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Differentiating PTSD symptomatology with the MMPI-2-RF (Restructured Form) in a forensic disability sample

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ABSTRACT

The current study was designed to explore models of assessing various forms of Post-Traumatic Stress Disorder (PTSD) symptomatology that incorporate both broad and more narrowly focused affective markers. We used broader markers of demoralization, negative activation, positive activation, and aberrant experiences to predict global PTSD scores, whereas more narrowly focused markers of positive and negative affect were used to differentiate between PTSD symptom clusters. A disability sample consisting of 347 individuals undergoing medico-legal psychological evaluations was used for this study. All participants completed symptom measures of PTSD and the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) (from which MMPI-2-RF scores were derived). The results indicated that demoralization was the best individual predictor of PTSD globally, and that more narrowly focused MMPI-2-RF Specific Problems scales provided a differential prediction of PTSD symptom clusters. Theoretical and practical implications of these findings are discussed within contemporary frameworks of internalizing personality and psychopathology.

1. Introduction

Post-Traumatic Stress Disorder (PTSD) is a mental disorder resulting from exposure to an emotionally traumatic event perceived by the individual as potentially causing serious physical harm or death (American Psychiatric Association, 2000). In the current edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; APA, 2000), symptoms of PTSD are rationally organized into three broad categories. The first cluster of *re-experiencing* symptoms involves emotional, cognitive, behavioral, or physical reactions to internal or external cues attributed to exposure to the traumatic stressor. The second cluster of PTSD symptoms involves both *avoidance* of stimuli associated with the trauma and generalized *numbing* of affective responsivity. The third cluster, *hyperarousal*, entails symptoms related to increased arousal beginning after the traumatic event.

PTSD has high rates of comorbidity with other mental disorders, particularly with mood, other anxiety, and substance-related disorders. For example, in a large community sample, Kessler et al. (1995) estimated the prevalence of lifetime PTSD was 7.8% and indicated, of those individuals with a lifetime history of PTSD, 88.3% of men and 79% of women had a lifetime history of at least one other Axis I disorder. Further, previous research has indicated the rates of comorbidity are more extreme in individuals currently receiving treatment for PTSD, with a demonstrated rate of current PTSD being comorbid with another Axis I disorder of 92% in one large community anxiety disorders clinic (Brown et al., 2001).

One method of accounting for this extraordinary rate of comorbidity has been to explore alternative conceptualizations of PTSD and other disorders using results from factor analytic studies in an attempt to delineate the structure of common mental disorders. Such analyses have yielded a broad internalizing psychopathology dimension, consisting of two discrete sub-factors labeled "anxious-misery" and "fear," which have been supported both via genotypic vulnerability (e.g., Kendler et al., 2003) and phenotypic covariance models (e.g., Krueger and Markon, 2006). Watson (2005) has alternatively labeled the anxious-misery sub-dimension the "distress" disorders, in order to emphasize the pervasive subjective distress characteristic of the disorders linked to the anxious-misery sub-dimension. Major Depression, Dysthymic Disorder, and Generalized Anxiety Disorder have been linked to the anxious-misery sub-dimension, whereas Social Phobia, Specific Phobia, Agoraphobia, and Panic Disorder have been linked to the fear sub-dimension (Watson, 2005).

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PTSD was not included in the original studies examining the structure of common mental disorders (e.g., Krueger, 1999). However, Watson (2005) argued that PTSD should be conceptualized as a distress disorder, as indicated by results of exploratory factor analyses using large representative samples from the United States (Cox et al., 2002) and Australia (Slade and Watson, 2006). In both studies, PTSD symptoms loaded more highly on the anxious-misery sub-dimension, although in both samples factor loadings for PTSD were lower than those of other disorders. As these results suggest that PTSD symptoms are heterogeneous, Watson (2005) left open the possibility that certain PTSD symptoms might load on the fear dimension, rather than distress dimension. Subsequently, a confirmatory factor analytic study by Forbes et al. (2010) provided empirical support for subsets of PTSD symptoms having differential loadings on the anxious-misery and fear dimensions. Symptoms related to re-experiencing, active avoidance, and exaggerated fear responses loaded strongly onto the fear dimension, whereas symptoms related to numbing, irritability, and sleep and concentration difficulties loaded onto the anxious-misery dimension in a large sample of injury survivors 3-, 12-, and 24-months after admission to specialized trauma services.

Another method of accounting for comorbidity between disorders that has been pursued in previous research is to relate them to underlying shared temperament factors (Clark, 2005). Temperament markers are hypothesized to represent potential genetic diatheses for a range of adult personality characteristics, as well as psychopathological conditions that develop in response to sufficient environmental stressors, providing a framework of associations between temperament, personality, and psychopathology. As such, this approach seeks to account for comorbidity between disorders by relating them to underlying shared temperament factors, while allowing for differentiation through the identification of unique associations for different disorders with lower level temperament sub-facets (e.g., Krueger et al., 1996; Clark, 2005).

For internalizing disorders, this line of research on temperament markers has focused largely on aspects of the Two-Factor model of affect involving positive activation and negative activation (Watson and Tellegen, 1985; Tellegen et al., 1999). Characterized by negative affective arousal (e.g., “afraid” and “angry”), negative activation has been demonstrated to be a marker of non-specific distress common to both anxiety and mood disorders (Watson et al., 1988, 2005, 2006). Alternatively, positive activation, characterized by positive affective arousal (e.g., “excited” and “delighted”), appears to be a marker of depressive disorders and social phobia.

Sellbom et al. (2008a) proposed and showed empirical support for an elaborated hierarchical structure designed to provide more specific and differentiated affective personality markers of internalizing disorders. Specifically, the authors proposed to separate a generalized distress component from the Positive and Negative Activation dimensions based on Tellegen and colleagues (Tellegen, 1985; Tellegen et al., 1999; Watson et al., 1999) conceptual framework for affect, in an effort to increase the specificity of measurement for negative affect other than general maladjustment. Demoralization, representing general maladjustment and dysphoric mood, was hypothesized to be reflected in Tellegen's (1985) happiness-unhappiness dimension. This dimension of affect describes a higher-order, bipolar structure of the shared and inversely related hedonic features of negative and positive activation (Watson and Tellegen, 1985; Tellegen et al., 1999; Watson et al., 1999), reflecting variations in hedonic valence (e.g., happy and sad), rather than the distinctive variations in arousal that are captured by negative and positive activation. Working from this model and using a series of confirmatory factor analyses, Sellbom et al. (2008a) demonstrated the elaborated temperament model containing negative activation, positive activation, and demoralization provided a better fit to the data than the alternative model containing only negative and positive activation. Additionally, results indicated demoralization was the primary marker of distress disorders, negative activation was the primary marker of fear disorders, and positive activation was a specific marker of depression and social phobia.

Relatively few studies of the relations between psychopathology and temperament have focused on or included PTSD. Watson et al. (2005) found that measures of negative activation were associated with the endorsement of traumatic memories in a sample of college students. These authors also demonstrated that dysphoric PTSD symptoms were related to negative activation in a sample of gulf war veterans, although the relative pattern of relations suggested that negative activation was more strongly associated with symptoms of depression and generalized anxiety than with PTSD symptoms. These results were supported by Gamez et al. (2007) who demonstrated that current best estimate diagnoses of PTSD were related to markers of negative activation in a large sample of Gulf War veterans. Additionally, the overall pattern of correlations suggested that PTSD symptoms were more similar in underlying personality predictors to distress disorders when compared to fear disorders, with the exception of a unique association between PTSD symptoms and a marker of eccentric perceptions.

The PTSD literature just reviewed links the disorder with the broadband internalizing dimension of psychopathology, in addition to temperament domains of demoralization and negative activation. However, Clark (2005) suggested that examination of facets of the basic temperament dimensions could facilitate identification of symptom subsets related to various disorders. Such research would require the use of measures that allow for a multi-level (broad- and narrow-band) assessment of psychopathology.

The Minnesota Multiphasic Personality Inventory-2-Restructured Form (MMPI-2-RF; Ben-Porath and Tellegen, 2008; Tellegen and Ben-Porath, 2008) could provide the broad and narrow-band measurement needed to assist in differentiating PTSD from other mental disorders. Specifically, the MMPI-2-RF contains the Restructured Clinical scales (Tellegen et al., 2003) and the more narrowly focused Specific Problems scales (Ben-Porath and Tellegen, 2008), both of which are conceptually relevant to the PTSD literature and needed levels of measurement just discussed. The RC scales assess mid-level traits, including demoralization, negative activation, and positive activation (Tellegen et al., 2003). Further, previous research with the RC scales has demonstrated they map well onto normal personality/temperament models (Sellbom and Ben-Porath, 2005; Sellbom et al., 2008b) and are congruent with current conceptualizations of mood and anxiety disorders (Sellbom et al., 2008a), including PTSD (Wolf et al., 2008). The Specific Problems scales assess facets of the broader personality domains represented by the Restructured Clinical scales (Ben-Porath and Tellegen, 2008), making them ideal candidates for facilitating identification of specific subsets of symptom for various disorders (as suggested by Clark, 2005). A list and brief description of the 13 MMPI-2-RF scales included in this study is provided in Table 1.

The current study sought to examine the ability of both broad and narrow-band personality markers, like those represented in the MMPI-2-RF scales just described, to predict and differentiate between subsets of PTSD symptoms. Our first goal was to examine broadband markers of PTSD using MMPI-2-RF scales indexing demoralization (RCd), positive activation (Low Positive Emotions [RC2]), negative activation (Dysfunctional Negative Emotions [RC7]), and aberrant experiences (RC8). We hypothesized that RCd, reflecting demoralization, rather than RC7, a marker of negative activation, would be the primary marker underlying global PTSD symptomatology. Such a finding would replicate the results of Sellbom et al. (2008a), and support that PTSD is best conceptualized as a distress disorder (e.g., Watson, 2005). Further, previous research has suggested PTSD is uniquely associated with eccentric perceptions when compared to other internalizing disorders (Gamez et al., 2007). We therefore hypothesized that RC8 – a measure of aberrant experiences (which includes dissociative experiences relevant to PTSD; Tellegen and Ben-Porath, 2008) – would be a