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Assessing Posttraumatic Stress Disorder's Latent Structure in Elderly Bereaved European Trauma Survivors

Evidence for a Five-Factor Dysphoric and Anxious Arousal Model

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Abstract: The three-factor structure of posttraumatic stress disorder (PTSD) specified by the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*, is not supported in the empirical literature. Two alternative four-factor models have received a wealth of empirical support. However, a consensus regarding which is superior has not been reached. A recent five-factor model has been shown to provide superior fit over the existing four-factor models. The present study investigated the fit of the five-factor model against the existing four-factor models and assessed the resultant factors' association with depression in a bereaved European trauma sample ($N = 325$). The participants were assessed for PTSD via the Harvard Trauma Questionnaire and depression via the Beck Depression Inventory. The five-factor model provided superior fit to the data compared with the existing four-factor models. In the dysphoric arousal model, depression was equally related to both dysphoric arousal and emotional numbing, whereas depression was more related to dysphoric arousal than to anxious arousal.

Key Words: Posttraumatic stress disorder, confirmatory factor analysis, bereavement, dysphoric arousal, anxious arousal

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The latent structure of posttraumatic stress disorder (PTSD) has been intensely debated for the past 2 decades. Currently, the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV;* American Psychiatric Association, 1994), groups the 17 PTSD symptoms into three factors: intrusion (B1–B5), avoidance/numbing (C1–C7), and arousal (D1–D5; cf. Table 1 for items distribution). However, a wealth of empirical factor analytic literature has shown that these symptom groupings are a poor representation of PTSD's latent structure. Indeed, the empirical literature has favored two 4-factor models (King et al., 1998; Simms et al., 2002) over and above the *DSM-IV* three-factor model (cf. Armour and Shevlin, 2010).

The emotional numbing model of King et al. (1998) is composed of intrusion (B1–B5), avoidance (C1–C2), numbing (C3–C7), and arousal (D1–D5) factors. This model was developed using data from treatment-seeking male military veterans ($N = 224$) and was a simple modification of the *DSM-IV* tripartite structure, whereby the original avoidance/numbing factor was split into two distinct factors. The splitting of avoidance/numbing was based on research supporting the differential relationship each of the two separate factors has with measures of psychopathology, treatment outcome, and response (cf. Asmundson et al., 2004). A number of factor-analytic studies have

reported support for this latent structure (most recently in Armour et al., 2011a, 2011b; Elhai et al., 2010; Grubaugh et al., 2010; Hoyt and Yeater, 2010; Mansfield et al., 2010).

Four years after the conception of the emotional numbing model, Simms et al. (2002) proposed an alternative four-factor dysphoria model on the basis of the recognition that several of PTSD's symptoms reflected general emotional distress. The dysphoria model is composed of intrusion (B1–B5), avoidance (C1–C2), dysphoria (C3–C7 and D1–D3), and arousal (D4–D5) factors. Similar to the emotional numbing model, it was developed using data from predominantly male (91%) deployed gulf war veterans and nondeployed controls ($N = 3695$). The dysphoria model retained the intrusion and avoidance factors of the emotional numbing model while separating three of the arousal items (D1–D3) from the arousal factor and joining them with the numbing factor to create the new dysphoria factor. A number of factor-analytic studies have found support for the dysphoria model (most recently in Armour and Shevlin, 2010; Carragher et al., 2010; Engdahl et al., 2011; Meis et al., in press; Naifeh et al., 2010; Pietrzak et al., 2010).

Notably, these two latent structures differ only in their placement of three items (D1–D3; cf. Table 1), and when the models are specified and estimated within a single study, these generally result in minimal differences in fit (cf. Armour and Shevlin, 2010). Accordingly, several researchers have attempted to elucidate which of the two models is a superior representation of PTSD's latent structure. For example, Palmieri et al. (2007) concluded that the measurement instrument used moderated the resultant fit, with the emotional numbing model resulting in superior fit for data based on the Clinician Administered PTSD Scale, whereas the dysphoria model provided superior fit to data from the PTSD Checklist. Researchers have also concluded that the resultant latent structure can be moderated by factors such as asking participants to endorse PTSD symptoms based on their worst trauma or a general trauma history (Elhai et al., 2009) and in relation to whether participants endorsed the criterion A2 requirement of peritraumatic fear, helplessness, or horror (Armour et al., 2011b). However, despite continued efforts to elucidate which of these two models provides a superior representation of PTSD's latent structure, a clear consensus has yet to be reached. Indeed, the authors of a recent meta-analysis of 40 PTSD studies, which found mild support for the dysphoria model over the emotional numbing model, despite an overrepresentation of studies originally supporting the emotional numbing model, also reported that their results did not fully answer which of the two models are a better representation of PTSD's latent structure. The reason for this tempered conclusion was that the 40 studies included in the meta-analysis were by no means fully inclusive (Yufik and Simms, 2011).

This lack of consensus on the best-fitting PTSD model has led to the proposal of a new, revised PTSD model termed the *dysphoric arousal model*, which is composed of five factors: intrusion (B1–B5), avoidance (C1–C2), numbing (C3–C7), dysphoric arousal (D1–D3), and anxious arousal (D4–D5; Elhai et al., 2011). The model was based on Watson's (2005) proposal that items D1 to D3 involve general distress and/or dysphoria that is often characteristic of depressive disorders.

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TABLE 1. Distribution of PTSD Items Across Three Alternative Models

PTSD Symptoms	PTSD Models			
	DSM-IV	Emotional Numbing	Dysphoria	Dysphoric Arousal
B1: intrusive thoughts	I	I	I	I
B2: recurring nightmares	I	I	I	I
B3: reliving trauma	I	I	I	I
B4/B5: psychological reactivity/physiological reactivity	I	I	I	I
C1: avoidance of thoughts	AV/N	AV	AV	AV
C2: avoidance of reminders	AV/N	AV	AV	AV
C3: memory impairment	AV/N	N	D	N
C4: loss of interest	AV/N	N	D	N
C5: feeling detached	AV/N	N	D	N
C6: feeling numb	AV/N	N	D	N
C7: foreshortened future	AV/N	N	D	N
D1: difficulties sleeping	A	A	D	DA
D2: anger/irritability	A	A	D	DA
D3: difficulties concentrating	A	A	D	DA
D4: hypervigilance	A	A	A	AA
D5: exaggerated startle	A	A	A	AA

A indicates arousal; AA, anxious arousal; AV, avoidance; D, dysphoria; DA, dysphoric arousal; I, intrusion; N, numbing.

Watson (2005) also highlighted that the remaining arousal items (D4 and D5) were conceptually different from items D1 to D3 because these were related to anxious arousal, which is characteristic of fear-based disorders such as panic disorder (Elhai et al., 2011). Thus, this supported the splitting of the arousal factor (D1–D3 separated from D4 and D5) of *DSM-IV* as initially proposed by Simms et al. (2002). However, the decision made by Simms et al. (2002) to then combine these items (D1–D3) with the numbing items to create a dysphoric factor has been brought into question given research reporting that items D1 to D3 are conceptually distinct from the numbing items because these represent agitation and restlessness rather than a numbing of responsiveness (Watson, 2005).

Initial factor analytic work assessing this model is promising, in that a number of studies have concluded that the new five-factor model provides a superior fit compared with the existing emotional numbing and dysphoria four-factor models. To date, the five-factor model has been supported in American and Chinese trauma survivors, across both adult and adolescent samples and across a variety of traumas including earthquakes, riots, and domestic violence (Elhai et al., 2011; Wang et al., 2011a, 2011b). Thus, the present study was the first of its kind to compare the dysphoric arousal model with the emotional numbing and dysphoria models in a European trauma sample of elderly bereaved individuals. Indeed, addressing whether the dysphoric arousal model fits data from varying cultures is pertinent.

In addition to assessing the fit of the five-factor structure compared with the two existing four-factors structures, the emotional numbing and dysphoria models, the present study also assessed the resultant factors in relation to depression. The rationale for doing so is based on previous empirical work reporting high levels of comorbidity between depression and PTSD (Elhai et al., 2008) and a body of literature suggesting that a number of PTSD symptoms (dysphoric items) may be less specific to PTSD because these are more representative of general distress and depression (Armour et al., 2010; Elklit et al., 2010; Elklit and Shevlin, 2007). Indeed, a recent meta-analysis of 41 studies, conducted by Gootzeit and Markon (2011), investigated the external validity of existing PTSD models. The authors concluded that dysphoria correlated with all external variables (depression, anxiety, panic, substance abuse, and trauma history) to a greater degree than the alternative factors and that

dysphoria was the best predictor of depression and anxiety. This ultimately supports the proposition of Simms et al. (2002) that dysphoria is a nonspecific PTSD component that may account for the high levels of comorbidity between PTSD and alternative psychopathological disorders such as depression. However, it is notable that a number of studies have provided conflicting conclusions by reporting that dysphoric items are no more or no less associated with measures of general distress (Armour and Shevlin, in press; Marshall et al., 2010; Miller et al., 2010). We hypothesized that the dysphoric arousal model would provide superior fit compared with the emotional numbing and dysphoria models. In addition, we hypothesized that the numbing, dysphoric arousal, and anxious arousal factors of the dysphoric arousal model would be provide differential associations with depression.

METHODS

Participants and Procedure

All persons aged between 65 and 80 years, who lived in the county of Aarhus in Denmark, and who lost their spouse during 2006 were contacted via the Danish Central Person Register (CPR) approximately 8 weeks after the death of their spouse. The CPR is a national person registration system containing personal information regarding age, marital status, name of partner, place of residence, and others. The data in this study originated from a larger, longitudinal study (O'Connor, 2010).

Participants

At baseline, 2 months after loss (T1), 325 elderly bereaved people (37% men) with a mean age of 73 years (SD, 4.4; range, 65–81) participated in this study (response rate of all potential participants, 41%). Of the initial sample, 20 participants were missing more than 8 (25%) Harvard Trauma Questionnaire–Part IV (HTQ) items and/or more than 5 (25%) Beck Depression Inventory (BDI) items and were excluded from the analyses. This left an effective sample size of 305 participants.

On average, the included participants were mostly women (62%; 190) and ranged in age from 65 to 81 years (mean, 72.68, SD, 4.39). They had, on average, been married for 46 years (SD, 10.40;

range, 3–62 years) before the death of their spouse and had a mean of 8 years of public schooling (SD, 1.58; range, 5–14 years) and 3 years (SD, 2.55; range, 0–13 years) of further education. Ninety-five percent had children (mean, 2.6; SD, 1.37; range, 1–9). Twenty-five percent lived in villages or rural settings, whereas 75% lived in urban settings. Eighty-nine percent experienced a period of spousal illness preceding the death, and 83% had participated in the daily care of their spouse. Sixty-nine percent experienced a forewarning of death immediately before the death of their spouse. This is pertinent given that previous research has concluded that forewarning of death was associated with increased anxiety levels at 6 and 18 months after loss (Carr et al., 2001). Fifty-six percent indicated that they felt helpless during the course of their spouses' illness, and 52% indicated that they felt helpless during the death of their spouse. With the exception of relatively more widowers living in rural settings ($F[2,303] = 9.19; p < 0.005$), no significant differences according to sex were found on the demographic variables.

Measures

Data were collected via self-report questionnaires. The first part of the questionnaire contained a number of, mainly, 7-point Likert-scale single items and short scales regarding education, years of marriage, number of children, sense of forewarning before death, spousal illness before death, and others. The second part of the questionnaire contained a number of well-established scales from which the following were selected for this study.

The Harvard Trauma Questionnaire (HTQ)

The HTQ (Mollica et al., 1992) was used to estimate the occurrence of posttraumatic symptoms. The HTQ originally consisted of 31 items rated on a 4-point Likert scale ranging from not at all (1) to very often (4). Items 16 and 17 (psychological and physiological arousal) are combined into a single item. The first 16 items of the scale closely correspond to the *DSM-IV* symptoms of PTSD with the subscales of intrusion (a score of 3 or more on at least one of four items), avoidance/numbing (a score of 3 or more on at least three of seven items), and arousal (a score of three or more on two of five items). All participants completed the HTQ in relation to their symptoms during the last month based on the loss of their spouse. The Danish version of the HTQ has been found to produce reliable and valid scores (Bach, 2003), and HTQ ratings according to the *DSM-III-R* diagnostic criteria of PTSD have shown an 88% concordance with interview-based estimates of PTSD (Mollica et al., 1992). The range of the 16-item scale is 16 to 64. In the present study, the reliability was $\alpha = 0.83$ (mean, 29.2; SD, 8.2; range, 16–53).

The BDI

The BDI (Beck et al., 1961) is a 21-item self-report measure, which assesses cognitive, affective, and somatic symptoms of depression. The BDI is a frequently used measure of depressive symptoms, with established reliability and construct validity (cf. Beck et al., 1988). Each item consists of a set of statements that describe the symptom in question at varying degrees of intensity (range, 0–3). Respondents choose the sentence that best describes how they have felt during the past 2 weeks. The range of the scale is 0 to 60, with a higher score indicating higher levels of depression. In the present study, item 21 regarding sexuality was excluded because of the sensitive nature of this item in relation to the very recent loss of the spouse. In the present study, the reliability was $\alpha = 0.88$ (mean, 7.8; SD, 6.9; range, 0–40).

Analytic Plan

Among the initial 325 participants, 20 participants were missing more than 8 (25%) HTQ items and/or more than 5 (25%)

BDI items and were excluded from the analyses. Among the 305 remaining participants, missing values were estimated using maximum likelihood procedures (Graham, 2009) via a pairwise-present approach.

All analyses were conducted using the Mplus 6 software (Muthén and Muthén, 2010, 1998–2010). Confirmatory factor analysis (CFA) was specified on the basis of the four-factor (intercorrelated) emotional numbing and dysphoria models; all residual error covariances were fixed to zero. We tested the emotional numbing model against the five-factor model (splitting the dysphoric arousal symptoms from the emotional numbing model's arousal factor). In addition, we tested the dysphoria model against the five-factor model (splitting the dysphoric arousal symptoms from the dysphoria factor of the model of Simms et al., 2002). In scaling the factors, we fixed all factor variances to a value of 1.

We treated the HTQ items as ordinal variables, given substantial research demonstrating that this is the data treatment of choice for ordinal variables having fewer than five response options (e.g., Flora and Curran, 2004; Wirth and Edwards, 2007). Consequently, we generated a polychoric (rather than Pearson's) covariance matrix and probit regression coefficients in the CFAs. We therefore implemented robust weighted least squares estimation with a mean- and variance-adjusted (WLSMV) chi-square for the CFAs, the preferred estimation method for ordinal items (Flora and Curran, 2004; Wirth and Edwards, 2007).

Goodness-of-fit indices are reported, including the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA). Models with excellent fit are indicated by CFI and TLI of 0.95 or higher and RMSEA of 0.06 or lower (Hu and Bentler, 1999). All tests were two tailed. Comparing nested models by examining differences in traditional goodness-of-fit indices is not appropriate and is inaccurate (Fan and Sivo, 2009). Therefore, in comparing a given four-factor model with the five-factor model, we used the chi-square difference test for nested models, implementing a correction factor, given the nonnormally distributed WLSMV chi-square value (Muthén and Muthén, 2006).

RESULTS

A CFA for the four-factor emotional numbing model provided evidence for a reasonable fit, robust $\chi^2(98, N = 305) = 219.50, p < 0.001$, CFI = 0.94, TLI = 0.92, RMSEA = 0.06 (90% confidence interval [CI], 0.05–0.08). The new dysphoric arousal model proposed by Elhai et al. yielded some evidence for an excellent fit, robust $\chi^2(94, N = 305) = 195.70, p < 0.001$, CFI = 0.95, TLI = 0.94, RMSEA = 0.06 (90% CI, 0.05–0.07), and on the basis of chi-square difference testing, the model fits significantly better than the emotional numbing model, $\chi^2_{\text{change}}(4, N = 305) = 23.84, p < 0.001$.

A CFA for the dysphoria model provided some evidence for an excellent fit, robust $\chi^2(98, N = 305) = 207.88, p < 0.001$, CFI = 0.95, TLI = 0.93, RMSEA = 0.06 (90% CI, 0.05–0.07). However, the dysphoric arousal model fits significantly better than the dysphoria model, $\chi^2_{\text{change}}(4, N = 305) = 13.69, p < 0.01$. Thus, the standardized factor loadings and factor correlations for the dysphoric arousal model can be found in Table 2.

We also assessed whether dysphoric arousal (in contrast to emotional numbing and anxious arousal) was differentially related to depression (total BDI score) within the latent variable framework. We used Wald's chi-square tests to test whether the difference between two pairs of correlations (between latent factors) was significantly different from zero. Depression was equally related to both the dysphoric arousal factor ($r = 0.80$) and the emotional numbing factor ($r = 0.74$), Wald's $\chi^2(1, 305) = 1.14, p = 0.28$. However, depression was more related to the dysphoric arousal factor ($r = 0.80$) than to the anxious arousal factor ($r = 0.56$), Wald's $\chi^2(1, 305) = 11.82, p < 0.001$.

DISCUSSION

Using data yielded from a European trauma sample of elderly bereaved individuals, the current study specified and estimated three factor analytic PTSD models: the emotional numbing model proposed by King et al. (1998), the dysphoria model proposed by Simms et al. (2002), and the new five-factor dysphoric arousal model proposed by Elhai et al. (2011). The results indicated that, based on the chi-square difference tests, the dysphoric arousal model provided superior fit to the data.

It is notable that the resultant fit indices of the competing models varied only marginally, if at all. However, minimal differences in fit indices within the factor analytic PTSD literature, comparing the emotional numbing and dysphoria models, are not uncommon (cf. Armour and Shevlin, 2010). This has led researchers to call for statistical comparisons of models rather than a reliance on the “eyeballing” of fit statistics alone (Elhai and Palmieri, 2011). Indeed, Fan and Sivo (2009) recommended that models be compared using chi-square difference testing because simple comparisons of fit indices are fraught with inaccuracy. Despite these recommendations, some readers may choose to take these results cautiously given debates over superior statistical fit, parsimony, and substantive meaning of models (Bollen, 1989). In addition, it is important to acknowledge that the dysphoric arousal model produced high interfactor correlations (cf. Table 2), suggesting a lack of discriminant validity between factors. Indeed, the interfactor correlations for the dysphoric arousal model ranged from 0.44 to 0.95 compared with the numbing and dysphoria models, which ranged from 0.53 to 0.86 and 0.43 to 0.72, respectively. Nevertheless, this current study has found statistical support for the newly proposed dysphoric arousal model by making statistical comparisons of model fit (cf. Elhai and Palmieri, 2011). Thus, these findings concur with those of previous studies that have supported the dysphoric arousal model over the two preexisting and well-supported

four-factor models (emotional numbing and dysphoria; Elhai et al., 2011; Wang et al., in press, 2011a, 2011b).

Therefore, these findings suggest that PTSD’s underlying latent structure may be best conceptualized by five latent factors of intrusion, avoidance, numbing, dysphoric arousal, and anxious arousal. In particular, these results suggest that items D1 to D3 (difficulties sleeping, anger/irritability, and difficulty concentrating) may compose a separate and unique PTSD construct. This finding is notable given that the emotional numbing and dysphoria models differ only on their placement of these three items. Furthermore, it is important to highlight that the current study was the first to specify and estimate this model using data from a European trauma sample. Therefore, the model has now been supported in American, Chinese, and European samples of trauma survivors and thus may also have cross-cultural validity. Importantly, Elhai et al. (2011) highlighted that the dysphoric arousal model may have serious clinical implications by ensuring that we are assessing the “correct” PTSD constructs. Doing so is important, given the implications for diagnostic algorithms and thus PTSD prevalence (Elhai et al., 2009; Elhai and Palmieri, 2011; Forbes et al., 2011).

To further validate the dysphoric arousal model, we also assessed whether the numbing, dysphoric arousal, and anxious arousal factors would provide differential associations with a measure of depression. The results concluded that depression was equally related to both dysphoric arousal and emotional numbing. However, depression was more related to dysphoric arousal than to anxious arousal. These results suggest that dysphoric arousal has more in common with numbing than with anxious arousal and that both numbing and dysphoric arousal have more in common with depression. This lends support to previous reports that these PTSD items (numbing = C3–C7; dysphoric arousal = D1–D3) may be less specific to PTSD and may represent a general distress component

TABLE 2. Standardized Factor Loadings for the Five-Factor Dysphoric Arousal Model

PTSD Items	Five-Factor Dysphoric Arousal Model of PTSD				
	Intrusion	Avoidance	Numbing	Dysphoric Arousal	Anxious Arousal
B1: intrusive thoughts	0.67				
B2: recurring nightmares	0.74				
B3: reliving trauma	0.73				
B4/B5: psychological reactivity/physiological reactivity	0.73				
C1: avoidance of thoughts		0.63			
C2: avoidance of reminders		0.94			
C3: memory impairment			0.39		
C4: loss of interest			0.72		
C5: feeling detached			0.78		
C6: feeling numb			0.30		
C7: foreshortened future			0.78		
D1: difficulties sleeping				0.60	
D2: anger/irritability				0.51	
D3: difficulties concentrating				0.65	
D4: hypervigilance					0.92
D5: exaggerated startle					0.61
Interfactor Correlations					
A	0.72				
N	0.60	0.61			
DA	0.75	0.53	0.94		
AA	0.64	0.44	0.95	0.71	

A indicates arousal; AA, anxious arousal; AV, avoidance; D, dysphoria; DA, dysphoric arousal; I, intrusion; N, numbing.

(Armour et al., 2011c; Elklit et al., 2009; Gootzeit and Markon, 2011; Simms et al., 2002). Indeed, multiple studies that have correlated the individual PTSD factors with depression have reported higher correlations between dysphoria and depression than between the alternative factors and depression (reviewed in Armour et al., 2011c). Furthermore, a meta-analysis of 41 studies, addressing the external validity of PTSD models, concluded that the dysphoria factor was the factor most associated with depression (Gootzeit and Markon, 2011). However, it must also be acknowledged that when using an item-level analysis, Marshall et al. (2010) reported that none of the PTSD items were more or less associated with general distress. Furthermore, Armour and Shevlin (in press), using an epidemiological database, recently concluded that, when statistically controlling for the variance attributable to depression across the 17 PTSD indicators, none of the factor loadings were statistically attenuated.

Unfortunately, the current study did not use a measure of anxiety in the data collection, and thus, we could not assess whether there would be differential relationships with the numbing, dysphoric arousal, and anxious arousal factors with anxiety. Given the lower degree of association between anxious arousal and depression compared with the numbing and dysphoric arousal factors, it would have been interesting to determine whether anxious arousal was associated with anxiety to a greater degree than were the other factors. Indeed, Wang et al. (in press) concluded that anxious arousal was more associated with anxiety than depression using data from young Chinese earthquake survivors.

One additional consideration lies with the role of the hyperarousal factor (D1–D5) of *DSM-IV* in the ongoing maintenance of PTSD and with the individuals' level of functional impairment (Kassam-Adams et al., 2010; Marshall et al., 2006; Schell et al., 2004). Teasing apart this construct into two distinct factors (dysphoric arousal = D1–D3; anxious arousal = D4–D5), as apparent in the dysphoric arousal model, may further elucidate our understanding of PTSD's natural course and further explain which hyperarousal items are more associated with ongoing functional impairment.

Notably, the current study includes several limitations. First, both the HTQ and the BDI are self-report measures. However, several studies have concluded that self-report measures and clinical interviews have high concordance rates, particularly with regard to the diagnoses of PTSD (Coffey et al., 1998; Harrington and Newman, 2007). Interestingly, Palmieri et al. (2007) reported that the factor structure of PTSD may vary as a function of the measurement instrument used; thus, had alternative measures of PTSD and depression been used in the current study, the resultant fit of each model and the association between the factors and depression may have varied. A further limitation related to the HTQ is that this measure combines two items (B4 and B5) into a single item, creating a 16- rather than a 17-item measure that does not directly map onto each of the 17 *DSM-IV* PTSD indicators. Second, the response rate for the current study was low at 41%. Thirdly, the dysphoric arousal model, like the dysphoria model, consists of two factors composed of only two items and, as such, is open to criticisms that state that factors should be composed of several indicators. Indeed, Kline (2005) proposed that there should always be a minimum of three observed variables per latent factor. However, despite this, the dysphoria model and now the dysphoric arousal model demonstrate good fit across multiple studies. Furthermore, the arousal factor of the dysphoria model has been shown to provide unique overlap with external correlates (Gootzeit and Markon, 2011). Fourth, as previously mentioned, the current study failed to include a measure of anxiety. On this note, future studies should examine the correlates of the five factors of the dysphoric arousal model with a wide range of psychopathological variables over and above depression and anxiety alone. Fifth, this is a relatively new model of PTSD's latent structure, and, as such, it needs to be further tested in a wide range of trauma

populations to ascertain whether the findings, to date, can be generalized to the wider trauma population.

CONCLUSIONS

In conclusion, the present findings suggest that five latent factors best represent PTSD's latent structure. Furthermore, the present findings suggest that items D1 to D3 represent a distinct PTSD construct that may be associated with depression to a greater degree than the remaining hyperarousal items (D4–D5). Thus, support for the dysphoric arousal model is growing. Such is timely given the proposed release of the *DSM-5*. However, before informing the *DSM-5* with any degree of certainty, the dysphoric arousal model must, as previously mentioned, be assessed in variety of trauma-exposed samples.

DISCLOSURE

The authors declare no conflict of interest.

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