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Examining posttraumatic stress disorder's latent structure between treatment-seeking and non-treatment-seeking Filipinos

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ABSTRACT

Background: The discourse of latent structure of posttraumatic stress disorder (PTSD) has been extensive in trauma literature. Although findings have been consistent in rejecting DSM-IV-TR's three-factor model, alternative models are still fervently argued. This study contributes to the discussion by examining and comparing PTSD factor structure of the three most validated models—numbing model (King et al., 1998), dysphoria model (Simms et al., 2002), and dysphoric arousal model (Elhai et al., 2011b)—and determining if these are generalizable across treatment-seeking and non-treatment-seeking Filipinos with exposure to trauma events.

Methods: Filipino-Tagalog version of Harvard Trauma Questionnaire (HTQ; Mollica et al., 1992) was administered to a sample of 737 treatment-seeking ($n = 526$) and non-treatment-seeking ($n = 211$) Filipinos who experienced and witnessed varied trauma events. Confirmatory factor analysis (CFA) was conducted involving the three models in order to determine the best-fitting model and generalizability across samples.

Results: Results showed that all three models achieved excellent fit, with dysphoric arousal model slightly fitting better than numbing and dysphoria models in both treatment-seeking and non-treatment-seeking samples. Series of invariance testing, however, indicated that although dysphoric arousal model fits significantly better than dysphoria model, it did not significantly differ from numbing model. Results revealed that aside from the factor loadings, the two groups are noninvariant in all parameters. Treatment-seeking sample had larger intercepts, factor variances and covariances and factor means than non-treatment-seeking group.

Discussion: The findings strongly contribute to the literature by showing how the type of groupings (treatment-seeking vs. non-treatment-seeking) moderates PTSD latent structure. It affirms the suggestion of Biehn et al. (2012) to be cautious in concluding the generalizability of PTSD models in the context that type of participants moderates PTSD's factor structure.

1. Background of the study

The changes in *Diagnostic and Statistical Manual for Mental Disorders-Fifth Edition* (DSM-5; American Psychiatric Association, 2013) on posttraumatic stress disorder (PTSD) clustering of symptoms were in response to the inadequate support of its previous editions (APA, 1987, 2000). DSM-5's organization of symptoms into four clusters (i.e., intrusion, arousal, avoidance, and negative mood alteration) is parallel to most empirically supported four-factor models. In fact, based on examination of DSM's symptom-grouping, this model closely resembles numbing model (King et al., 1998)—one of the three most supported models in PTSD studies (see Yufik and Simms, 2010). The appropriateness of DSM-5's decision to separate DSM-IV's criterion C into avoidance (DSM-5 criterion C) and negative alterations in cognition and mood (DSM-5 criterion D) was validated by examining the numbing model, the model which was the first to suggest the separation of DSM-IV's criterion C into deliberate avoidance and numbing clusters.

Despite its changes, however, there are criticisms that need to be addressed in the new classification. For instance, Marsella and Christopher (2004) pointed out DSM's lack of sensitivity to cultural influences. Bal and Jensen (2007) noted several researches

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documenting how culture influences the perceptions and expressive dimension of traumatic experiences, which would likely affect PTSD's symptom structure. Thus, it is imperative for any PTSD model to be subjected to empirical investigation to determine whether the proposed latent structure may be generalizable to different cultures.

So far, recent studies suggest the three models to be consistently showing excellent fit across population, assessment methods, and trauma types: numbing model (King et al., 1998), dysphoria model (Simms et al., 2002) and dysphoric arousal model (Elhai et al., 2011b). The numbing model retains the DSM-IV-TR's original symptom groupings of re-experiencing and hyperarousal, while separating the avoidance factor into two distinct factors, deliberate avoidance and emotional numbing. Asmundson et al. (2000) conceptually differentiated the two by describing numbing as an automatic passive response to chronic arousal while avoidance represents an effortful and intentional coping from trauma-related stimuli. This model was found to be robust and extensively supported by numerous studies (Elhai and Palmieri, 2011; Yufik and Simms, 2010), and closely resembles DSM 5 classification.

The dysphoria model (Simms et al., 2002) was based on the contention that several symptoms of DM-IV's PTSD, especially those under the numbing factor (C3–C7), are very common to anxiety and mood disorders. This four-factor model moved three symptoms from arousal cluster (D1–D3; sleep disturbance, irrationality/anger, and concentration difficulty) to numbing factor and renamed it as dysphoria factor. The remaining three factors include re-experiencing (B1–B5), avoidance (C1–C2), and smaller hyperarousal represented only with hypervigilance (D4) and startle response (D5) symptoms. The strength of this model lies on its ability to classify symptoms that are common to other disorders, and those that are unique to PTSD. Mansfield et al. (2010) maintained that by identifying the specificity of PTSD symptoms, a more focused and suitable intervention can be developed and implemented prioritizing symptom-components that are cardinal features to PTSD, followed by those symptoms representing general distress.

Dysphoric arousal model (Elhai et al., 2011a) evolved from the criticism pertaining to the question on dysphoria model's placement of D1–D3 symptoms. This model asserts that D1–D3 symptoms constitute a latent factor by itself, distinct but related to other PTSD factors. Based on the observation of Watson (2005), the model maintained that hyperarousal symptoms D1–D3 (dysphoric arousal) differ from D4-D5 (anxious arousal) in the context that the former describes general distress or dysphoria while the latter characterizes fear-based symptoms. Moreover, dysphoric arousal could not be mixed with Simms et al.'s dysphoria factor since numbing symptoms, characterized by passive response, are more associated with depression in contrast to D1–D3 which represents a mixture of anxiety and depression. The model's separation of arousal has considerable contribution in light of recent researches emphasizing the crucial role of arousal in the course and development of PTSD (Bryant et al., 2011; Inslicht et al., 2011; Wang et al., 2011b) and other comorbid disorders (Greaves-Lord et al., 2007; Kendall-Tackett et al., 2000; Nixon et al., 2004) (Table 1).

Although several reviews have assessed the superiority of these proposed PTSD models, none, so far, had a very clear advantage (see Elhai and Palmieri, 2011). The competing claims of these models led more recent researches to explore whether these models are the best representation of certain types of trauma, methods of collecting data, or certain trauma samples. For example, several studies examined if model fit is a function of gender (Armour et al., 2012; Hall et al., 2012; Wang et al., 2011b), with(out) PTSD diagnosis (Biehn et al., 2012), method of assessment (Elhai et al., 2009, 2011b; Palmieri et al., 2007), specific/global trauma history (Elhai et al., 2009), type of trauma event (Wang et al., 2011b), deployment status (Engdahl et al., 2011), A2 endorsement (Armour et al., 2011), and type of interpersonal abuse (Hetzel-Riggin, 2009).

To our knowledge, none, so far, have determined if the latent PTSD structure differs from those who are seeking treatment and those who are not. It is of significance to determine if the patterns of trauma symptoms are non-invariant considering that several researches have characterized vital differences between these two samples. In contrast to traumatized treatment-seeking individuals, non-treatment-seeking individuals were found to feel more stigma, hold treatment discouraging beliefs, possess over-reliance to one's self in coping, fear losing control or autonomy, lack knowledge about PTSD as a disorder and its corresponding treatment options, experience insufficient social support and negative community integration, and downplay "severity" of symptoms (Duke et al., 2011; Kehle et al., 2010; Kim et al., 2010, 2011; Hoge et al., 2004; Menke and Flynn, 2009; Meis et al., 2010; Ouimette et al., 2011; Sayer et al., 2009; Vogel et al., 2005). On the other hand, treatment-seeking individuals were found to recognize and accept the extent of their problem, possess treatment-encouraging beliefs, and

Table 1
Item mapping for confirmatory factor analysis.

HTQ items and the corresponding DSM-IV-TR PTSD symptom criteria	1	2	3
1. Recurrent thoughts or memories of the most hurtful or terrifying events (B1)	I	I	I
3. Recurrent nightmares (B2)	I	I	I
2. Feeling as though the event is happening again (B3)	I	I	I
16. Sudden emotional or physical reaction when reminded of the most hurtful or traumatic events (B4/B5)	I	I	I
11. Avoiding activities that reminded me of the traumatic or hurtful event (C1)	A	A	A
15. Avoiding thoughts or feelings associated with the traumatic/hurtful events (C2)	A	A	A
12. Inability to remind parts of the most hurtful/traumatic events (C3)	N	D	N
13. Less interest in daily activities (C4)	N	D	N
4. Feeling detached or withdrawn from others (C5)	N	D	N
5. Unable to feel emotions (C6)	N	D	N
14. Feeling as if I don't have a future (C7)	N	D	N
8. Trouble sleeping (D1)	H	D	DA
10. Feeling irritable or having outburst of anger (D2)	H	D	DA
7. Difficulty concentrating (D3)	H	D	DA
9. Feeling on guard (D4)	H	H	AA
6. Feeling jumpy, easily startled (D5)	H	H	AA

Note: HTQ, Harvard Trauma Questionnaire; DSM-IV-TR, *Diagnostic and Statistical Manual for Mental Disorders, Fourth Edition-Text Revised* (APA, 2000); PTSD, posttraumatic stress disorder; A, avoidance; N, numbing; H, hyperarousal; D, dysphoria; DA, dysphoria arousal; AA, anxious arousal. Model sources: 1, King et al. (1998) numbing model; 2, Simms et al. (2002) dysphoria model; 3, Elhai et al. (2011b) five-factor model.