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Abstract

The following article discusses how the Restructured Form of the Minnesota Multiphasic Personality Inventory (MMPI -2-RF; Ben-Porath & Tellegen, 2008) can be used in case conceptualizations for Posttraumatic Stress Disorder (PTSD), particularly in compensation seeking settings. We review contemporary conceptualizations of PTSD, particularly emphasizing the role that affect and personality in regards to etiology of the disorder, as well as different manifestations of the disorder. We then review the case of an

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(Abstract continued)

individual seeking compensation for trauma related disability performed by the third author. Particular emphasis is placed on examining how interpretation of the MMPI-2-RF profile is guided by empirical findings.

Empirically Guided Case Conceptualization of Posttraumatic Stress Disorder with the Minnesota Multiphasic Personality Inventory-2 Restructured Form (MMPI-2-RF) in Forensic Disability Evaluations

PTSD is a psychological condition that readily lends itself to presentation within the arena of forensic psychology (Resnick, West, & Payne, 2008). The very nature of its etiology requires an individual to experience or witness a potentially life threatening event (APA, 2000) that can result in physical and mental injuries for which monetary compensation may be pursued, whether they occur during military service or as a result of motor vehicle or other accidents. Consequently, PTSD symptoms are common during disability claims (Arbisi, Ben-Porath, & McNulty, 2006; Rubenzer, 2009). Experts have recommended a multi-method approach to the assessment of PTSD, emphasizing the assessment of malingering and genuine symptom report (see Resnick, West, & Payne, 2008; Rubenzer, 2009). Consequently, self-report measures such as the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Butcher, et al., 2001) have a played a major role in the assessment of PTSD, particularly in forensic set-

tings, where clinicians must often establish the validity of a patient's symptom reports. A benefit of this instrument is its ability to identify several threats to protocol validity in the context of a forensic evaluation, such as random responding, acquiescent responding, as well as over and under-reporting of symptoms and problems, which has been extensively researched (e.g., Arbisi, Ben-Porath, &McNulty, 2006; Rogers et al., 2003). Previous studies have supported the use of these validity scales, namely the Infrequency (F) scale, Infrequency Back (Fb) scale, Infrequency Psychopathology (Fp) scale, and the Symptom Validity Scale (FBS), in detecting the over-reporting of PTSD symptoms in compensation seeking individuals during forensic evaluations (DeViva & Bloem, 2003; Franklin, Repasky, Thompson, Shelton, & Uddo, 2002; Frueh, Gold, & de Arellano, 1997; Greiffenstein, Baker, Axelrod, Peck, & Gervais, 2004; Rogers, Sewell, Martin, & Vitacco, 2003; Smith & Freuh, 1996).

The MMPI-2 Restructured Form (MMPI-2-RF; Ben-Porath & Tellegen, 2008) represents the latest version of the MMPI test and was developed in an effort to modernize the test by addressing the psychometric limitations of the MMPI and MMPI-2, as well as assessing personality and psychopathology in line with more contemporary theories (Ben-Porath & Tellegen, 2008). The focus of this paper will be the use of the MMPI-2-RF in the conceptualization of PTSD.

The MMPI-2-RF utilizes a hierarchical structure that incorporates both broadband and narrowly focused scales that measure personality and temperament, psychological symptoms, individual differences, and specific behavioral proclivities (Tellegen & Ben-Porath, 2008). The three Higher Order (H-O) scales represent broadband

measures of Emotional/Internalizing Dysfunction (EID), Thought Dysfunction (THD), and Behavioral/ Externalizing Dysfunction (BXD), and provide clinicians with an overall evaluation of the general problem areas of the test-taker. These three broad dimensions of functioning represent consistent findings in larger meta-analytic and epidemiological investigations of psychopathology (e.g., Krueger & Markon, 2006). Moreover, they provide a dimensional representation of three commonly occurring code types in clinical settings (2-7/7-2; 4-9/9-4; 6-8/8-6; see Graham, 2006).

Following the H-O scales in the hierarchical structure of the MMPI-2-RF are the Restructured Clinical (RC) scales (Tellegen et al., 2003), which clarify the H-O scales with a more focused evaluation of symptom and trait patterns. In an effort to address the high inter-correlations between the Clinical Scales of the MMPI-2, which can complicate effective interpretation of multiple scale elevations, Tellegen et al. (2003) developed the RC scales prior to their inclusion in the MMPI-2-RF (Ben-Porath & Tellegen, 2008). These scales differ from the original Clinical Scales in that general emotional distress and dysfunction, which was identified as the main contributor to the high inter-correlations on the Clinical Scales on the MMPI-2 (Tellegen et al., 2003), is identified as a separate construct and found on the RC Demoralization scale (RCd). Demoralization is conceptually related to the general distress component found to be underlying many heterogeneous disorders (Brown, Chorpita, Barlow, 1998; Moses & Barlow, 2006). Indeed, measures of demoralization and negative affect have been found to correlate highly as indicators of psychological distress (Sellbom, Ben-Porath, & Bagby, 2008). Previous research has examined the use of the MMPI-2 RC scales in assessing constructs associated

with the symptom clusters of PTSD (Wolf et al., 2008). Specifically, Wolf and colleagues (2008) found that re-experiencing symptoms such as flashbacks were captured by Aberrant Experiences (RC8), emotional numbing was associated with Low Positive Emotions (RC2), and hyper-arousal was related to Dysfunctional Negative Emotions (RC7). Additionally, somatic complaints and the overall emotional distress associated with the chronic and pervasive effects of the disorder were associated with Somatic Complaints (RC1) and Demoralization (RCd), respectively.

The most narrowly focused scales on the MMPI-2-RF are the Specific Problem (SP) scales, which are grouped in to indexes measuring somatic and cognitive complaints, internalizing and externalizing behaviors and cognitions, and interpersonal experiences. Several of the SP scales may also prove useful in case conceptualizations in assessing various symptoms of PTSD. Of the Interpersonal scales, the Family Problems scale (FML) should be considered, as the amount of post-trauma social support available to an individual can be a moderating factor on the development of pathology (Koenen, Stellman, Stellman, & Sommer, 2003; Ruscio, Ruscio, & Keane, 2002). Additionally, scores on Social Avoidance (SAV) and Disaffiliativeness (DSF) may provide insight into whether an individual is experiencing a feeling of detachment from others, consistent with the DSM -IV's description of avoidance symptoms (APA, 2000). Lastly, Substance Abuse (SUB) of the Externalizing Scales might capture alcohol and drug misuse, which has long been associated with a diagnosis of PTSD in various trauma populations (Bremner et al., 1996; Epstein et al., 1996). Please refer to Table 1 for a more information regarding MMPI-2-RF scales and PTSD symptoms.

Lastly, the MMPI-2 Personality Psychopathology Five (PSY-5) scales, developed by Harkness & McNulty

Table 1 MMPI-2-RF and PTSD Symptoms

	MMPI-2-RF Scales			
PTSD Cluster/Symptom	H-O	RC	SP	PSY-5
Re-Experiencing	THD		AXY	PSYC-r
Recurrent distressing dreams of the event			AXY	
Intense psychological distress at exposure to cues reminiscent of the trauma			AXY	
Physiological reactivity at exposure to cues reminiscent of the trauma			AXY	
Avoidance/Numbing	EID	RC2, RC7		INTR-r
Avoidance of activities, places, or people associated with trauma			BRF	
Inability to recall an important aspect of the trauma			COG	
Diminished interest/ participation in significant activities			SAV	
Feeling of detachment or estrangement from others			DSF	INTR-r
Restricted range of affect		RC2, RC7		INTR-r
Sense of a fore-shortened future		RC7	HLP	

Table 1 ***continued***

Hyperarousal	BXD	RC7, RC9		AGGR-r, DISC-r
Sleep difficulty			MLS	
Irritability/anger		RC7	ANP, AGG	DISC-r
Poor concentration			COG	
Hyper-vigilance		RC6, RC9	AXY	
Exaggerated startle response		RC1, RC9	AXY	

(1994) to measure dispositional abnormal personality characteristics, were revised for inclusion in the MMPI-2-RF. The PSY-5-r scales include Aggressiveness (AGGR-r), Psychoticism (PSYC-r), Disconstraint (DISC-r), Neuroticism/Negative Emotionality (NEGE-r), and Introversion/ Low Positive Emotionality (INTR-r). Certain personality traits measured by the PSY-5 scales have been linked to PTSD symptom expression in recent research. Miller (2003) found that low levels of constraint and inhibition appear to act as moderating factors on the PTSD symptoms expressed in traumatized individuals. Additionally, Miller and colleagues (2004) utilized a cluster analysis of the PSY-5 scales in a sample of veterans and found three distinct clusters of PTSD symptom expression: a low-level pathology group, an externalizing group characterized by high scores on AGGR, NEGE, PSYC, and DISC, and an internalizing cluster characterized by high scores NEGE and high scores on INTR. This study replicated and extended findings from an earlier examination of posttraumatic response subtypes (Miller, Greif, & Smith, 2003), and similar findings have been found in samples of female

rape survivors (Miller & Resick, 2007) as well as workplace claimants (Sellbom & Bagby, 2009).

In addition to its various clinically substantive scale, the MMPI-2-RF contains a set of validity indicators that can be used to identify both non-content (e.g., random, acquiescent responding) and content-based response bias (e.g., over-reporting, under-reporting). The MMPI-2-RF over-reporting scales include revised versions of the Infrequency (F), Infrequency Psychopathology (Fp), and the Symptom Validity scale[1] (FBS). The Infrequent Somatic Responses (Fs; Wygant, Ben-Porath, & Arbisi, 2004) was added to the MMPI-2-RF and contains items infrequently endorsed in medical and chronic pain samples. The MMPI-2-RF over-reporting validity scales have been found to be effective markers of response bias in both civil/disability settings (Wygant, Ben-Porath, Arbisi, Berry, Freeman, & Heilbronner, 2009; Wygant, Anderson, Sellbom, Rapier, Allgeir, & Granacher, 2011) and criminal forensic settings (Sellbom, Toomey, Wygant, Kucharski, & Duncan, 2010). Additionally, the Response Bias Scale (RBS; Gervais, Ben-Porath, Wygant, & Green, 2007) was recently added to the MMPI-2-RF. This scale contains 28 items that were found to effectively discriminate between individuals who passed or failed cognitive symptom validity tests commonly used in forensic disability settings. The strength of these scales is their ability to detect various features of malingering, such as severe psychopathology (Fp-r) or overreported (Fp-r) or overreported neurocognitive impairment (RBS), and somatic exaggeration (Fs & FBS-r). As such, these validity scales lend themselves well to the assessment of disorders with hetero-

[1]Previously labeled the Fake Bad Scale, this measure was re-named Symptom Validity to provide a more descriptive and less inferential label (Ben-Porath, Tellegen, & Graham, 2008).

geneous symptom constellations, such as PTSD, in both clinical settings and in forensic situations where the veracity of the symptom presentation must be examined.

Individual PTSD Case Conceptualizations Using the MMPI-2-RF

An MMPI-2-RF profile, completed as part of a disability evaluation with the third author for claims of psychological damage in the form of PTSD, suggest that the test has good clinical utility for case conceptualizations in individuals with the disorder.

The conceptualized case is based on a 43 year old divorced male who was involved in a vehicular collision that resulted in the death of the other driver. Immediately following the accident, the individual experienced a dissociative episode that lasted for approximately 36 hours. At the time of the assessment, which occurred 10 years following the initial trauma, the man reported experiencing occasional, brief dissociative episodes, typically triggered by odors he associated with the accident. His assessment resulted in a diagnosis of PTSD.

In terms of his MMPI-2-RF results, a review of his validity scales suggests that he was generally cooperative with the evaluation (see Figure 1). His non-content based validity scale elevation (i.e., VRIN-r, TRIN-r) were in the normal range and none of the over-reporting validity scales were indicative of symptom exaggeration. Although he perhaps attempted to portray himself in an overly virtuous light (L-r =76), he still endorsed problematic symptoms on a number of the substantive scales of the MMPI-2-RF. In the absence of any elevations on the substantive measures of the MMPI-2-RF, his score on L-r might reflect defensiveness; however, given that the remainder of his profile

shows marked elevations on scales reflecting the avoidance, re-experiencing, and hyperarousal symptom clusters of PTSD (APA, 2000), his score might actually reflect an orientation towards traditional values. Further supporting the veracity of his symptom report was his effort while testing and his non-elevated score on the Response Bias Scale. Indeed, his RBS t-score was 50 and he passed the three cognitive symptom validity tests administered during his evaluation, including 100% performance on the Word Memory Test and Medical Symptom Validity Test.

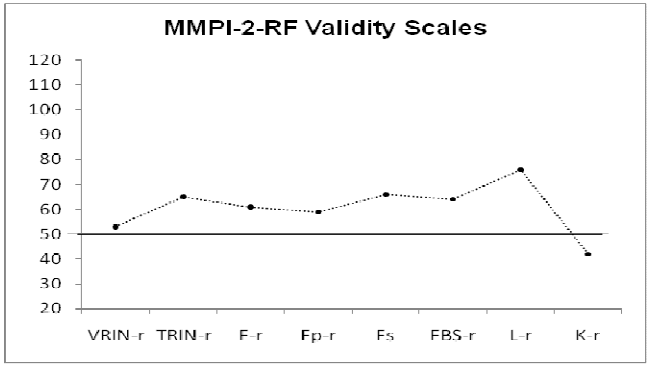

Figure 1. MMPI-2-RF Validity Scales. Excerpted from the MMPI-2-RF Manual for Administration, Scoring, and Interpretation by Yossef S. Ben-Porath and Auke Tellegen. Copyright © 2008 by the Regents of the University of Minnesota. Reproduced by permission of the University of Minnesota Press. All rights reserved. "Minnesota Multiphasic Personality Inventory-2-RF®" and "MMPI-2-RF®" are trademarks owned by the Regents of the University of Minnesota.

Legend: VRIN-r = Variable Response Inconsistency; TRIN-r = True Response Inconsistency; Fr= Infrequent Responses; Fp-r = Infrequent Psychopathology Responses; Fs = Infrequent Somatic Responses; FBS-r = Symptom Validity; L -r = Uncommon Virtues; K-r = Adjustment Validity.

This client presented scale elevations suggestive of both emotional and behavioral avoidance, which support a diagnosis of PTSD. His overall level of emotional dysfunction is suggested by his elevated score on the Emotional/ Internalizing Dysfunction Higher-Order Scale (EID=68), which measures the dysfunctional affect, emotional numbing, and rumination.

Examination of the client's remaining profiles (Figures 2-4) provides more focused information about his symptom pattern, as well as his scores on the PSY-5-r scales (Figure 5), which suggests some potential underlying etiological factors to consider. His general sense of unhappiness, which may encompass the feelings of hopelessness that often occur as a result of PTSD, is exhibited by his elevation on Demoralization (RCd = 66). Hopelessness specifically appears to be a problem for this individual, as seen by his score on the Hopelessness/ Helplessness scale (HLP=69). Additionally, this individual had an elevated score on Negative Emotionality (NEGE-r=73) of the PSY-5 -r scales. This PSY-5-r scale elevation is consistent with findings that identify negative emotionality as a consistent feature of both internalizing and externalizing subtypes of PTSD MMPI-2 profiles (Miller et al., 2004). Previous research has supported broad-band personality factors such as those measured by the PSY-5-r scales as providing etiological continuity between Axis I and Axis II disorders (Krueger, 2005), suggesting these personological variables play a key role in the development of pathology such as PTSD. In terms of behavioral avoidance (PTSD Criterion C), the most striking evidence for behavior change as a possible result of this individual's PTSD is found on the Behavior Restricting Fears scale (BRF=79). This score suggests a restriction of behavior and avoidance of normal activities as a result of intense fear or distress, which corresponds with the DSM-IV symptom criteria for the disorder (APA, 2000). This score may indicate that the individual is determined to avoid recollections of the trauma by drastically decreasing the breadth of his activities, which allows

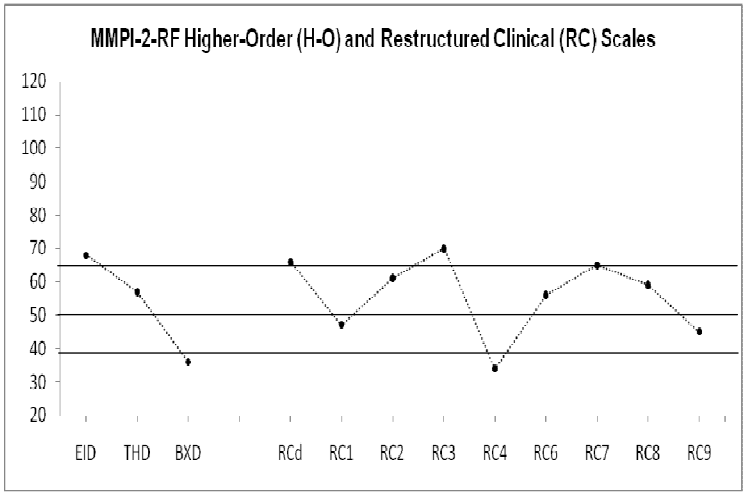

Figure 2. MMPI-2-RF Higher-Order (H-O) and Restructured Clinical (RC) Scales. Excerpted from the MMPI-2-RF Manual for Administration, Scoring, and Interpretation by Yossef S. Ben-Porath and Auke Tellegen. Copyright © 2008 by the Regents of the University of Minnesota. Reproduced by permission of the University of Minnesota Press. All rights reserved. "Minnesota Multiphasic Personality Inventory-2-RF®" and "MMPI-2-RF®" are trademarks owned by the Regents of the University of Minnesota.

Legend: EID = Emotional/Internalizing Dysfunction; THD = Thought Dysfunction; BXD = Behavioral/Externalizing Dysfunction; RCd = Demoralization; RC1 = Somatic Complaints; RC2 = Low Positive Emotions; RC3 = Cynicism; RC4 = Antisocial Behavior; RC6 = Ideas of Persecution; RC7 = Dysfunctional Negative Emotions; RC8 = Aberrant Experiences; RC9 = Hypomanic Activation.

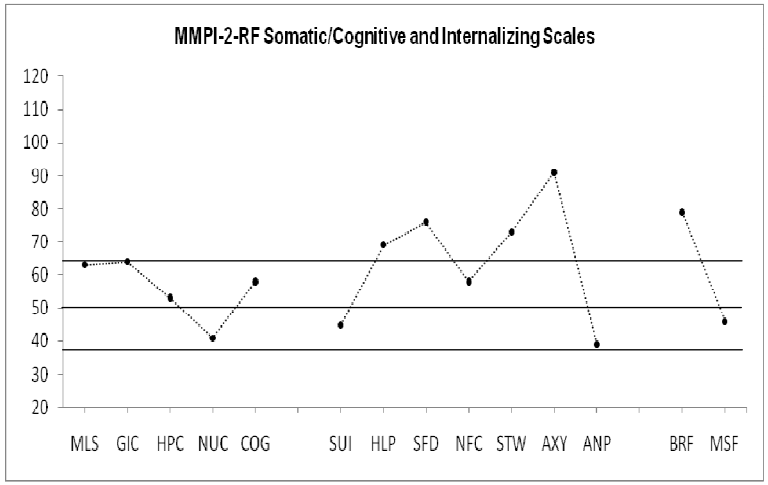

Figure 3. MMPI-2-RF Somatic/Cognitive and Internalizing Scales. Excerpted from the MMPI-2-RF Manual for Administration, Scoring, and Interpretation by Yossef S. Ben-Porath and Auke Tellegen. Copyright © 2008 by the Regents of the University of Minnesota. Reproduced by permission of the University of Minnesota Press. All rights reserved. "Minnesota Multiphasic Personality Inventory-2-RF®" and "MMPI-2-RF®" are trademarks owned by the Regents of the University of Minnesota.

Legend: MLS = Malaise; GIC = Gastrointestinal Complaints; HPC = Head Pain Complaints; NUC = Neurological Complaints; COG = Cognitive Complaints; SUI = Suicidal/Death Ideation; HLP = Helplessness/Hopelessness; SFD = Self-Doubt; NFC = Inefficiency; STW = Stress/Worry; AXY = Anxiety; ANP = Anger Proneness; BRF = Behavior Restricting Fears; MSF = Multiple Specific Fears.

him to attenuate his trauma-induced fears in a negatively reinforcing pattern. Additionally, his score on the Social Avoidance Scale (SAV=70) suggests that he is avoiding people and social gatherings as well. This interpersonal avoidance is also characteristic of individuals experiencing

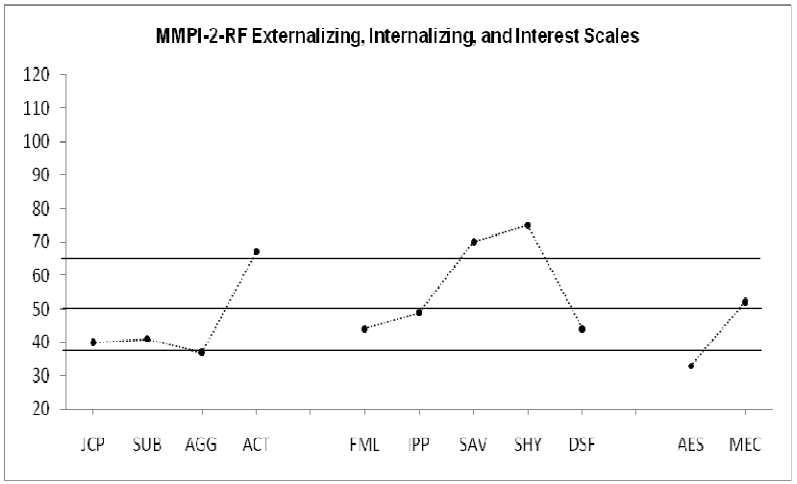

Figure 4. MMPI-2-RF Externalizing, Internalizing, and Interest Scales. Excerpted from the MMPI-2-RF Manual for Administration, Scoring, and Interpretation by Yossef S. Ben-Porath and Auke Tellegen. Copyright © 2008 by the Regents of the University of Minnesota. Reproduced by permission of the University of Minnesota Press. All rights reserved. "Minnesota Multiphasic Personality Inventory-2-RF®" and "MMPI-2-RF®" are trademarks owned by the Regents of the University of Minnesota.

Legend: JCP = Juvenile Conduct Problems; SUB = Substance Abuse; AGG = Aggression; ACT = Activation; FML = Family Problems; IPP = Interpersonal Passivity; SAV = Social Avoidance; SHY = Shyness; DSF = Disaffiliativeness; AES = Aesthetic-Literary Interests; MEC = Mechanical-Physical Interests.

PTSD (APA, 2000), and in this case may result from cynical beliefs stemming from the trauma that others are not to be trusted (RC3=70). Active interpersonal avoidance may also account for this individual's score on the Shyness scale (SHY=75). While this individual may have originally had some shyness as a natural component of his

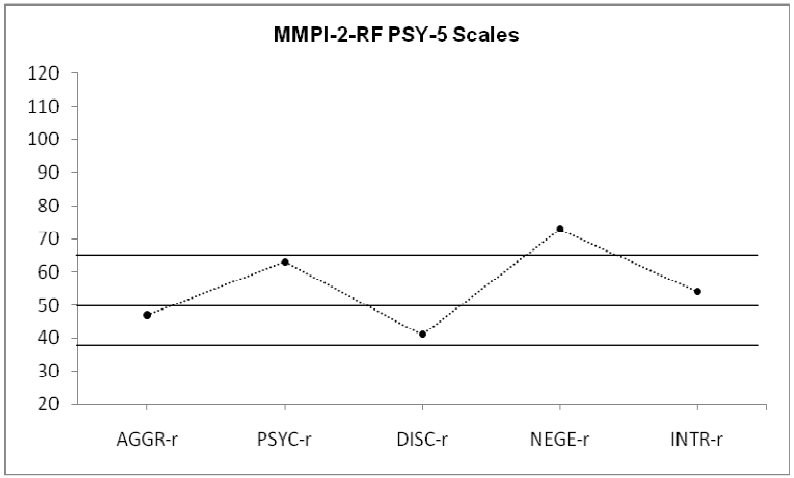

Figure 5. MMPI-2-RF PSY-5 Scales. Excerpted from the MMPI-2-RF Manual for Administration, Scoring, and Interpretation by Yossef S. Ben-Porath and Auke Tellegen. Copyright © 2008 by the Regents of the University of Minnesota. Reproduced by permission oft he University of Minnesota Press. All rights reserved. "Minnesota Multiphasic Personality Inventory-2-RF®" and "MMPI-2-RF®" are trademarks owned by the Regents of the University of Minnesota.

Legend: AGGR-r = Aggressiveness-Revised; PSYC-r = Psychoticism-Revised; DISC-r =Disconstraint-Revised; NEGE-r = Negative Emotionality/Neuroticism-Revised; INTR-r =Introversion/Low Positive Emotionality-Revised

temperament, his elevation on SHY may reflect emotional disengagement from those around him since the accident.

Evidence of symptoms inherent to the re-experiencing symptom cluster (PTSD Criterion B) can also be discerned from the client's MMPI-2-RF profile. His score on the Psychoticism scale of the PSY-5-r Scales is mildly elevated (PYSC-r=63). This score is suggestive of a

mild level of disconnect from reality. The intense psychological distress of reexperiencing a traumatic event in a vivid, recurrent manner may additionally elevate this scale, in addition to this individual's particular style of dissociating in response to triggers associated with the original trauma. Moreover, Miller et al. (2004) suggested that Psychoticism might be measuring feelings of alienation and absorption, both of which are suggestive of PTSD.

Several scale elevations illustrate symptoms indicative of the Hyperarousal symptom cluster (PTSD Criterion D). In particular, the RC scale measuring Dysfunctional Negative Emotions is elevated on this profile (RC7=65). RC7 measures a wide range of dysfunctional negative emotions, such as maladaptive anxiety, anger, and irritability. Several SP scales provide further evidence of Criterion D symptoms. Indeed, his score on the Activation Scale (ACT=67) suggests a heightened excitation and energy level, which corresponds with the increased arousal that accompanies a diagnosis of PTSD. This maladaptive anxiety is also evidenced by elevations on Stress/ Worry (STW=73) and Anxiety (AXY=91), as would be expected with an individual constantly reliving a traumatic event.

Discussion

PTSD is a complex disorder to assess in any setting, as a result of its heterogeneous symptom picture that is primarily discerned through self-report. The assessment of PTSD in a forensic setting further adds to the complexity of rendering a diagnosis, as the disorder is often a disability that is monetarily compensable. The MMPI-2-RF provides assistance in assessing empirically supported constructs associated with PTSD as a result of its hierar-

chical structure that differentiates internalizing and externalizing symptoms and its ability to isolate the impact of demoralization, or general emotional distress, which permeates many Axis I conditions. Additionally, the MMPI-2 -RF contains validity scales that measure a variety of threats to protocol validity (e.g., exaggerated psychopathology, neurocognitive impairment, and physical health problems). These scales allow the clinician to form an opinion about the specific nature of potential symptom exaggeration, as PTSD can feigned in numerous ways (see Resnick et al., 2008 for a review).

The preceding case study and discussion should highlight the clinical utility of the MMPI-2-RF in interpreting individual presentations of PTSD. Further research, however, is needed to explore the association between the MMPI-2-RF and PTSD on a more empirical level.

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