



Evidence for a unique PTSD construct represented by PTSD's D1–D3 symptoms

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ABSTRACT

Two models of posttraumatic stress disorder (PTSD) have received the most empirical support in confirmatory factor analytic studies: King, Leskin, King, and Weathers' (1998) Emotional Numbing model of reexperiencing, avoidance, emotional numbing and hyperarousal; and Simms, Watson, and Doebbeling's (2002) Dysphoria model of reexperiencing, avoidance, dysphoria and hyperarousal. These models only differ in placement of three PTSD symptoms: sleep problems (D1), irritability (D2), and concentration problems (D3). In the present study, we recruited 252 women victims of domestic violence and tested whether there is empirical support to separate these three PTSD symptoms into a fifth factor, while retaining the Emotional Numbing and Dysphoria models' remaining four factors. Confirmatory factor analytic findings demonstrated that separating the three symptoms into a separate factor significantly enhanced model fit for the Emotional Numbing and Dysphoria models. These three symptoms may represent a unique latent construct. Implications are discussed.

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1. Introduction

The large volume of recent studies examining the factor structure of posttraumatic stress disorder (PTSD) has revealed that two four-factor models best represent the PTSD construct: (1) King, Leskin, King, and Weathers' (1998) model entailing reexperiencing, effortful avoidance, emotional numbing and hyperarousal; and (2) Simms, Watson, and Doebbeling's (2002) model entailing reexperiencing, effortful avoidance, dysphoria and hyperarousal (reviewed in Elhai, Ford, Ruggiero, & Frueh, 2009; Shevlin, McBride, Armour, & Adamson, 2009). These models differ only in the placement of three PTSD symptoms: difficulty sleeping (PTSD's symptom D1), irritability (D2), and difficulty concentrating (D3). Symptoms D1–D3 are part of the King et al. model's hyperarousal factor, but part of the Simms et al. model's dysphoria factor. This study is the first to test whether PTSD's D1–D3 symptoms represent a unique construct within PTSD's factor structure, which may clarify questions about the role of depression-related symptoms in posttraumatic reactions.

Since the 1990s, factor analytic research has demonstrated that DSM-IV's (American Psychiatric Association, 1994) tripartite PTSD model (reexperiencing, avoidance/numbing, and hyperarousal) does not adequately account for PTSD's factor structure (reviewed in Asmundson, Stapleton, & Taylor, 2004). King et al. (1998) developed and tested the Emotional Numbing PTSD model, separating DSM-IV PTSD's avoidance and numbing factors, resulting in a four-factor model: reexperiencing (B1–B5), avoidance (C1–C2), numbing (C3–C7) and hyperarousal (D1–D5). The model reflects evidence demonstrating that avoidance and numbing are differentially related to psychopathology measures and post-treatment outcomes, and differentially predict poor treatment response prior to treatment initiation (reviewed in Asmundson et al., 2004). Numerous confirmatory factor analytic (CFA) studies have found empirical support for the Emotional Numbing model in various trauma-exposed samples of adults (most recently in Elhai, Grubaugh, Kashdan, & Frueh, 2008; Elhai, Palmieri, Biehn, Frueh, & Magruder, in press; Grubaugh, Long, Elhai, Frueh, & Magruder, 2010; Mansfield, Williams, Hourani, & Babeu, 2010; McDonald et al., 2008; Naifeh, Elhai, Kashdan, & Grubaugh, 2008; Palmieri, Marshall, & Schell, 2007a; Palmieri, Weathers, Difede, & King, 2007b) and adolescents (Saul, Grant, & Carter, 2008).

However, conceptual problems have been noted with the Emotional Numbing PTSD model. Simms et al. (2002) argued that

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several of PTSD's symptoms are examples of general emotional distress common to other anxiety and mood disorders. Simms et al. proposed (a) separating PTSD's D1–D3 symptoms from the Emotional Numbing model's hyperarousal factor and (b) combining them with symptoms C3–C7 to form an eight-item dysphoria factor to reflect this large distress/dysphoria construct. The Dysphoria PTSD model has received empirical support in various trauma-exposed samples of adults (most recently, in Armour & Shevlin, 2010; Carragher, Mills, Slade, Teesson, & Silove, 2010; Elhai, Engdahl, et al., 2009; Elhai, Ford, et al., 2009; Engdahl, Elhai, Richardson, & Frueh, in press; Naifeh, Richardson, Del Ben, & Elhai, 2010; Palmieri, Weathers, et al., 2007; Pietrzak, Goldstein, Malley, Rivers, & Southwick, 2010; Shevlin et al., 2009) and adolescents (Elhai, Ford, et al., 2009).

Across the literature, the Emotional Numbing and Dysphoria models generally are the best fitting PTSD models in relation to other similar models (including the three-factor *DSM-IV* model), with few exceptions (reviewed in Elhai, Ford, et al., 2009; Shevlin et al., 2009). However, neither model has emerged as the best fitting model across a clear majority of studies. Recent investigations have attempted to elucidate measurement conditions under which one of these models fits better than the other. Palmieri, Weathers, et al. (2007) found in a sample of disaster workers that the Dysphoria model fit best when a self-report PTSD instrument was used, while the Emotional Numbing model fit best when an interviewer-administered instrument was used. Furthermore, Elhai, Engdahl, et al. (2009) found that among trauma-exposed college students, the Dysphoria model fit best when respondents were instructed to rate PTSD symptoms from their most distressing traumatic event, while the Emotional Numbing model fit best when PTSD symptoms were rated from one's overall trauma history. Finally, Armour et al. (in press) found in war-exposed adolescents that the Emotional Numbing model fit best when rating PTSD symptoms from a traumatic event that met PTSD's criterion A2 (intense fear, helplessness or horror during the event), and neither model fit best when rating symptoms from a traumatic event not meeting criterion A2.

Even though most studies find that either the Emotional Numbing model or Dysphoria model fits best among competing PTSD models, the resulting fit indices do not always demonstrate an excellent fit. "Excellent fit" in CFA studies is traditionally determined by empirically-defined benchmarks, including the Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) $\geq .95$, root mean square error of approximation (RMSEA) $\geq .06$, and standardized root mean square residual (SRMR) $\geq .08$ (Hu & Bentler, 1998, 1999). Yet in numerous studies, these requirements for excellent fit were not satisfied across the Emotional Numbing or Dysphoria four-factor PTSD models, albeit fitting better than other models (e.g., recently found in Boelen, van den Hout, & van den Bout, 2008; Carragher et al., 2010; Elhai, Engdahl, et al., 2009; Naifeh et al., 2010; Ullman & Long, 2008).

In this investigation, we explored the possibility of improving PTSD's model fit using a simple model alteration. We used the Emotional Numbing and Dysphoria models as the starting point. We begin by discussing the primary difference between the Emotional Numbing and Dysphoria models – the placement of PTSD's D1–D3 symptoms. In the Emotional Numbing model, D1–D3 symptoms are placed within the hyperarousal factor, while in the Dysphoria model they are placed within the dysphoria factor. Yet it can be argued that the D1–D3 symptoms are conceptually different from both hyperarousal and dysphoria.

Watson (2005) discussed a distinction between the D1–D3 symptoms on one hand and PTSD's remaining hyperarousal symptoms: D4 (hypervigilance) and D5 (exaggerated startle response). The distinction lies in the fact that D1–D3 symptoms involve general distress or dysphoria (albeit, in an agitated/restless manner); D4–D5 involve the anxious arousal that is characteristic

Table 1
Item mappings for PTSD models.

PTSD symptoms	Models			
	DSM-IV	King	Simms	5-Factor
B1: intrusive thoughts	R	R	R	R
B2: nightmares	R	R	R	R
B3: reliving trauma	R	R	R	R
B4: emotional cue reactivity	R	R	R	R
B5: physiological cue reactivity	R	R	R	R
C1: avoidance of thoughts	A/N	A	A	A
C2: avoidance of reminders	A/N	A	A	A
C3: trauma-related amnesia	A/N	N	D	N
C4: loss of interest	A/N	N	D	N
C5: feeling detached	A/N	N	D	N
C6: feeling numb	A/N	N	D	N
C7: hopelessness	A/N	N	D	N
D1: difficulty sleeping	H	H	D	DA
D2: irritable/angry	H	H	D	DA
D3: difficulty concentrating	H	H	D	DA
D4: overly alert	H	H	H	AA
D5: easily startled	H	H	H	AA

Note. R, reexperiencing; A, avoidance; N, numbing; H, hyperarousal; D, dysphoria; DA, dysphoric arousal; AA, anxious arousal.

of fear-based disorders such as panic disorder (Watson, 2005). And D1–D3 differ conceptually from dysphoria symptoms because D1–D3 involve restlessness and agitation (e.g., sleep difficulty, irritability) that is different from the dysphoria factor's remaining symptoms that involve a numbing of responsiveness (e.g., anhedonia, social isolation). In fact, Shevlin et al. (2009) discovered that D1–D3 symptoms loaded on both the hyperarousal and dysphoria factors, but the factor loadings were not particularly high (ranging from only .28 to .57, and much lower than other factors' loadings). Shevlin et al. concluded that these three symptoms were not clear indicators of either factor.

One problem with Simms et al.'s (2002) Dysphoria model is that the authors simultaneously modified the Emotional Numbing model in two ways: (1) separating symptoms D1–D3 from the Hyperarousal factor, and (2) combining D1–D3 items with the Emotional Numbing model's Numbing symptoms to form the dysphoria factor (Simms et al., 2002). Thus we do not know which modification improved model fit.

In this study, we test whether (a) separating symptoms D1–D3 from the Emotional Numbing model's hyperarousal factor is empirically supported, and (b) whether separating D1–D3 from the Dysphoria model's dysphoria factor is empirically supported. We used a 5-factor model as an alteration to both the Emotional Numbing and Dysphoria models for comparison purposes: (a) reexperiencing (B1–B5), (b) avoidance (C1–C2), (c) emotional numbing (C3–C7), (d) the D1–D3 symptoms which we will call dysphoric arousal, and (e) anxious arousal (D4–D5) discussed by Watson (2005) and Simms et al. (2002) (item mappings for these models are found in Table 1).

We investigated these research questions in a multi-site study of women victims of recent domestic violence, an "at-risk" sample for developing mental health problems including PTSD. In analysis 1 we compare the Emotional Numbing model to this 5-factor model; this comparison will help determine whether dysphoric arousal is statistically different from anxious arousal. In analysis 2 we compare the Dysphoria model with the 5-factor model; this comparison will help determine whether dysphoric arousal is statistically different from the dysphoria factor. We hypothesized, based on the theoretical and empirical work by Watson (2005) and Shevlin et al. (2009), that the 5-factor model would fit significantly better than the 4-factor Emotional Numbing and Dysphoria models, demonstrating that the dysphoric arousal factor is independent of both hyperarousal and dysphoria. Results will help inform our

understanding of PTSD's factor structure and the role of depressive symptoms, as part of the current effort to redefine PTSD's characteristics, and more generally will have implications for our understanding of posttraumatic reactions.

2. Methods

2.1. Procedure

Two research assistants invited women, aged 18–70 years old, from five Midwestern publicly-funded domestic violence shelters to participate in this study. These shelters provide short-term residential care, legal, educational, and healthcare services to women domestic violence victims. Participants were recruited at shelters on varying days of the week and times of day, during spring and summer of 2009. During those times, all shelter residents, in the shelter at that time, were approached for participation. No compensation was provided. A written consent statement was required for participation after explaining the procedures, approved by the University of South Dakota's Institutional Review Board; procedures complied with the Declaration of Helsinki.

2.2. Participants

Of those women invited ($n=294$), 252 agreed to participate, resulting in an 86% response rate. Participants were from shelters in Sioux Falls, South Dakota ($n=89$, 35.3%), Omaha, Nebraska ($n=35$, 13.9%), Sioux City, Iowa ($n=52$, 20.6%), Council Bluffs, Iowa ($n=26$, 10.3%), and Des Moines, Iowa ($n=50$, 19.8%). Unequal shelter sample sizes were a function of differences between the shelters in typical length of residence and shelter occupancies, but also because of the research assistants' geographical proximity to the shelters from their home base.

The mean age of participants was 32.42 ($SD=9.59$), ranging from 18 to 63. Average number of educational years was 12.31 ($SD=1.96$). Slightly more than half of participants identified as being Caucasian ($n=136$, 54.0%), with the remaining participants primarily representing African American ($n=40$, 15.9%), Native American ($n=59$, 23.4%), and Hispanic or Latino backgrounds ($n=26$, 10.3%). The majority reported being unemployed ($n=159$, 63.3%), while a minority were working full-time ($n=48$, 19.1%) or part-time ($n=25$, 10.0%). Most reported being in a cohabitating relationship over the past 12 months primarily ($n=117$, 46.4%), with 70 single (27.8%), 29 married (11.5%), and 36 separated, widowed or divorced (14.3%). Annual household income was less than \$25,000 for the majority ($n=202$, 81.1%).

2.3. Measures

Several measures were administered as part of a larger, previously unpublished study. The following measures are relevant to the present paper.

2.3.1. Demographics survey

The demographic questionnaire inquired about information such as age, years of education, employment status, etc.

2.3.2. Stressful Life Events Questionnaire (SLESQ)

The SLESQ (Goodman, Corcoran, Turner, Yuan, & Green, 1998) is a comprehensive self-report screening measure designed to assess 12 DSM-IV PTSD criterion A traumatic events and a 13th "other" catch-all item. Adequate test-retest reliability and convergent validity have been reported (kappa values of .73, and .64, respectively) (Goodman et al., 1998). We only inquired about the traumatic events themselves (without querying follow-up probing questions about characteristics of the trauma). Upon completion

of the SLESQ, participants were asked to nominate their most distressing trauma among the first 12 items.

2.3.3. PTSD Symptom Scale-Self-Report (PSS)

The PSS (Foa, Riggs, Dancu, & Rothbaum, 1993) is a 17-item DSM-IV-based self-report PTSD symptom measure. Symptom severity is measured via a four-point Likert scale (0 = not at all, 1 = once per week/a little bit/once in a while, 2 = 2–4 times per week/somewhat/half the time, 3 = 5 + times per week/very much/almost always) for symptoms experienced over the previous two weeks. Participants were instructed to complete the PSS based upon the most distressing criterion A trauma from the SLESQ. Psychometric properties include convergent validity with other similar measures ranging from .73 to .87 (Foa & Tolin, 2000), internal consistency reliability estimates of .65 to .71, test-retest reliability between .66 and .77, and PTSD diagnostic utility against the Clinician Administered PTSD Scale with sensitivity of .88 and specificity of .96 (Foa et al., 1993; Foa & Tolin, 2000). A total score is derived by summing the PSS' item responses. To assign a probable PTSD diagnosis, a symptom is scored as "present" if rated "1" or higher, ensuring that at least one Criterion B, three Criterion C and two Criterion D symptoms are met (Foa et al., 1993).

2.4. Analysis

We treated PSS items as ordinal rather than continuous variables, resulting in the use of alternative estimation methods, specified below. This decision was based on substantial research demonstrating that treating ordinal data (with fewer than five response options) as continuous typically results in violations of the requirement for a linear association between factors and observed variables, biased parameter estimates that are difficult to interpret accurately, model misspecification, and failure to demonstrate true model fit (reviewed in Flora & Curran, 2004; Wirth & Edwards, 2007). As a result, we used polychoric (rather than Pearson) correlations and probit (rather than linear) regression coefficients in CFA. We implemented robust weighted least squares estimation with a mean- and variance-adjusted chi-square (WLSMV) for CFA, the preferred estimation method for ordinal variables (Flora & Curran, 2004; Wirth & Edwards, 2007). Eight subjects were missing one PSS item each, and for these items we used all available PTSD item responses to estimate missing values using maximum likelihood (ML) procedures (reviewed in Schafer & Graham, 2002) for ordinal outcomes (Muthén & Muthén, 1998–2010). All analyses were conducted using Mplus 6 software (Muthén & Muthén, 2010a, 1998–2010).

CFA was specified based on the 4-factor (intercorrelated) Emotional Numbing and Dysphoria models, with all residual error covariances fixed to zero. We tested the Emotional Numbing model against the 5-factor model (splitting the dysphoric arousal symptoms from the Emotional Numbing model's arousal factor). And we tested the Dysphoria model against the 5-factor model (splitting the dysphoric arousal symptoms from the Dysphoria model's dysphoria factor). In scaling the factors, we fixed the last unstandardized factor loading in each of the Emotional Numbing model's factors to 1, and fixed those same items' loadings to 1 in the Dysphoria model, for consistency; in the 5-factor model, we additionally fixed the last dysphoric arousal factor loading to 1.

Goodness of fit indices are reported, including CFI, TLI, and RMSEA (SRMR is not reported, given its poor utility with ordinal items, Yu, 2002). Models fitting very well are indicated by CFI and TLI $\geq .95$, and RMSEA $\leq .06$ (Hu & Bentler, 1999). All tests were two-tailed. Comparing nested models by examining differences in traditional goodness of fit indices is not appropriate, and inaccurate (Fan & Sivo, 2009). Therefore, in comparing a given 4-factor model with the 5-factor model, we used a chi-square difference

test for nested models (with a correction factor since a robust chi-square statistic was used, implementing Mplus' DIFFTEST function, Muthén & Muthén, 2006). We also present Bayesian Information Criterion (BIC) values for comparing the Emotional Numbing and Dysphoria models; chi-square difference testing is not possible between the 4-factor models since they are not nested within one another. However, BIC values are only estimable using ML (but not WLSMV) estimation, so we generated them using ML estimated CFAs, with logistic rather than probit coefficients (more appropriate when using ML estimation, Muthén, 1984). In comparing BIC values between models, a 10-point BIC difference represents a 150:1 likelihood and "very strong" ($p < .05$) support that the model with the smaller BIC value fits best; a difference in the 6–9 point range indicates "strong" support (Kass & Raftery, 1995; Raftery, 1995).

3. Results

Regarding the domestic violence incident leading to shelter assistance, most participants reported that it occurred in the prior week ($n = 101, 40.4\%$), 1–4 weeks ago ($n = 93, 37.2\%$), or 1–6 months ago ($n = 38, 15.2\%$). The most prevalent (non-mutually exclusive) previous traumatic events included adult physical abuse ($n = 231, 91.7\%$), child physical abuse ($n = 137, 54.4\%$), completed rape ($n = 134, 53.2\%$), attempted rape ($n = 128, 50.8\%$), losing a very close family member or friend in an accident, homicide or suicide ($n = 125, 49.6\%$), and child sexual molestation ($n = 124, 49.2\%$). The most prevalent trauma nominated as most distressing included adult physical abuse ($n = 88, 35.1\%$), followed by loss of a very close associate ($n = 27, 10.8\%$), completed rape ($n = 26, 10.4\%$), and physical harm from a parent/caregiver ($n = 21, 8.3\%$).

Summing the PSS' 17 item responses, scores ranged from 0 to 51 ($M = 22.48, SD = 12.65$). Cronbach's alpha (internal consistency) was .92. Based on the diagnostic algorithm discussed above, a probable PTSD diagnosis would be assigned for 179 participants (71%), substantially higher than general PTSD prevalence rates (Elhai et al., 2008), but not unreasonable given the salience and recency of the domestic violence incidents.

A CFA for the 4-factor Emotional Numbing model did not result in an excellent fit (though would probably be regarded as an "adequate" fit), robust $\chi^2 (113, N = 252) = 379.06, p < .001, CFI = .94, TLI = .93, RMSEA = .10, BIC = 9853.79$. The 5-factor model yielded some evidence for an excellent fit, robust $\chi^2 (109, N = 252) = 296.22, p < .001, CFI = .96, TLI = .95, RMSEA = .08, BIC = 9797.50$; and the 5-factor model fit significantly better than the Emotional Numbing model, $\chi^2_{change} (4, N = 252) = 64.24, p < .001$ (formulas for calculating statistical significance in model comparison using WLSMV estimation are found in Muthén & Muthén, 2010b).

A CFA for the 4-factor Dysphoria model did not result in excellent fit (but perhaps "adequate"), robust $\chi^2 (113, N = 252) = 343.96, p < .001, CFI = .95, TLI = .94, RMSEA = .09, BIC = 9826.09$. Interestingly, this model fit better than the Emotional Numbing model, based on BIC value comparison. The 5-factor model fit significantly better than the Dysphoria model, $\chi^2_{change} (4, N = 252) = 41.65, p < .001$. Standardized factor loadings for the three models can be found in Table 2, with a factor intercorrelation matrix in Table 3.

4. Discussion

We found that symptoms we refer to as dysphoric arousal represent a separate construct from the Emotional Numbing model's arousal factor, and the Dysphoria model's dysphoria factor. Separating dysphoric arousal symptoms into its own factor resulted in a significantly better fitting (5-factor) model than when implementing the 4-factor Emotional Numbing or Dysphoria models. And using this 5-factor model resulted in uniformly large factor

Table 2

Standardized factor loadings for the emotional numbing, dysphoria and 5-factor models.

PTSD items	Standardized factor loadings		
	King model	Simms model	5-Factor model
1. Intrusive thoughts	.77	.77	.77
2. Nightmares	.76	.76	.76
3. Reliving trauma	.79	.79	.79
4. Emotional cued reactivity	.81	.81	.81
5. Physiological cued reactivity	.68	.68	.68
6. Avoidance of thoughts	.80	.81	.81
7. Avoidance of reminders	.87	.87	.87
8. Trauma-related amnesia	.60	.58	.60
9. Loss of interest	.89	.87	.89
10. Feeling detached	.84	.82	.84
11. Feeling numb	.82	.79	.82
12. Hopelessness	.74	.71	.74
13. Difficulty sleeping	.75	.72	.75
14. Irritable/angry	.71	.69	.72
15. Difficulty concentrating	.86	.83	.87
16. Overly alert	.82	.87	.87
17. Easily startled	.87	.94	.94

Table 3

Intercorrelation matrix for the 5-factor model's latent factors.

Factor	Polychoric Correlations				
	1	2	3	4	5
1. Reexperiencing					
2. Avoidance	.75	–			
3. Numbing	.71	.78	–		
4. Dysphoric Arousal	.79	.67	.85	–	
5. Anxious Arousal	.60	.76	.70	.78	–

loadings that were at least as large as the largest of the Emotional Numbing and Dysphoria models' loadings. It is true that the 5-factor model was associated with goodness of fit indices that appeared only trivially better than those from the four-factor models. Yet trusting goodness of fit index differences when comparing models is fraught with inaccuracy, and instead chi-square difference tests are recommended (Fan & Sivo, 2009).

These findings help clarify questions regarding the role of depression in PTSD and carry implications for DSM-V's proposed draft criteria for PTSD (American Psychiatric Association—DSM-5 Development, 2010) which reorganizes the disorder's criteria into four (rather than three) symptom clusters. Results demonstrate that PTSD's D1–D3 symptoms may not belong well within PTSD's posttraumatic hyperarousal criterion that involves physiological fear of a focal stimulus, which is clearly an anxiety-related construct; yet they may not belong well within PTSD's emotional numbing criterion that involves a numbing of overall responsiveness, which is clearly a depression-related construct. Rather, the dysphoric arousal symptoms appear to stand on their own.

Certainly, the dysphoric arousal symptoms are both somewhat depression-related and anxiety-related. Perhaps this construct can be explained in the context of the DSM-5's proposed Mixed Anxiety and Depression diagnosis (American Psychiatric Association—DSM-5 Development, 2010), representing a cluster of symptoms where such patients do not fall perfectly into a depression diagnosis, nor perfectly into an anxiety diagnosis. In other words, actual symptom presentations seem to be less black-and-white than the distinct anxiety and depression diagnoses characteristic of previous DSMs. And the dysphoric arousal symptom cluster may be a representation of this anxiety/depression hybrid.

One problem with the Dysphoria model is that Simms et al. (2002) implemented two modifications to the Emotional Numbing

model simultaneously: (1) they separated symptoms D1–D3 from the Hyperarousal factor and (2) they merged the D1–D3 items with the Emotional Numbing model's Numbing symptoms (Simms et al., 2002). For studies finding support for the Dysphoria model over the Emotional Numbing model, it cannot be determined if improved fit was the result of merely separating dysphoric arousal symptoms from the arousal factor, or from combining dysphoric arousal symptoms with numbing symptoms (C3–C7). Our analyses are the first attempting to tease apart the impact of these two modifications separately, and we found that both modifications improved fit.

The present findings are unique and suggest that perhaps a modification to the Emotional Numbing and Dysphoria models could better represent PTSD's latent structure. One advantage noted of the Dysphoria model is that it separates PTSD's features that are common to other mood and anxiety disorders from PTSD's features that are specific only to PTSD (Simms et al., 2002). Creating such distinctions in PTSD's phenomenology cannot only lead to more sophisticated assessment and diagnostic procedures, but also to more comprehensive monitoring of treatment outcome, by ensuring that we are assessing the empirically-based "correct" constructs and monitoring their changes over time. Importantly, the 5-factor model has the advantage of bringing together mixed findings that typically transpire in modern PTSD CFA studies, where some studies find support for the Emotional Numbing model and others find support for the Dysphoria model.

This study is limited in several ways. First, we relied on a self-report PTSD measure, as we lacked a structured PTSD diagnostic interview. As such, the limitations that apply to self-reporting symptoms apply to this study. Second, we were not able to feasibly collect data on other forms of psychopathology to assess relationships with the PTSD's factors. Thus, we were unable to assess whether, in contrast to other PTSD factors, the dysphoric arousal factor has a different pattern of correlations with other forms of psychopathology. Third, since all subjects were recruited in three Midwestern states, it is unclear how generalizable the sample is to women domestic violence victims in other regions of the United States that may have different societal norms and attitudes. Additionally, it should be emphasized that the present study is merely one study examining this issue, implementing a specific type of trauma-exposed sample – domestic violence victims. And because participants were instructed to rate their PTSD symptoms from their most distressing traumas, many rated their symptoms from a non-domestic violence-related trauma. Furthermore, until additional study, there is no guarantee that this finding will be replicated with other trauma-exposed samples.

Study strengths include the use of a sample with a relatively high prevalence of PTSD – not often seen in the PTSD CFA literature. Additionally, the response rate was respectable, providing confidence in the generalizability of the sample to the study population. In sum, the present study offers promising findings that could clarify mixed results in the PTSD CFA literature. However, replication with other trauma-exposed samples would be necessary before concluding that the 5-factor model better represents PTSD's latent structure than the Emotional Numbing or Dysphoria 4-factor models.

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