence (Krause et al. 2007). Lancaster et al. (2009) found support for a non-specific dysphoria factor in a sample of trauma-exposed college students but also reported that the avoidance symptoms loaded best on the same factor as re-experiencing symptoms.

In the years since the original work by Simms et al. (2002), evidence regarding the construct validity of the dysphoria factor has produced mixed results, and researchers continue to call for further clarification into the nature of the dysphoria factor in PTSD (e.g., Frueh et al. 2010). Generally speaking, the dysphoria factor seems to correlate better than the remaining three PTSD factors with measures of depression and anxiety (i.e., Palmieri et al. 2007; Simms et al. 2002). To explore whether or not the dysphoria factor is actually distinguishable from depression, Elklit et al. (2010) conducted a CFA in which they regressed all of the items from the Harvard Trauma Questionnaire (Mollica et al. 1992) on a measure of depression. Their results revealed that controlling for depression most strongly attenuated the factor loadings of items on the dysphoria factor (although all but one of these factor loadings remained statistically significant), suggesting that many of the symptoms on the dysphoria factor overlap with depression. Attenuation on the remaining factors was much less pronounced. Marshall et al. (2010) argued that one limitation of much of the extant research on the construct validity of the dysphoria factor, however, is that many of the measures used to operationalize general distress are actually tapping more specific domains (i.e., depression) and not general distress, *per se*. After selecting items from measures designed to provide a more accurate measure of general psychological distress, Marshall and colleagues found evidence that all

PTSD symptoms, including the symptoms expected to load on the dysphoria factor, were similarly related to general distress.

One goal of the current study was to investigate the factor structure of PTSD symptoms in a sample of recently returned combat veterans deployed as part of Operations Enduring Freedom and Iraqi Freedom (OEF/OIF, respectively) presenting to a Veterans Affairs Medical Center (VAMC) primary care clinic. This cohort has shown elevated rates of PTSD symptoms (Jakupcak et al. 2008) and they are a group likely to be affected by advances in the conceptualization of the PTSD syndrome and by the further refinement of assessment instruments. Furthermore, this cohort is also ideal in terms of examining the robustness of the dysphoria factor. From an assessment perspective, symptom overreporting is often an issue with combat veterans seeking evaluation for disability due to PTSD, and some researchers have suggested that such overreporting may be driven by elevated levels of general distress, causing veterans to overestimate symptoms and associated impairment (Frueh et al. 2000). Among OEF/OIF veterans, dysphoria also seems to be uniquely associated with a number of postdeployment psychosocial outcomes, including family, peer, and work difficulties, suicidal ideation, and seeking mental health care, even after controlling for all other PTSD symptom clusters (Pietrzak et al. 2010).

A second goal of the study was to explore the validity of the dysphoria factor after controlling for general symptoms of psychological distress, which could be conceptualized as overlapping with the non-specific aspects of the dysphoria factor. Prior research suggests that items on the dysphoria factor are strongly attenuated by symptoms of depression and GAD (Armour et al. 2010; Elklit et al. 2010), but no research to date has examined whether symptoms of dysphoria are fully attenuated by general psychological distress. Thus, if a pattern emerged such that the item loadings on the dysphoria factor were no longer statistically significant after controlling for psychological distress, this would suggest that the items considered to be indicators of dysphoria are indeed not attributable to PTSD, raising questions about whether they should be retained in the structure of PTSD.

Method

Participants and Procedure

The sample consists of 544 OEF/OIF combat veterans seeking primary care at a clinic that serves as the initial point of contact within the Memphis VAMC system. Although four participants did not provide information on

gender, the sample was predominantly male (89.5%; $n=487$) with an age range from 19 to 62 years old ($M=34.22$; $SD=9.72$). A majority described themselves as White (60.7%; $n=330$) or African-American (33.5%; $n=182$). Data for this investigation were obtained through the screening phase of an intervention study. Participants completed all measures for the current investigation prior to being recruited to the larger trial. All data collection procedures were approved by both the University of Memphis and Memphis VAMC institutional review boards. A subset of this sample was included in a prior publication that investigated rates of screening positive for PTSD and alcohol misuse among OEF/OIF primary care patients (McDevitt-Murphy et al. 2010).

Measures

The PTSD Checklist-Military version (PCL-M; Weathers et al. 1993) is a 17-item self-report questionnaire assessing the symptom dimensions of PTSD which correspond to the *DSM-IV-TR* criteria (APA 2000). The PCL-M was adapted specifically for use with military populations and asks respondents to answer the items based on their military experience. For each item respondents are instructed to indicate how much they have been bothered by the particular symptom in the past month. The PCL-M utilizes a 5-point Likert response scale ranging from 1 to 5. A rating of 1 on this scale indicates least severity (“*Not at all*”) and a 5 response indicates most severity (“*Extremely*”). The sum of all item scores reflects the PTSD total severity score (17–85), with higher scores indicating greater PTSD symptom severity. The PCL has demonstrated excellent psychometric properties in a variety of populations (Weathers et al. 1993; Yeager et al. 2007). The PCL-M has been well-validated in samples of OEF/OIF veterans (Grieger et al. 2007; Pietrzak et al. 2009). In the current study, the internal consistency of the PCL-M was high ($\alpha=.96$).

General dysphoria was assessed using The Medical Outcomes Study Short Form-36 health survey (SF-36; Ware and Sherbourne 1992) mental health subscale. The SF-36 is a self-report instrument that measures health related quality of life across eight domains: physical functioning, role limitations due to physical health, role limitations due to emotional problems, vitality, mental health, social functioning, pain, and general health. The mental health subscale was originally created using a subset of 5 items from a larger mental health scale designed to assess psychological distress, including depressive and anxiety symptoms, and loss of behavioral or emotional control (Ware and Sherbourne 1992). Assessing symptoms over the past 4 weeks, items include, “Have you been a very nervous person,” “Have you felt so down in the dumps that nothing could cheer you up,” and “Have you felt

downhearted and blue?” Subscale scores range from 0 to 100 with higher scores indicating better functioning. In the current study the mental health scale evidenced good internal consistency ($\alpha=.87$).

Data Analysis Plan

CFAs were estimated using Mplus Version 3.1 software (Muthén and Muthén 1998–2004). Prior to conducting our analyses we evaluated the distributional property assumptions for each item on the PCL, which exhibited significant non-normal univariate and multivariate distributions (skewness and kurtosis). Whereas non-normality may increase the likelihood of Type 1 error due to inflated chi-square values and reduced standard errors, we used the robust maximum likelihood (MLR) estimator for model estimation (Muthén and Muthén 1998–2004). This estimator provides an adjusted chi-square statistic that is equivalent to the Yuan-Bentler T2* statistic (Yuan and Bentler 2000) and is capable of handling missing data.

For all models tested, each item from the PCL was specified to load onto a single factor. Item mapping for each model tested is presented in Table 1. The first model is a one-factor solution conceptualized as a general PTSD factor. The second model, consisting of two correlated factors such that re-experiencing and avoidance items load onto one factor while numbing and hyperarousal symptoms load onto a second factor, was selected based on previous research suggesting that re-experiencing and avoidance symptoms are most strongly related to each other while numbing symptoms are most strongly related to hyperarousal symptoms (e.g., Taylor et al. 1998). The third model is a hierarchical three-factor solution consisting of three, first-order factors as specified in the *DSM-IV-TR* and a higher-order PTSD factor. Models four and five are correlated four-factor solutions based on the King et al. (1998) and Simms et al. (2002) models, respectively. Each model was evaluated using multiple fit statistics including chi-square and the root mean-square error of approximation (RMSEA; Steiger 1990) where RMSEA values between .08 and .05 are indicative of acceptable model fit, and RMSEA values lower than .05 are indicative of good model fit (Browne and Cudeck 1993). Additional fit statistics include the standardized root-mean-square residual (SRMR), with SRMR values less than .08 suggestive of acceptable fit (Hu and Bentler 1999); the comparative fit index (CFI) and Tucker Lewis index (TLI) are considered indicative of good fit with values above .95 (Hu and Bentler 1999) where higher scores indicate better model fit. To test for factor attenuation after controlling for dysphoria, or psychological distress, we regressed each of the items on the PCL onto the mental health subscale of the SF-36 (see Fig. 1).

Table 1 PCL-M factor loading for tested models

DSM-IV-TR PTSD symptoms	Model				
	1 Single	2 2-Factor	3 DSM-IV	4 King	5 Simms
Cluster B					
1. Intrusive thoughts of trauma	G	R,A	R	R	R
2. Recurrent dreams of trauma	G	R,A	R	R	R
3. Flashback of trauma	G	R,A	R	R	R
4. Emotional response to reminders	G	R,A	R	R	R
5. Physiological response to reminders	G	R,A	R	R	R
Cluster C					
6. Avoidance of thoughts	G	R,A	A,N	A	A
7. Avoidance of reminders	G	R,A	A,N	A	A
8. Difficulty remembering aspects of trauma	G	N,H	A,N	N	D
9. Loss of interest	G	N,H	A,N	N	D
10. Feeling distant or cut off from others	G	N,H	A,N	N	D
11. Feeling emotionally numb	G	N,H	A,N	N	D
12. Sense of foreshortened future	G	N,H	A,N	N	D
Cluster D					
13. Sleep disruption	G	N,H	H	H	D
14. Irritability	G	N,H	H	H	D
15. Concentration difficulty	G	N,H	H	H	D
16. Hypervigilance	G	N,H	H	H	H
17. Exaggerated startle	G	N,H	H	H	H

G = general PTSD; R = re-experiencing factor; A = avoidance factor; N = numbing factor; H = hyperarousal factor; D = dysphoria factor. Model 1 = 1-factor solution. Model 2 = 2-factor solution. Model 3 = 3-factor solution based on *DSM-IV-TR*. Model 4 = 4-factor solution based on King et al. (1998). Model 5 = 4-factor solution based on Simms et al. (2002).

Fig. 1 Four-factor Simms model with PCL-M items regressed on the mental health subscale of the SF-36 (adapted from Elklit et al. 2010). 1 = Intrusive thoughts. 2 = Trauma-related nightmares. 3 = Flashbacks. 4 = Emotional reactivity to trauma cues. 5 = Physical reactivity to trauma cues. 6 = Avoiding thoughts and feelings. 7 = Avoiding

reminders. 8 = Psychogenic amnesia. 9 = Anhedonia. 10 = Interpersonal detachment. 11 = Restricted affect. 12 = Sense of foreshortened future. 13 = Disturbed sleep. 14 = Irritability. 15 = Difficulty concentrating. 16 = Hypervigilance. 17 = Exaggerated startle

Results

Descriptive Statistics

Veterans in this sample reported having served an average of 1.45 ($SD=.68$) OEF/OIF deployments, and that they were deployed to combat zones an average of 14.20 total months ($SD=7.46$). Preliminary analyses revealed a mean PCL-M score of 40.89 ($SD=18.21$). While this value is below the civilian cut score of 44 used to identify positive PTSD screens (Blanchard et al. 1996), it is consistent with mean PCL scores reported in other samples of treatment seeking OEF/OIF veterans (e.g., Jakupcak et al. 2008) and is elevated in comparison to many previous samples used to explore the dimensionality of PTSD symptoms (e.g., Palmieri et al. 2007; Simms et al. 2002).

Confirmatory Factor Analyses

Fit statistics for each model are presented in Table 2. Visual inspection of the results suggests that model 1 (a one factor solution) demonstrated the worst fit for the data, with the highest chi-square value and CFI and TLI values below the cutoff used to determine good model fit. The RMSEA value for model 1 is also well above the cutoff for acceptable fit. The best fitting model appeared to be model 5 (a four-factor solution based on Simms et al. 2002), which had the lowest chi-square value. The CFI for model 5 met the cutoff for good model fit, and the SRMR values for model 5 were also below the recommended values. The RMSEA value for model 5 was within the range indicative of acceptable model fit, although models 4 and 5 (both four-factor models) had overlapping 90% confidence intervals. This overlap, along with identical SRMR values and similar CFI

and TLI values, suggests that models 4 and 5 are comparable in terms of model fit.

We then examined factor attenuation on the Simms et al. (2002) model by regressing each of the PCL items on the mental health scale. Overall, model fit appeared to slightly improve after controlling for mental health scores as evidenced by improved values on several fit statistics ($\chi^2(113)=391.82$, $p<.001$; SRMR=.03; CFI=.96). Factor loadings decreased across all 4 factors, but the highest attenuation occurred on the dysphoria factor ($M=.38$, $SD=.05$). Mean attenuation on each of the other factors ranged from .25 ($SD=.07$) on the hyperarousal factor to .28 ($SD=.05$) on the reexperiencing factor. Nevertheless, all of the factor loadings on the dysphoria factor remained statistically significant. Standardized factor loadings for the Simms et al. model with and without the PCL items regressed on the SF-36 mental health scale are presented in Table 3. Table 3 also presents factor correlations in the models with and without PCL items regressed on the mental health scale. For comparison, we also examined factor attenuation in the King et al. (1998) model. Results are presented in Table 4. On the King et al. model, the highest attenuation occurred on the numbing ($M=.37$, $SD=.06$) and hyperarousal factors ($M=.33$, $SD=.13$). Mean attenuation was similar for both the re-experiencing ($M=.28$, $SD=.05$) and avoidance ($M=.28$, $SD=.04$) factors.

Discussion

The current study used confirmatory factor analysis (CFA) to examine the factor structure of PTSD symptoms in a sample of combat-deployed OEF/OIF veterans presenting to primary care based on the PTSD Checklist (Weathers et al. 1993), a widely used self-report measure of PTSD. The results of CFAs suggest that a dysphoria factor consisting of negative affect/distress symptoms may be an important part of the PTSD symptom picture, particularly in this sample of recently deployed veterans. Furthermore, CFA results indicate that both four-factor models demonstrated better model fit than the single-factor, two-factor, or three-factor models. A four-factor model consisting of re-experiencing, avoidance, dysphoria, and hyperarousal factors (Simms et al. 2002) tended to demonstrate slightly better fit on a number of indices, although model fit was largely comparable to the King et al. (1998) model, suggesting that these models may be functionally identical. However, they differ with respect to the items assessing sleep disturbance, concentration, and irritability, with these items loading on the hyperarousal factor in King et al.'s model, and on the dysphoria factor in the Simms et al. model.

Table 2 PCL-M model fit statistics

Model	<i>df</i>	χ^2	RMSEA (90% CI)	SRMR	CFI	TLI
1	119	1012.37	.12 (.11–.12)	.05	.85	.83
2	118	644.03	.09 (.08–.10)	.04	.91	.90
3	116	720.94	.10 (.09–.11)	.05	.90	.88
4	113	487.69	.08 (.07–.09)	.04	.94	.92
5	113	397.83	.07 (.06–.08)	.04	.95	.94

Model 1 = 1-factor solution. Model 2 = 2-factor solution. Model 3 = 3-factor solution based on *DSM-IV-TR*. Model 4 = 4-factor solution based on King et al. (1998). Model 5 = 4-factor solution based on Simms et al. (2002). Best fitting model is emphasized in boldface. χ^2 = chi-square; RMSEA = root-mean square error of approximation; SRMR = standardized root-mean-square residual; CFI = comparative fit index; TLI = Tucker Lewis index.

Table 3 Factor loadings and correlations before and after controlling for general distress: Simms model

	Re-experiencing		Avoidance		Dysphoria		Hyperarousal	
	Before	After	Before	After	Before	After	Before	After
Intrusive thoughts	.90	.63						
Recurrent dreams	.86	.63						
Flashbacks	.85	.60						
Emotional reactivity	.89	.54						
Physiological reactivity	.84	.55						
Avoidance of thoughts			.90	.60				
Avoidance of cues			.91	.66				
Memory difficulty					.57	.31		
Loss of interest					.85	.48		
Feeling detached					.88	.47		
Emotionally numb					.84	.44		
Foreshortened future					.73	.30		
Sleep disruption					.65	.30		
Irritability					.80	.39		
Concentration difficulty					.85	.45		
Hypervigilance							.87	.67
Exaggerated startle							.94	.64
Factor Correlations								
Re-experiencing	–	–						
Avoidance	.91	.80	–	–				
Dysphoria	.83	.55	.82	.58	–	–		
Hyperarousal	.80	.60	.76	.53	.80	.54	–	–

These findings contribute to a growing body of literature in support of a four factor model and suggest that a dysphoria factor may be integral to the conceptualization of PTSD. Although general distress or negative affect has been implicated in other anxiety disorders (Watson 2005), dysphoria may reflect a distinct factor in PTSD in addition to the more commonly supported symptoms of re-experiencing, avoidance, and hyperarousal (Grant et al. 2008). In addition, these data lend support to the current re-conceptualization of PTSD in DSM-5 (APA 2010).

Applications to DSM-5

According to the most recent information on the DSM-5 website (<http://www.dsm5.org/Pages/Default.aspx>), the diagnostic criteria for PTSD are scheduled to undergo modest revisions in DSM-5, which include separating PTSD into four distinct symptom clusters by separating avoidance and numbing into two distinct clusters (APA 2010; Frueh et al. 2010). So, PTSD in DSM-5 will largely resemble the King et al. (1998) model supported in the current findings, although the new emotional numbing cluster will include three new symptoms including persistent and exaggerated negative expectations about one's self, others, or the world, persistent distorted blame

of self or others about the cause or consequences of the trauma, and pervasive negative emotional state. As in the King et al. four-factor model, disturbed sleep, irritability, and difficulty concentrating will continue to fall under the arousal and reactivity symptom cluster, along with a new symptom of reckless or self-destructive behavior.

Beyond separating avoidance and numbing into two clusters, the current study also supports the proposed re-conceptualization of PTSD in several other ways. The present results bolster previous findings (e.g., Armour et al. 2010; Elklit et al. 2010) suggesting that symptoms theoretically associated with the dysphoria, or general distress, factor continue to significantly load onto that factor even after controlling for general psychological distress. As a result, these symptoms seem to represent a specific part of the PTSD symptom constellation that should not be removed from the symptom criteria as some researchers have suggested (e.g., Spitzer et al. 2007). Indeed, these non-specific dysphoria symptoms are on track to remain in the PTSD symptom criteria for DSM-5 (APA 2010). Furthermore, general, non-specific psychological distress accounts for only part of the variance in each of these symptoms, while a significant amount of variance continues to be explained by various factors comprising the PTSD construct.

Table 4 Factor loadings and correlations before and after controlling for general distress: King model

	Re-experiencing		Avoidance		Numbing		Hyperarousal	
	Before	After	Before	After	Before	After	Before	After
Intrusive thoughts	.90	.63						
Recurrent dreams	.86	.63						
Flashbacks	.85	.60						
Emotional reactivity	.89	.54						
Physiological reactivity	.84	.55						
Avoidance of thoughts			.90	.60				
Avoidance of cues			.91	.66				
Memory difficulty					.56	.28		
Loss of interest					.86	.49		
Feeling detached					.90	.51		
Emotionally numb					.86	.47		
Foreshortened future					.73	.30		
Sleep disruption							.69	.34
Irritability							.81	.37
Concentration difficulty							.83	.36
Hypervigilance							.80	.64
Exaggerated startle							.85	.61
Factor Correlations								
Re-experiencing	–	–						
Avoidance	.91	.79	–	–				
Numbing	.81	.50	.82	.56	–	–		
Hyperarousal	.86	.64	.82	.57	.89	.56	–	–

The question remains of where to place the emotional numbing and dysphoria symptoms in the factor structure of PTSD. A number of studies have found that emotional numbing may be a process unique to PTSD (e.g., Breslau et al. 2005), and some evidence suggests that hyperarousal symptoms (when sleep disturbances, irritability, and concentration difficulty are included) are most predictive of subsequent emotional numbing (e.g., Flack et al. 2000), suggesting that numbing may be a response to the physiological and cognitive effects of elevated stress. Evidence from psychobiological research supports an alignment where sleep disturbances, irritability, and concentration difficulty are retained in the hyperarousal cluster (Mellman 1997). Thus, while symptoms associated with the dysphoria factor may share more variance with general, non-specific distress than other PTSD symptoms, their specific variance associated with PTSD may theoretically best align with the King et al. (1998) model that found support in the current study and serves as the foundation for proposed PTSD revisions in DSM-5.

Clinical Implications

The present findings have several clinical implications. The results underscore the idea that, although dysphoria

symptoms may be common across disorders, they do reflect an important aspect of PTSD. Also important are prior findings that dysphoria and emotional numbing symptoms are most strongly related to stigma and barriers to care, seeking mental health treatment, and interpersonal functioning (e.g., Pietrzak et al. 2010; Ruscio et al. 2002). Clinicians working with veterans are advised to thoroughly assess symptoms of PTSD as well as other common disorders when patients present with dysphoria. Given the issues related to barriers to care, outreach and education to health providers working outside of mental health clinics should also be a priority. Clinicians should be sensitive to elevations in dysphoric symptoms, especially when screening for PTSD using measures like the PCL, given that veterans with these symptoms may benefit from engaging in mental health services.

Limitations and Conclusions

Several important considerations apply to these findings. First, the best fitting model may differ depending on the way PTSD is measured (i.e., CAPS vs. PCL), although the Simms et al. (2002) model seems to provide the best fit after accounting for instrument differences (Palmieri et al. 2007). The results of the current study are based on data

collected using the PCL, a self-report instrument, which precluded our ability to derive diagnostic information or to thoroughly evaluate whether participants experienced events meeting the criterion A definition of a trauma given in *DSM-IV-TR*. Nevertheless, the fact that all participants were combat exposed suggests that they each likely experienced at least one criterion A traumatic event, and, as previously mentioned, there was an elevated mean score on the PCL relative to previous samples used to examine the factor structure of PTSD symptoms (e.g., Palmieri et al. 2007; Simms et al. 2002), suggesting that our results may be more representative of the factor structure of PTSD symptoms among more severely distressed individuals. These findings may be informative, though, in determining how to best assess PTSD among combat veterans presenting for medical care.

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