The structure of posttraumatic psychopathology in veterans attending primary care

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\begin{abstract}
This study attempted to extend research indicating that posttraumatic stress disorder (PTSD) factors of Re-experiencing, Avoidance and Hyperarousal are more related to Fear/phobic disorders, while PTSD Dysphoria is more related to Anxious-Misery disorders. Trauma exposure, PTSD and comorbidity data for 668 veteran patients were analysed using confirmatory factor analyses and relative strengths of the relationships between PTSD factors and the Fear and Anxious-Misery factors were assessed. Combining Simms, Watson, and Doebbeling’s (2002) model of PTSD symptoms and Krueger’s (1999) Fear/Anxious Misery model of mood and anxiety disorders fit the data well. Contrary to previous research, PTSD Re-experiencing, Avoidance and Hyperarousal did not correlate more with the Fear factor; nor did PTSD Dysphoria correlate more with Anxious-Misery. Hyperarousal was more closely related to Fear than was Re-experiencing; however, Avoidance was not. Dysphoria was more closely related to the Anxious-Misery factor than all other PTSD factors.
\end{abstract}

Posttraumatic stress disorder (PTSD) as currently defined has high rates of comorbidity with other mood and anxiety disorders (Creamer, Burgess, & McFarlane, 2001; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995) and a heterogeneous clinical presentation (Blanchard, Hickling, Taylor, Loos, & Gerardi, 1994), features which are thought to pose a challenge to its diagnostic validity (Frueh, Elhai, & Acienro, 2010; McNally, 2003; Rosen & Lilienfeld, 2008; Spitzer, First, & Wakefield, 2007). Research exploring the structural relationship between PTSD and other mood and anxiety disorders (e.g. Brown & McNiff, 2009; Elhai, Carvalho, Palmieri, Prim, & Frueh, 2011; Forbes et al., 2010; Frueh et al., 2000; Grant, Beck, Marques, Palyo, & Clapp, 2008; Gros, Simms, & Acienro, 2010; Simms, Watson, & Doebbeling, 2002) has begun to shed light on the nature and origins of this comorbidity and heterogeneity. Forbes et al. (2010) found that, in a sample of acute traumatic injury survivors, the PTSD symptoms more specific to the disorder (Re-experiencing, Avoidance and Hyperarousal) were more related to a Fear or phobic disorders factor underlying mood and anxiety disorders (Krueger, 1999), while the PTSD dysphoria symptoms (Simms et al., 2002) were more closely related to the Anxious-Misery factor (generalized anxiety disorder and major depression; Grant et al., 2008). This study aims to replicate Forbes et al.’s (2010) findings in a veterans’ general medical patient sample. It also seeks to extend these findings by clarifying differences between the PTSD factors in terms of their relationship to each of the Fear and Anxious-Misery factors. This will help improve diagnostic specificity as well as treatment selection for varying presentations of PTSD symptoms.

In addition to exposure to a traumatic event, DSM-IV diagnostic criteria for PTSD require at least 1 of 5 re-experiencing symptoms, at least 3 of 7 avoidance and numbing symptoms, and at least 2 of 5 arousal symptoms (American Psychiatric Association, 1994). However, confirmatory factor analyses (CFAs) suggest that PTSD is better represented by a four-factor model, either one of two very similar models specified by King, Leskin, King and Weathers (1998) and Simms et al. (2002) respectively. Simms et al.’s (2002) four-factor model comprises a Re-experiencing factor (DSM-IV PTSD items B1–B5), an Avoidance factor (C1–C2), a Dysphoria factor (C3–C7; D1–D3) and a Hyperarousal factor (D4–D5). Simms et al.’s (2002) Dysphoria factor comprises items such as diminished interest (C4), restricted affect (C6), difficulty sleeping (D1), irritability (D2) and poor concentration (D3), which are also symptoms of major depressive disorder (MDD) and/or generalized

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anxiety disorder (GAD). This Dysphoria factor may thus reflect the non-specific general distress or negative affectivity component identified by the structural models of Clark and Watson (1991) and Brown, Chorpita, and Barlow (1998) as common to many mood and anxiety disorders. The presence of dysphoria symptoms in the diagnostic criteria for PTSD might therefore account for high rates of comorbidity between PTSD and other mood and anxiety disorders and its heterogeneous clinical presentation (Forbes et al., 2010; Simms et al., 2002). Consistent with this, empirical analyses by Grant et al. (2008) found considerable shared variance between this Dysphoria factor and GAD and MDD, while the other three factors of Simms et al.’s (2002) model were more specific to PTSD.

Recent research (e.g., Cox, Clara, & Inns, 2002; Forbes et al., 2010; Slade & Watson, 2006) has attempted to locate PTSD within, or relate its factor structure to, the structure of mood and anxiety disorders overall. One influential approach to modelling the structure of mood and anxiety disorders was developed by Krueger (1999), who identified two latent factors underling mood and anxiety disorders, Fear and Anxious-Misery. Disorders loading onto the Fear factor included social phobia, simple phobia, agoraphobia, obsessive–compulsive disorder and panic disorder, while MDD, dysthymia and GAD loaded onto the Anxious-Misery factor. PTSD was not included in Krueger’s (1999) analysis, but subsequent studies (e.g., Cox et al., 2002; Slade & Watson, 2006) found that PTSD loaded onto the Anxious-Misery factor. This is inconsistent with the conceptualization of PTSD as a fear-based disorder (Creamer, Burgess, & Patton, 1992; Foa, Stekete, & Rothbaum, 1989) associated with persistent autonomic arousal (Brown & McNiff, 2009) and phobic responses to trauma, and which is responsive to prolonged exposure therapy (Keane & Kaloupek, 1982), a conceptualization supported by biological and psychophysiological studies ( PITMAN, ORR, FORGE, DE JONG, & CLAIBORN, 1987).

Thus, during, would PTSD have correlated more with the Anxious-Misery (rather than Fear) factor in Cox et al.’s (2002) and Slade and Watson’s (2006) studies? Forbes et al. (2010) suggested that the inclusion of Simms et al.’s (2002) dysphoria symptoms (i.e. criteria C3–D3) in the DSM-IV criteria for PTSD may explain this finding. Slade and Watson’s (2006) finding that the correlation between PTSD and Anxious-Misery decreased from .83 to .69 when ICD-10 criteria, which include fewer dysphoria symptoms, were used also supports this hypothesis. The re-experiencing, active avoidance and hyperarousal symptoms of Simms et al.’s (2002) model, in contrast, have been shown to be more specific to PTSD (Grant et al., 2008), are clinically and theoretically associated with fear, and thus may be more associated with the Fear factor.

Cox et al. (2002) and Slade and Watson (2006) treated PTSD as a single entity that could load onto either the Fear and Anxious-Misery factors. However, the hypothesized association of PTSD’s Dysphoria factor with the Anxious-Misery factor and PTSD’s remaining three factors with the Fear factor suggest that it would be useful to disaggregate PTSD into its constituent factors and test their relationships with the Fear and Anxious-Misery factors separately. Accordingly, Forbes et al. (2010), collected PTSD symptom and mood and anxiety disorder diagnosis data from a sample of 714 physical injury survivors fitting them to a model that specified mood and anxiety disorders to load onto Fear and Anxious-Misery factors (Krueger, 1999) and PTSD symptoms onto a four-factor model (Simms et al., 2002). The Fear and Anxious-Misery factors were allowed to correlate with each of the four PTSD symptom factors. Fit indices for the combined model indicated excellent fit, and the re-experiencing, active Avoidance and Hyperarousal factors were significantly more correlated with the Fear factor than with the Anxious-Misery factor, while the Dysphoria factor was significantly more correlated with the Anxious-Misery factor.

Forbes et al.’s (2010) findings held for three different time points post-trauma: 3 months, 12 months and 24 months. However, the sample had experienced only a subset of possible PTSD criterion A events, specifically traffic accidents, falls, assaults, and other injuries necessitating hospital treatment. To ensure their generalizability, these results need to be replicated in broader samples, such as those encountered in general medical settings. Testing this research question with primary care patients provides a wider range of PTSD severity than the more severe end found in specialty mental health patients. In addition, sequences from a vast array of traumatic events, including interpersonal trauma such as combat, assault and sexual assault, are treated in primary care. Primary care is the fastest growing sector of mental healthcare delivery (Wang et al., 2006), and typically acts as the gate-keeper for provision of mental health services in both Veterans Administration and other healthcare sectors. Evidence suggests that people often prefer discussing their mental health problems with primary care professionals (Del Piccolo, Saltini, & Zimmerman, 1998), and this preference is highlighted in military populations where there is a significant stigma about visiting mental health professionals (Hoge et al., 2004).

Re replicating Forbes et al.’s (2010) study would also provide an opportunity to further examine PTSD symptom factors and the relationship to the Anxious-Misery and Fear factors. For example, it is important to examine the extent to which the PTSD symptom factors may differ in the strength of their relationships with the Anxious-Misery and Fear factors. Avoidance symptoms (items C1–C2) of PTSD may be particularly Fear-related in that they constitute a typically phobic response and hyperarousal symptoms (Simms et al., 2002) such as hypervigilance and exaggerated startle response may also be Fear-related, reflecting excessive autonomic arousal similar to that seen in panic disorder. Re-experiencing, however, appears to comprise a more heterogeneous set of symptoms that may reduce the strength of its relationship with the Fear factor. Recurrent distressing dreams (criterion B2) may be accurate replays of traumatic experiences that awaken the dreamer “in fright”. Alternatively, they may be more symbolic in content (Phelps, Forbes & Creamer, 2008) involving emotions such as anger, guilt and general distress, which may awaken the dreamer, but not necessarily “in fright”. Similarly, DSM-IV does not require that the intense psychological distress at exposure to internal or external cues symbolizing the trauma (criterion B4) be of a specifically fearful nature. Thus, these two symptoms and the Re-experiencing factor more generally, may be less strongly correlated with the Fear factor than the Avoidance and Hyperarousal factors. Given its overlap with symptoms of MDD and GAD, the Dysphoria factor should be significantly more correlated with the Anxious-Misery factor than the other three PTSD factors.

This study therefore aims to replicate Forbes et al.’s (2010) findings in veterans primary care medical sample, hypothesizing that (1) the four factor PTSD model (consistent with Simms et al., 2002) combined with the two factor Fear and Anxious Misery model for the anxiety and depressive disorders fits the data well; (2) the PTSD specific factors of Re-experiencing, Avoidance and Hyperarousal (D4–5) are more correlated with Fear than Anxious Misery, and the PTSD Dysphoria factor is more highly correlated with Anxious Misery than Fear. This study also seeks to extend these previous findings with a further hypothesis that (3) Avoidance and Hyperarousal are more closely related to Fear than is Re-experiencing and Dysphoria is more closely related to Anxious Misery than are the other 3 PTSD factors.

1. Method

1.1. Procedures

Data were derived from a cross-sectional survey conducted on a random sample of veterans at four VA Medical Centers’
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