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Psychological Assessment of Veterans in Outpatient Mental Health Settings

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Veterans who establish care within the Veterans Administration (VA) system represent a remarkably heterogeneous group who often present with a variety of medical, as well as mental health, conditions. Mental health difficulties may relate to premorbid vulnerabilities, previous military service activity itself (e.g., combat), post-separation life events, and for some veterans, an admixture of these factors. While researchers have not consistently demonstrated increased risk of psychiatric disorder on the basis of veteran status alone (cf., Bohnert et al., 2012; Dichter et al., 2012; Freedy et al., 2010; Kaplan et al., 2012; White, Barber, Azrael, Mukamal, & Miller, 2011), the reality is that mental health conditions such as post-traumatic stress disorder (PTSD; Freedy et al., 2010; Gates et al., 2012; Gros et al., 2011), major depression (Gadernann et al., 2012), substance abuse/dependency (White et al., 2011), obsessive compulsive disorder (Gros et al., 2013), and panic disorder (Gros et al., 2011) are of high and concerning prevalence in veteran samples. Research also suggests that veterans with mental health conditions who rely on primary care services alone have worse general medical prognoses relative to those who seek specialized mental health services (Kilbourne et al., 2010), and certain mental health conditions, such as alcohol/drug dependence and schizophrenia, have been identified as having an independent association with overall mortality in veteran samples, even after controlling for medical comorbidities and physical health factors (Chwastiak et al., 2010). Taking this information together, it is clear that continued investment in mental health services within the VA system, including development of high-quality psychological assessment resources, is warranted.

The psychological assessment needs of veterans often vary by cohort and era of previous military service. The psychological needs of World War II-era and other aging veterans, for example, may be quite distinct relative to those who have served more recently, related to the high prevalence of comorbid psychiatric (e.g., depression) and

neuropsychiatric (e.g., delirium, dementia) conditions (Goy & Ganzini, 2011) that may prompt a thorough assessment of psychological as well as cognitive functioning. The high prevalence of post-traumatic stress and other emotional difficulties among Vietnam veterans (Holowka, Marx, Kaloupek, & Keane, 2012) may result in a formal psychological assessment of post-traumatic stress disorder (PTSD) or other anxiety disorder, while the medically unexplained physical symptoms of certain Gulf War veterans (Binder & Campbell, 2004) may prompt psychological assessment of an underlying somatoform disorder or other psychological condition.

The recent wars in Iraq (previously Operation Iraqi Freedom, OIF; later Operation New Dawn, OND) and Afghanistan (Operation Enduring Freedom, OEF) have spawned increased demand for psychological assessment services in VA outpatient mental health settings. OIF/OND/OEF veterans present with frequent reports of physical, psychological, and emotional difficulties that often persist well after soldiers return from the combat theater. OIF/OND/OEF soldiers confront blast events with alarming regularity, rendering them vulnerable not only to potentially debilitating physical injury (e.g., loss of limb, traumatic brain injury) but impairing psychological injury as well. The transition to civilian life can be difficult; a meaningful proportion of OIF/OND/OEF veterans develop problematic patterns of substance use (Widome et al., 2011), chronic PTSD and associated relational difficulties (Erbes et al., 2011), sexual dysfunction (Nunnink, Fink, & Baker, 2012), depression (Hoge et al., 2008), and chronic pain (Stecker et al., 2010). Veterans with histories of deployment-related injury, probable PTSD, and depression are also at increased risk of sustaining further physical injury during the post-deployment phase (Carlson et al., 2011). It follows that effective assessment and treatment of psychological conditions may reduce risk of post-deployment injury.

Clinical psychologists who provide psychological assessment services in VA outpatient mental health settings play an integral role in establishing a well-informed differential diagnosis that may have profound implications for the overall health, quality of life, and long-term functional outcomes of military veterans. This chapter provides an overview of fundamental assessment strategies for psychologists to consider when providing outpatient assessment services on behalf of military veterans within the VA system of care. Comprehensive psychological assessment entails the integration of information obtained through review of previous screening results, thorough clinical interviewing, and the appropriate administration and interpretation of standardized psychological and cognitive instruments. In this context, we organize the chapter through a sequential discussion of the following topics:

- *Screening instruments:* instruments commonly administered (and sometimes mandated) through the VA, their strengths and weaknesses, and factors to consider when reviewing screening results prior to outpatient mental health assessments.
- *Clinical interview:* a critical component of psychological assessment that allows the clinician to obtain essential background information that may or may not come to light through the administration of formal psychological tests alone. Through a brief review of unstructured and structured interview strategies, we attempt to highlight background self-report information that can be complemented with objective test results, and that may ultimately support an integrated and well-informed diagnosis.

- *Self-report measures and projective methods*: the Minnesota Multiphasic Personality Inventory (MMPI-2), its Restructured Form (MMPI-2-RF), and other common extended personality inventories are reviewed, followed by a review of strengths and weaknesses associated with projective techniques, the Rorschach in particular.
- *Cognitive tests*: a brief summary of cognitive instruments that general practitioners of clinical psychology may consider for the assessment of veterans with nonspecific cognitive complaints, and to identify whether a more thorough clinical neuropsychological evaluation might be clinically indicated.

We conclude with a brief discussion of the American Psychiatric Association's *Diagnostic and Statistical Manual*, fourth edition, text revision (*DSM-IV-TR*) and fifth edition (*DSM-5*), and the lack of clarity that exists (at the time of current writing) regarding the use of the *DSM-5* within VA mental health settings. We provide an example of just one condition (PTSD) that has undergone a fairly substantial revision through *DSM-5*, and encourage the reader to develop a more comprehensive knowledge of *DSM-5* revisions across conditions.

SCREENING INSTRUMENTS AND FACE-VAILD SELF-REPORT MEASURES

Upon initial consultation with VA providers, veterans typically complete a number of screening measures to guide additional referrals for any necessary services. The VA has instituted various screening instruments meant to identify individuals who may be at risk for mental health difficulties. Screening instruments have been implemented for such conditions as PTSD, depression, and problematic alcohol use. Although these instruments come with their own potential limitations, including unclear or high false positive identification rates (e.g., Vanderploeg & Belanger, 2013), they nevertheless assist the ability to identify those veterans who may benefit from a more comprehensive assessment by a clinical psychologist (Chavez et al., 2012; Yano et al., 2010).

Veterans often first present to primary care, at which time they complete screening measures or "clinical reminders" to assess for symptoms of PTSD (e.g., PC-PTSD, PCL), depression (PHQ-9, BDI-II), anxiety (BAI), alcohol use disorders (AUDIT), and traumatic brain injury (VAT-BIST, or the TBI clinical reminder screen). The goal of brief screening in the primary care setting is *not for diagnostic purposes* but rather to cast a wide net, to steer veterans toward appropriate services, and ultimately to reduce healthcare costs.

Screening of Depression and Anxiety

A recent meta-analysis showed the prevalence of major depressive disorder in US military personnel to be 12% in those currently deployed and 13.1% in those previously deployed (Gadernann et al., 2012). Consistent correlates of these prevalence estimates included being young (ages 17–25), female, enlisted, unmarried, and having less than a high school education (Gadernann et al., 2012). Given these estimates, screening of depression is essential for optimal patient care.

The Patient Health Questionnaire-9 (PHQ-9) is a valid and reliable measure of depression severity and comprises nine items that encompass the depression module of the original PHQ (Kroenke, Spitzer, & Williams, 2001). The PHQ-9 addresses each of the nine *DSM-IV-TR* criteria for major depressive disorder, and respondents rate each symptom on a 4-point (0 to 3) rating scale, resulting in 27 total possible points. Using a PHQ-9 cut score of ≥ 10 demonstrated sensitivity and specificity of 88% for major depression, with scores of 5, 10, 15, and 20 denoting mild, moderate, moderately severe, and severe symptoms of depression, respectively (Kroenke, Spitzer, & Williams, 2001). A major advantage of the PHQ-9 is that it is brief, with less than half the items of other depression-screening measures, yet it also demonstrates comparable psychometric properties to other instruments (Kroenke, Spitzer, & Williams, 2001). For this reason, the PHQ-9 is the preferred annual depression screener used in busy and time-constrained VA primary care settings; it may arguably be extended to a wide variety of clinical settings.

Screening of Post-traumatic Stress Disorder

PRIMARY CARE-PTSD SCREEN (PC-PTSD)

The Department of Defense (DoD) and the Veterans Health Administration (VHA) have mandated the administration of the PC-PTSD, a screening instrument comprising four dichotomous (yes/no) items that assess PTSD symptoms related to nightmares/re-experiencing, hyperarousal, avoidance, and numbing (Prins et al., 2003). Scores range from 0 to 4; when using cutoffs of ≥ 3 , the PC-PTSD has been found to have adequate sensitivity (0.70–0.91) and specificity (0.80–0.97; for review, see Tiet, Schutte, & Leyva, 2013). A recent study by Tiet and colleagues (2013) showed that using a cut-point of ≥ 4 led to optimal efficiency (0.76), though this significantly decreased the measure's sensitivity (from 0.79 to 0.67). Within the VA, a score of 3 or greater warrants brief discussion of symptoms and their functional impact as well as suggestion of more comprehensive diagnostic mental health evaluation.

PTSD CHECKLIST (PCL)

The PCL (Weathers, Litz, Herman, Huska, & Keane, 1993) is a brief, self-report screening measure originally developed by a research group from the National Center for PTSD. Since its development, the PCL has become one of the most widely used measures for assessment of PTSD (Elhai, Gray, Kashdan, & Franklin, 2005). There are three current forms of the PCL, including the military (PCL-M; Weathers et al., 1994), civilian (PCL-C; Weathers et al., 1994), and specific (PCL-S; Weathers et al., 1994) versions, designed to address differences in the index traumatic event. To our knowledge, no study has directly compared the psychometric properties of these three instruments (McDonald & Calhoun, 2010). All measures are composed of 17 items developed to assess the range of PTSD symptoms. Respondents rate how bothered they have been by the various symptoms over the past month on a scale from 1 (not at all) to 5 (extremely), resulting in 85 total possible points.

Early research investigating the psychometric properties of the PCL revealed optimal diagnostic efficiency of 0.90 using a cutoff score of 44 (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). The total PCL score was also shown to

be highly correlated ($r = .93$) with clinician ratings on the Clinician Administered PTSD Scale (CAPS; Blake et al., 1995), though greater variability was reflected in the individual items ($r = 0.39$ to 0.79 ; Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). More recent literature has shown the PCL to be psychometrically sound with regard to test-retest reliability, internal consistency, and convergent validity (for review, see Wilkins, Lang, & Norman, 2011). However, concerns have been raised about the discriminant validity of the PCL due to moderate-to-high correlations observed between the PCL and measures of anxiety, depression, general quality of life, and other disorders primarily involving negative affect and distress (Wilkins, Lang, & Norman, 2011). Indeed, research has demonstrated linear associations between PCL-M, Beck Depression Inventory, 2nd edition (BDI-II), and CAPS diagnosis, suggesting that these screening measures may indicate general distress, as opposed to specific PTSD symptoms (Arbisi et al., 2012). Practitioners and researchers are therefore encouraged to be aware of the diagnostic limitations of the PCL, as it is difficult to distinguish symptoms of PTSD from those of other highly comorbid psychological disorders.

Additional literature has highlighted context-specific factors that limit the diagnostic utility of the PCL. In a longitudinal investigation of National Guard soldiers returning from combat deployment, Arbisi and colleagues (2012) showed differences in required cutoffs in treatment-seeking and nontreatment-seeking samples. Specifically, a raw score of 45 was designated as the optimal cutoff for a nontreatment-seeking sample, with 6.5% base rate of PTSD based on *DSM-IV-TR* criteria; this score optimized sensitivity and specificity, but still produced a high false positive rate of 69%–78% over time. Conversely, the accuracy of cut scores has been shown to vary greatly, dependent on the prevalence of PTSD in treatment-seeking samples (i.e., cut scores of less than 44 overestimate the concurrent prevalence of PTSD in samples with actual prevalence of 15% or less; scores of 44 or greater underestimate the concurrent prevalence when actual prevalence is greater than 35%; see Arbisi et al., 2012). Consequently, the use of the PCL in nontreatment-seeking populations is not recommended, as base rates of PTSD in these samples are lower, and therefore any cut score (typically selected in the VA to optimize sensitivity vs. specificity) is likely to overestimate the prevalence of persisting PTSD (Arbisi et al., 2012).

The VA has mandated use of the PCL as a primary outcome measure for veterans engaged in active treatment for PTSD in efforts to establish national PTSD outcome data. Wilkins and colleagues (2011) highlighted the difficulty of determining the ability of the PCL to assess treatment-related change, as studies often report test-retest correlations without specifying any change in mean scores. Only two studies have investigated the PCL's sensitivity to change, with conflicting results (see Wilkins, Lang, & Norman, 2011). Until this problem is resolved, the PCL should be used cautiously to assess treatment-related change.

Screening of Substance Use Disorders

Substance use disorders (SUDs) are highly prevalent in military service personnel and veterans, particularly related to alcohol and nicotine dependence. Such disorders are of paramount concern, as they have a significant impact on personal and occupational functioning. Accordingly, the DoD and the VA have established

evidence-based practices for the assessment, diagnosis, and treatment of SUDs to identify patients at risk and to promote optimal intervention (see Hawkins, Malte, Imel, Saxon, & Kivlahan, 2012). Annual screening has been implemented for alcohol and tobacco use; screening for illicit substances in the primary care setting is recommended only for certain high-risk populations (e.g., hepatitis C, HIV positive, serious mental illness/suicidal; see Hawkins, Malte, Imel, Saxon, & Kivlahan, 2012).

In the VA setting, yearly tobacco screening involves asking patients whether or not they use tobacco; following positive responses, providers advise patients to consider cessation and determine the patient's current interest in attaining abstinence (Hawkins, Malte, Imel, Saxon, & Kivlahan, 2012). Due to initial discrepancies between provider query/advisement (95%) and patient engagement in smoking cessation therapy (< 10%), the VA implemented a series of policies aimed to increase use of nicotine replacement therapy (NRT) and bupropion for those interested in quitting. Since the implementation of these policies, the rates of prescribed NRTs have increased substantially (see Hawkins, Malte, Imel, Saxon, & Kivlahan, 2012).

The standard screening instrument for problematic alcohol use is the Alcohol Use Disorders Identification Test Consumption Questions (AUDIT-C; Bush et al., 1998). Research has indicated adequate psychometric properties in general outpatient (Reinert & Allen, 2002) and VA (Bradley et al., 2007) settings. The AUDIT-C includes the first three questions of the original 10-item AUDIT measure. Positive screenings (i.e., 3 out of 3 possible points) indicate problematic alcohol use and the need for more comprehensive assessment (e.g., clinical interview, additional instruments) to aid differential diagnosis. Question 3 of the AUDIT/AUDIT-C that addresses binge drinking (i.e., ≥ 4 drinks/occasion) has also been shown to be an effective single-item screening tool (see Bradley et al., 2003).

Screening of Postconcussive-Like Symptoms

Some have identified traumatic brain injury (TBI) as a "signature" injury of the current conflicts in Iraq and Afghanistan (Hoge et al., 2008). The vast majority (i.e., 80%–90%; see Donnelly et al., 2011) of these injuries are of mild severity (mTBI or concussion), and there has been concern that symptoms associated with mTBI may go undetected. Reports of mTBI (rarely confirmed by acute-stage injury records) are common (i.e., reported by 15%–20% of OEF/OIF veterans), and symptoms associated with self-reported mTBI have been found to be highly comorbid with numerous mental and physical health conditions (Belanger et al., 2012; Donnelly et al., 2011). In order to provide the best care for returning soldiers and veterans, the VA implemented the VA TBI screening tool (VATBIST), also known as the TBI clinical reminder, to assess for deployment-related TBI and residual postconcussive symptoms (Belanger et al., 2012; Donnelly et al., 2011). The VATBIST is a brief screening measure comprising four questions pertaining to events that may result in a TBI, potential loss/alteration of consciousness, acute injury postconcussive symptoms, and current postconcussive symptoms. Each question has numerous elements from which patients select to characterize their experience. Affirmative endorsement of at least one element within each of the four questions results in a positive screen; in contrast, denial of all elements within any one question results in a negative screen. Initial psychometric studies of the VATBIST have shown mixed results. The

instrument has demonstrated adequate internal consistency (0.77; Donnelly et al., 2011); however, reliability has been variable, sensitivity has ranged from 60% to 94%, and specificity has ranged from 59% to 96% (see Belanger et al., 2012). Reduced accuracy of the VATBIST has also been demonstrated in the context of significant PTSD symptoms (i.e., probable PTSD; Donnelly et al., 2011).

Following a positive screen, veterans are referred for a more comprehensive, second-level TBI evaluation. As part of this evaluation, providers gather additional combat/medical history to determine whether a TBI was likely to have been sustained, and to further assess the etiology of an individual's current symptom presentation. In addition, providers administer the Neurobehavioral Symptom Inventory (NSI; Cicerone & Kalmar, 1995), a reliable and valid self-report measure of postconcussive-like symptoms (King et al., 2012). The NSI includes 22 questions about physical, cognitive, and emotional/behavioral symptoms. The original NSI study (Cicerone & Kalmar, 1995) showed four distinct symptom clusters: affective, cognitive, somatic, and sensory; however, a more recent study (Caplan et al., 2010) showed a three-factor model of the NSI, including affective, cognitive, and somatic/sensory symptom groupings. The NSI was originally developed to provide a structure to postconcussive symptoms, though it has more recently been used to assess symptom severity. Several recent papers have raised concerns about the potential of the NSI to capture postconcussive symptom severity, primarily due to confounding PTSD symptoms (Benge et al., 2009; Donnelly et al., 2011; King et al., 2012). An additional limitation of the NSI is that it does not inform the provider of the link between the injury event and the onset of symptoms—information that is critical to confirming positive/negative TBI history (Betthausen et al., 2012). However, the NSI can be useful in assessing co-occurring psychiatric symptoms that may otherwise be interpreted as consistent with a history of TBI.

Although the goal of the TBI screening and second-level evaluations is to cast a wide net in order to detect and treat all cases of TBI, some researchers have highlighted the potential iatrogenic effects of such an endeavor (Roth & Spencer, 2013; Vanderploeg & Belanger, 2013). Roth and Spencer (2013) provided an illustrative case example of a veteran who underwent repeated neuropsychological evaluations, all of which attributed his cognitive symptoms to psychiatric disturbance as opposed to TBI sequelae. Despite these results, the veteran's medical providers continued to attribute his symptoms to a history of TBI, leading the veteran to assume disability secondary to permanent brain damage. These authors highlight the need for education about the nature and trajectory of expected positive outcome from a single concussion in order to offset iatrogenic risk. Other researchers acknowledge the potential for iatrogenic risk but argue for the importance of early screening and intervention, regardless of etiology, to decrease military personnel and veteran burden of adversity (Brenner, Vanderploeg, & Terrio, 2009).

Interventions should be evidence-based and inclusive of psychoeducation regarding the expected, favorable course of recovery following mTBI (Brenner, Vanderploeg, & Terrio, 2009). Researchers have consistently confirmed that PCS-like symptoms are highly nonspecific and are commonly observed in clinical and healthy community samples who have not sustained previous concussions. Various noninjury factors (e.g., premorbid psychiatric histories, postinjury stressors, secondary gain issues) have also been identified as significantly predictive of persisting PCS.

Of potentially greater relevance to outpatient mental health settings, Belanger et al. (2013) demonstrated that certain “malleable” factors predict late-stage PCS. The authors found that knowledge of recovery outcomes, sense of self-efficacy, and level of attribution (i.e., belief that symptoms are directly reflective of previous mTBI) predicted 21% additional variance in overall symptom report above and beyond demographic factors and psychiatric symptom severity. Findings like these provide empirical support to interventions that promote psychoeducation regarding mTBI recovery outcomes and dismantling cognitive biases that may reinforce PCS.

THE CLINICAL INTERVIEW

Review of background information, including the results of screening instrumentation described above, allows the clinician to develop a general idea of a veteran's presenting difficulties prior to the time of the initial meeting, and in turn to develop key questions to ask at the time of the initial clinical interview. The clinical interview serves several purposes that are fundamental to comprehensive psychological assessment. For example, responses to interview questions inform the degree to which an individual veteran is able (and willing) to represent his or her premorbid background, including but not limited to previous psychiatric history. Consistencies and inconsistencies noted between self-report information and information obtained through record review can assist the clinician's ability to identify the veteran's ability to represent background information accurately, and to identify potential motivations that may underlie minimization of previous histories (e.g., secondary gain issues, preference for medical as opposed to psychological explanations for ongoing difficulties).

Moreover, the clinical interview allows for a more appropriate assessment of specific background issues that may not be fully elucidated through previous record review or formal psychometric assessment. Assessment of such issues as suicide risk and self-harm, for example, are better assessed through direct inquiry than exclusive reliance on record review or results of a self-report measure of psychological functioning. The clinical interview also allows the clinician to obtain a thorough medical history and to discover conditions that may bear upon issues of mental health—issues that may not have been identified through previous screening or record review. Here, we discuss general issues to consider during the interview phase of the psychological assessment, both through unstructured and structured approaches.

Unstructured Interview

Practitioners vary widely regarding their approach to the clinical interview. Currently there are no specific standards set forth within the VA to guide practitioners in their collection of clinical information, and variable techniques or measures used often reflect differences in training background, experience, and setting. Nevertheless, most clinicians consistently obtain information relevant to general demographic information (e.g., sex, race/ethnicity, age, level of education), presenting concerns (emotional, physical, cognitive), personal medical and psychiatric history, family medical and psychiatric history, social/developmental history, military history, occupational history, and legal history.

It is also important for the clinician to recognize that a range of co-occurring psychiatric and medical conditions is often the rule rather than the exception when working with this population, which creates great challenges for time-limited assessment. Specific to OEF/OIF veterans, literature by Hoge and colleagues (2008) examining the use of psychiatric screening tools demonstrated that returning soldiers are at high risk for PTSD (18%–20%), anxiety (16%–17%), depression (14%–15%), and increased alcohol use (20%–30%). When accounting for post-deployment functional impairment, prevalence rates for PTSD or depression with serious functional impairment ranged between 8.5% and 14.0%, whereas prevalence rates with some level of functional impairment ranged between 23.1% and 31.1%; alcohol use or aggressive behavior comorbidity was also present in half of these cases (Thomas et al., 2010). As highlighted by Stecker et al. (2010), general epidemiological studies examining the comorbidity of these conditions have shown that PTSD often co-occurs with depression (48%–60%) and substance use disorders (34%–88%). In sum, across military eras, thorough assessment of the potential range of psychiatric comorbidities is essential.

Context-specific factors (e.g., setting, symptoms) may also guide more in-depth questioning for certain categories, and certain assessment settings warrant a more comprehensive interview (e.g., Compensation and Pension [C & P] evaluations). However, wide variation in interview and assessment approach is noted even within the C & P assessment setting. A recent survey of VA mental health professionals conducting PTSD C & P evaluations showed that although 53% of these clinicians reported a preference for a standardized interview, 85% and 90% reported they “never” or “rarely” use the Clinician Administered PTSD Scale (CAPS; Blake et al., 1995) or the Structured Clinical Interview for *DSM-IV* Axis I Disorders (SCID; First et al., 1996), respectively (Jackson et al., 2011). Remarkably, a majority (59%) of these clinicians reported “rarely” or “never” using formal psychometric testing to aid their diagnosis. These results demonstrated that the majority of respondents approach assessment in ways that are inconsistent with best practices emphasizing the use of a standardized diagnostic interview and psychometric instruments (Jackson et al., 2011).

SUICIDALITY AND SELF-HARM

Suicidality and risk of self-harm is a good example of an issue that is best assessed through close questioning during the clinical interview. Although scales have certainly been developed to assist the clinician to identify suicidality (e.g., MMPI-2 critical items; PAI SUI scale), the reality is that there is no substitute for a thorough discussion of an individual's ideas surrounding the suicidal ideation, as well as any associated intention or plan of harming oneself. It has been argued that widespread screening of suicidality in veteran samples, if conducted outside the specialty care setting, will have very limited predictive utility with respect to future self-harm (Hoge & Castro, 2012). The clinical interview allows the clinician to assess for positive factors, such as level of social support, that have been identified as dramatically reducing the risk of self-harming behavior (Bossarte et al., 2012).

MEDICAL HISTORY AND RISK OF PSYCHIATRIC ILLNESS

In addition to essential information related to veterans' psychiatric history, the clinical interview allows the clinician to gain an understanding of veterans' premorbid

medical history, which may not have been available through review of available records. Persistent depression, for example, has been significantly associated with the presence of chronic medical conditions, such as diabetes, heart disease, and hypertension (Findley et al., 2011). Some researchers have found that major affective disorders, including depression and dysthymia, are associated with increased risk of mortality in veteran samples, even after adjusting for demographic factors, medical comorbidities, and use of substances, including alcohol and tobacco (Kinder et al., 2008).

Hoerster et al. (2012) reviewed data from the 2010 Behavioral Risk Factor Surveillance Survey to elucidate self-reported health outcomes among male veterans ($n = 53,406$), active duty service personnel ($n = 2,144$), National Guard/Reserve service members ($n = 3,724$), and civilians ($n = 110,116$). A primary finding reported by these authors was that in spite of their ready access to healthcare services, veterans reported poor overall health, with significantly higher rates of both medical (e.g., cardiovascular disease, arthritis, cancer) and psychiatric (e.g., depression, anxiety) conditions relative to civilian respondents. The authors perceived that veterans' poor health behavior may have in part accounted for the health differences relative to civilians. For example, veterans were more likely to endorse current use of tobacco and alcohol abuse than the National Guard and civilian comparison groups. In a similar study, Lehavot et al. (2012) also found women veterans to report poorer general health and greater health risk behaviors, chronic health conditions, and mental health conditions (e.g., depressive disorder). Chwastiak et al. (2011) found that veterans with psychiatric diagnoses (schizophrenia, PTSD, and bipolar disorder in particular) showed significantly greater likelihoods of cardiovascular risks on the basis of poor health behaviors (e.g., tobacco use, limited exercise). In light of the high frequency of medical comorbidities among veterans with mental health difficulties (Yano et al., 2010) and their potential contribution to persisting psychological and emotional symptoms, clinical psychologists are encouraged to assess veterans' medical histories with as much intricacy as their psychiatric histories.

Structured and Semi-structured Interviews

A structured interview approach is considered the "gold standard" for certain clinical diagnoses (e.g., PTSD). The Structured Clinical Interview for *DSM-IV-TR* Axis I Disorders (SCID; First, Spitzer, Gibbon, & Williams, 2007) is among the most widely used and accepted measures in both clinical and research settings. The SCID allows for assessment of all relevant Axis I (SCID-I) and Axis II (SCID-II) disorders. Depending on the complexity of the presenting symptoms, the SCID-I takes approximately 1–2 hours to complete, whereas the SCID-II can typically be completed in 30–60 minutes. Because of its widespread utility and excellent psychometric properties, it has been translated into several other languages. In general, it is considered to be a valid and reliable instrument, though it is not without limitations (e.g., valid administration typically requires extensive training).

The CAPS (Blake et al., 1995) is a structured clinical interview based on *DSM-IV* criteria that allows the examiner to systematically evaluate symptoms of post-traumatic stress within the past month and lifetime periods. The CAPS is often regarded as a "gold standard" for formal PTSD diagnosis and has demonstrated

established reliability and validity based on its concurrence with other diagnostic measures and stability of results over time (Weathers et al., 2001).

SELF-REPORT MEASURES OF PERSONALITY AND EMOTIONAL FUNCTIONING

Information obtained through results of screening instruments and the clinical interview are typically integrated with results of formal, objective measures of psychological and emotional functioning. As discussed, these measures vary with respect to duration of administration, research base, and overall effectiveness in establishing the plausibility, quality, and severity of various psychological and emotional difficulties.

Face-Valid Self-Report Measures of Emotional Functioning

A multitude of brief, face-valid self-report measures of emotional functioning have been developed. In general, these measures allow for a rapid assessment of emotional symptoms that may confirm the overall severity of symptoms reported during the clinical interview. It should be noted, however, that these measures typically do not include established symptom validity scales, and the transparent and easily recognizable (i.e., “face-valid”) quality of test items that comprise these measures render them vulnerable to issues of response invalidity (e.g., potential minimization or exaggeration of symptoms).

Two of the more commonly relied upon measures of depression and anxiety include the Beck Depression Inventory, 2nd edition (BDI-II; Beck et al., 1996) and the Beck Anxiety Inventory (BAI; Beck & Steer, 1993), respectively. The BDI-II includes 21 items rated on a 4-point (0 to 3) scale specifying the severity of that symptom over the past 2 weeks, resulting in a total score ranging from 0 to 63. Cutoff scores for the BDI-II are well-established, with the following interpretive ranges: 0–13 (minimal depression), 14–19 (mild depression), 20–28 (moderate depression), and 29–63 (severe depression). The BAI is similar to the BDI-II but assesses common anxiety symptoms. The BAI is also comprised of 21 items rated on a 4-point (0 to 3) scale denoting severity/intensity of each symptom over the past week, resulting in a total score ranging from 0 to 63. Scoring of the BAI indicates the following interpretive ranges: 0–7 (minimal anxiety), 8–15 (mild anxiety), 16–25 (moderate anxiety), and 26–63 (severe anxiety). In addition to the typical emotional/cognitive symptoms of anxiety (e.g., fear, nervousness), the BAI also includes numerous somatic responses to anxiety (e.g., difficulty breathing, numbness/tingling, dizziness); consequently, providers should take caution when interpreting BAI scores for patients with confounding chronic health conditions.

Of note, although the BAI was developed to minimize its overlap with the BDI, moderate to high correlations have been observed between the BAI and BDI-II among psychiatric outpatients ($r = 0.66$; Beck et al., 1996). This finding is not uncommon between self-report anxiety and depression measures, and highlights their tendency to tap into negative affect commonly seen in both of these conditions (Stulz & Crits-Christoph, 2010). Therefore, these measures should only be used as a component of a more comprehensive evaluation that includes a diagnostic clinical

interview assessing factors that differentiate anxiety and depression (e.g., physiological symptoms more closely linked with anxiety; cognitive and motivational symptoms more closely linked with depression; Stulz & Crits-Christoph, 2010).

Extended Personality Inventories

MMPI, MMPI-2, MMPI-2-RF

The MMPI instruments (MMPI, MMPI-2, and MMPI-2-RF) continue to be among the most widely used self-report measures of personality and psychopathology in the United States (Boccaccini & Brodsky, 1999; Camara, Nathan, & Puente, 2000; Lees-Haley, Smith, Williams, & Dunn, 1996). Therefore, it is not surprising that the MMPI instruments have been used for generations in the assessment of American veterans. Indeed, a mere year after the publication of the MMPI in 1944, the US Army issued two group forms of the MMPI for use with servicemen (Morton, 1948). The rapid dissemination of the MMPI outside the confines of the University of Minnesota's hospital was due in no small part to the need for an efficient and effective means of evaluating soldiers during World War II and later for veterans who sought treatment for both medical and psychiatric conditions through the VA facilities across the United States.

The widespread use of the MMPI in the VA during the late 1940s and 1950s provided the opportunity for researchers to use the rapidly accumulating clinical data from veterans treated in the VA to develop actuarial and configural models for the prediction of relevant clinical and diagnostic criteria. Using a configural or code type of interpretive strategy quickly became the standard for interpretation of the MMPI and MMPI-2 (Gilberstadt & Duker, 1965). Indeed, one of the first actuarial guides was developed using veteran samples (Gilberstadt & Duker, 1965). Code types developed from veteran samples by Gilberstadt and Duker (1965) remain in use today and are referenced liberally in contemporary MMPI-2 interpretive guides (Graham, 2011; Greene, 2010).

Given the long-standing use of the MMPI/MMPI-2 in veteran populations, there is a vast literature on the effectiveness of the MMPI/MMPI-2 with veterans, particularly with respect to conditions with a high base rate within veteran populations, such as PTSD. For example, distinctive code types and empirically derived scales were developed to assist clinicians in identifying combat-related PTSD using the MMPI/MMPI-2 (Fairbank, Keane, & Malloy, 1983; Keane, Malloy, & Fairbank, 1984; Penk, Rierdan, Losardo, & Robinowitz, 2005). Moreover, samples from VA inpatient settings were used to develop and validate the Fp scale, a scale designed to identify noncredible or feigned report of psychiatric illness (Arbisi & Ben Porath, 1995; Arbisi & Ben Porath, 1998; Arbisi, Ben Porath, & McNulty, 2006). The Fp is now part of the standard scoring for the MMPI-2, and a revised version of the scale is included on the MMPI-2 Restructured Form (MMPI-2-RF).

To improve the discriminant and convergent validity of the MMPI-2 Clinical Scales, Tellegen and colleagues developed a new set of scales by removing shared variance associated with demoralization from the clinical scales and identifying the remaining significant core component(s) of those scales (Tellegen et al., 2003). The resulting nine non-overlapping Restructured Clinical Scales (RC) demonstrated improved predictive and discriminant validity when compared to the original

clinical scales (Tellegen et al., 2003; Tellegen et al., 2006). In validity studies specific to veteran populations, the RC scales were found to predict clinically relevant criteria in a wide range of veteran populations, including psychiatric outpatient and inpatient settings (Arbisi, Erbes, Polusny, & Nelson, 2010; Arbisi, Sellbom, & Ben Porath, 2008), VA outpatient primary care medical settings (Forbey, Ben-Porath, Arbisi, 2012), and VA substance abuse treatment programs (Forbey & Ben Porath, 2007; Forbey, Ben Porath, & Arbisi, 2012).

Further, the RC scales were effective in identifying veterans with PTSD (Wolf et al., 2008; Arbisi, Polusny, Erbes, Thuras, & Reddy, 2011), as well as veterans who reported experiencing mild TBI and persistent symptoms when referred for neuropsychological evaluations (Nelson et al., 2011). Finally, RC 3 (Cynicism) predicted treatment engagement in combat-exposed veterans. Specifically, scores on RC 3 obtained prior to a prolonged combat deployment incrementally predicted failure to obtain needed mental health care in veterans who were diagnosed with either substance abuse/dependence, depressive disorders, or anxiety disorders including PTSD 2 years after returning from deployment (Arbisi, Rusch, Polusny, Thuras, & Erbes, 2013).

Following the same strategy used to develop the RC scales, Ben-Porath and Tellegen (2008) constructed the MMPI-2 Restructured Form (MMPI-2-RF). The MMPI-2-RF is composed of 338 items drawn from the 567 MMPI-2 item pool and contains 51 new or revised scales. Noteworthy is the addition of new validity scales designed to specifically identify noncredible reporting of somatic symptoms and noncredible cognitive complaints. Importantly, the MMPI-2-RF is built around the RC scales, maintaining a bridge between the two instruments while providing a sufficiently broad banded assessment of psychological and emotional functioning. This was achieved by adopting a hierarchical interpretive approach through more narrow-band, specific-problem scales and higher order scales tied to contemporary theory of psychopathology (Ben Porath, 2012; Ben Porath & Tellegen, 2008).

Research to date in veteran populations with the MMPI-2-RF has demonstrated the effectiveness of the new or revised validity scales in identifying noncredible reporting of PTSD and somatic symptoms. For example, the Fp-r scale effectively identified veterans who were instructed to exaggerate PTSD symptoms with low rates of false positive errors. Further, the Fs scale, designed to identify noncredible report of somatic symptoms, was effective in discriminating a group of veterans obtaining care through a VA outpatient primary care clinic who were instructed to feign a medical condition after an injury from those who accurately reported their physical symptoms (Sellbom, Wygant, & Bagby, 2012).

With regard to the substantive scales on the MMPI-2-RF, the technical manual (Tellegen & Ben-Porath, 2008) provides validity coefficients for each RF scale in VA psychiatric inpatient samples, VA psychiatric and medical outpatient samples, and veterans undergoing substance abuse treatment in the VA. Additionally, mean scores on each of the MMPI-2-RF scales are reported in these veteran groups to assist in the interpretation of MMPI-2-RF protocols obtained from veteran populations. Although studies are limited with regard to findings using the stand-alone MMPI-2-RF in veterans due to delays in incorporating the computerized scoring of the RF in the VA electronic medical records system, early studies suggest that the MMPI-2-RF is able to distinguish between veterans returning from combat

deployment to Iraq who screened positive for PTSD and those who did not (Arbisi et al., 2011).

Personality Assessment Inventory (PAI)

The PAI is a self-report inventory consisting of 344 items using a 4-point Likert response format. The PAI yields 22 non-overlapping scales, including four scales designed to identify response bias (Morey, 2007). In contrast to the MMPI-2, there are relatively few published studies using the PAI in veteran populations, although the use of the PAI within the VA is expanding (Calhoun, Collie, Clancy, Braxton, & Beckham, 2010; Fuller, Lee, & Gordis, 1988). Specifically, the PAI has been used in the assessment of PTSD and alcohol dependence in veteran populations (Fuller et al., 1988; Mozley, Miller, Weathers, Beckham, & Feldman, 2005). With regard to detection of noncredible reporting of psychiatric symptoms and cognitive complaints, the PAI negative bias scales were unable to discriminate between veterans who failed symptom validity tests (SVT) and those who did not in veterans who reported mTBI and had been referred for neuropsychological assessment (Armistead-Jehle, 2010). In contrast, a malingering index derived from 8 PAI items was able to distinguish between a group of veterans diagnosed with PTSD and a group of undergraduates instructed to feign PTSD (Liljequist, Kinder, & Schinka, 1998). Finally, the PAI suicide scale was used to assess suicide in a study examining the relationship of PTSD, comorbid depression, and war era on suicidal ideation in veterans (Pukay-Martin et al., 2012). There is some indication that the PAI clinical scales show incremental value in assessing PTSD when used in conjunction with the MMPI-2, as in the case of women veterans with histories of sexual assault (Arbisi et al., 2010).

Millon Clinical Multiaxial Inventory-III (MCMI-III)

The MCMI-III (Millon, Davis, & Millon, 1997) is a psychological assessment measure standardized specifically on clinical populations. An important distinction of the MCMI-III is that it is a criterion-referenced test, as it determines the probability that an individual has a certain diagnosis based on a cutoff score (relative to a clinical rather than a normative population). It is composed of 175 true-false questions, takes 25–30 minutes to complete, and requires at least an eighth grade reading level. The current version of the MCMI includes 14 personality scales and 10 clinical scales developed to reflect psychological constructs in the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*. Similar to other measures discussed, there are no known studies examining the use of the MCMI-III specifically with veterans, and more often studies are specific to the forensic context.

The MCMI-III has received significant criticism in the literature regarding general validity and error rate concerns (Rogers, Salekin, & Sewell, 1999, 2000;), use of base rate score transformations that are not adjusted to reflect epidemiological rates (Grove & Vrieze, 2009), and the required high reading level (Bow, Flens, & Gould, 2010). Nonetheless, recent literature shows the MCMI-III is widely used, particularly in forensic settings. Results of a recent survey of forensic psychologists showed that 55% of respondents reported using the MCMI-III in forensic evaluations, and 40% believed that it required a ninth grade reading level (Bow, Flens, & Gould,

2010). Perhaps of greatest concern, this study revealed that only 51% of respondents used appropriate significance base-rate cutoffs (i.e., 75; Millon, Millon, Davis, & Grossman, 2006, 2009) and evidenced over-reliance on computer-generated interpretive reports that also do not employ recommended cutoffs (Bow, Flens, & Gould, 2010). Consequently, over-diagnosis with use of the MCMI-III is a notable concern, even in settings that emphasize accuracy in “expert” testimony.

PROJECTIVE METHODS

Rorschach Inkblot Method

Given an extended, and sometimes unproductive, debate in the literature, clinicians may find it challenging to objectively evaluate the validity and clinical utility of projective instruments such as the Rorschach Inkblot Method (Rorschach, 1921/1942) or the Thematic Apperception Test (TAT; Murray, 1943). In fact, they may not be aware of a recent movement to relinquish the “projective” descriptor of these measures (e.g., Meyer & Kurtz, 2006). A distinction between *objective* (e.g., the MMPI-2 or PAI) and *projective* measures is problematic because it suggests that one is more scientific than the other. In reality, both types of tests are valid (and invalid) in specific contexts and are to a degree subjectively interpreted by examiners. An alternative and more descriptive classification that is preferred by contemporary assessment psychologists differentiates between self-report instruments and performance-based measures (e.g., see Meyer et al., 2001; Weiner & Greene, 2008). The former measures typically require examinees to describe their experiences and interests, whereas the latter measures require examinees to complete tasks that are set for them. The following section briefly describes the Rorschach, specifically focusing on an extended debate regarding the validity of the instrument and summary of research with veterans. Recent developments that resulted in the Rorschach Performance Assessment System (R-PAS; Meyer, Viglione, Mihura, Erard, & Erdberg, 2011) are also described. The interested reader is referred to a comprehensive text by Weiner and Greene (2008) for discussion of psychometric properties and clinical utility of other performance-based assessment tools, such as the TAT.

The Rorschach has been described as both the “most cherished” and “most reviled” psychological instrument (Hunsley & Bailey, 1999). The literature contains compelling case examples that suggest that assessment with the Rorschach is beneficial (e.g., see Salley & Teiling, 1984) and harmful (Garb, Wood, Lilienfeld, & Nezworski, 2002). While the development of the Rorschach and various scoring systems is complex and interesting, we will primarily focus on Exner’s Comprehensive System (CS; Exner, 2003). In short, Exner reviewed existing literature and surveyed clinicians to select CS variables. Importantly, the CS provided a systematic approach to administration and coding, as well as normative data. The CS is the primary scoring system used by clinicians. In fact, a recent survey documented that nearly all clinicians (96%) who regularly use the Rorschach interpret the test using the CS as their primary system (Meyer, Hsiao, Viglione, Mihura, & Abraham, 2013). Additionally, while it is beyond the scope of this chapter to describe each CS score and related interpretations, Mihura, Meyer, Dumitrascu, and Bombel (2013) concisely provided variable definitions, example responses, and related interpretations. After

discussing a relatively limited amount of literature describing use of the Rorschach with veterans, we address issues that are frequently debated in the literature regarding the validity and clinical utility of the Rorschach. These are not minor issues, as evidenced by the publication of numerous *Special Sections* in journals such as *Psychological Assessment*, *Assessment*, and the *Journal of Clinical Psychology* in recent years. Primary topics discussed in these articles are interrater reliability, validity of scores, and the appropriateness of CS norms.

While our personal experience is that the Rorschach is used semi-regularly in select VA medical centers, there is a relatively small amount of published Rorschach research specific to veterans. In fact, a cursory PsycINFO literature search conducted on July 10, 2013, using the keywords *Rorschach* and *veterans* resulted in identification of only 22 documents. A great majority of these studies investigated how individuals with PTSD complete the Rorschach (Burch, 1993; Frueh, Leverett, & Kinder, 1995; Goldfinger, 1999; Gray, 2006; Hartman et al., 1990; Sloan, Arsenault, Hilsenroth, Handler, & Harvill, 1996; Sloan, Arsenault, Hilsenroth, Harvill, & Handler, 1995; Souffront, 1987; Swanson, Blount, & Bruno, 1990).

Consistent with expectation, Rorschach scores generally suggested that veterans with PTSD have difficulty controlling impulsivity and experience acute stress and intrusive thoughts. Further, relative to baseline data, Sloan and colleagues (1996) reported observing positive changes in Rorschach scores associated with stress responses after 3 years. While this body of literature is impressive and generally supports that Rorschach scores can differentiate individuals with PTSD from other groups, it is important to recognize that one study found that Rorschach scores produced by individuals with PTSD were not specific per se to PTSD, as combat and noncombat control groups obtained similar scores (Goldfinger, 1999). In summary, clinicians can be confident that there is an evidence base to support using the Rorschach with select veteran samples, including those with PTSD.

Clinicians familiar with the Rorschach certainly recognize the unique challenges associated with scoring an individual's responses. Significant concerns have been persistently raised regarding scoring reliability of the CS by a small group of researchers (e.g., see Garb et al., 2001, Wood & Lilienfeld, 1999; Wood, Nezowski, & Stejskal, 1996, 1997). For example, after reviewing a broad literature, Lilienfeld, Wood, and Garb (2000) suggested that only approximately half of the CS variables are reliably scored at a level suitable for clinical work. On the other hand, empirical data exist that suggest otherwise (Meyer, 1997a, 1997b). In fact, a thorough evaluation of interrater reliability making use of eight large samples documents excellent reliability between raters (Meyer et al., 2002). While it is beyond the scope of the current chapter to elaborate on methodological explanations for these differing opinions, it is clear that data do support that the Rorschach can be reliably scored by individuals familiar with the CS. Importantly, it is not a given that anyone who uses the CS is automatically reliable. Similar to instruments such as the Wechsler Adult Intelligence Scale, fourth edition (WAIS-IV, Wechsler, 2008), accurate Rorschach scoring requires extensive knowledge of administration rules and scoring procedures.

There is also debate whether use of Exner's (2003) CS norms will result in identification of psychopathology in relatively healthy functioning individuals. In support of this position, Shaffer, Erdberg, and Haroian (1999) evaluated nonpatient adults

and obtained many scores that suggested the presence of psychopathology in relation to the CS normative sample. In a relatively focused meta-analysis, compared to CS norms, a subset of score indices were elevated in nonpatient adults across studies that would also suggest the presence of psychopathology (Wood, Nezowski, Garb, & Lilienfeld, 2001). In contrast, a more comprehensive meta-analysis that included over 2,000 nonclinical patients and investigated a wider range of Rorschach scores (69 versus 14) suggests the presence of only minor score differences between nonclinical patients and CS norms (Meyer, 2001).

While it is not clear that CS norms are problematic, Meyer (2001) suggested that revised scoring guidelines, data collection efforts, and/or meaningful changes in individuals over time may contribute to score differences observed between nonpatient samples. Encouragingly, Meyer, Erdberg, and Schaffer (2007) have presented a large-scale project that presents contemporary norms from the United States and many other countries that clinicians may consider utilizing during clinical assessment.

A number of meta-analyses have been conducted to evaluate the validity of the Rorschach. Broadly, it has been repeatedly documented that the "global" validity of the Rorschach is generally in the medium range and is similar to that of the MMPI (e.g., see Atkinson, 1986; Hiller, Rosenthal, Bornstein, Berry, & Brunell-Neuleib, 1999; Parker, Hanson, & Hunsley, 1988). A recent study by Mihura and colleagues (2013) systematically reviewed the validity of individual Rorschach variables and clearly described the magnitude of empirical research supporting each variable. While this meta-analytic review was conducted by researchers who typically support use of the Rorschach, the presentation of results is balanced and clarifies both the strengths and limitations of the instrument.

As an example, Mihura and colleagues reported strong to good validity ($r \geq .21$) for variables associated with cognitive and perceptual processes (e.g., Perceptual-Thinking Index, Critical Special Scores, Distorted Form), impulsive or dangerous behaviors (e.g., Suicide Constellation, Form-Color Ratio), and psychological resources and cognitive complexity (e.g., Human Movement, Experience Actual, Lambda). On the other hand, the authors acknowledged that 25 of 65 CS variables have either never been evaluated or exhibit low, unstable, or non-significant levels of validity. While it is difficult to concisely describe what psychological constructs these variables are associated with, the responses typically have extremely low base rates, which complicates subsequent research efforts. Clinicians who regularly administer the Rorschach, or are considering the instrument, are encouraged to review Mihura et al. (2013) to guide interpretation and case conceptualization.

While there is objective support for a number of Rorschach variables, there is also compelling evidence that Rorschach data incrementally improves prediction of certain behaviors (Meyer & Viglione, 2008; Viglione & Hilsenroth, 2001). For example, multiple studies have documented that prediction of psychotic disorders is improved when Rorschach variables are added to relevant MMPI scales (Dao, Prevatt, & Horne, 2008; Meyer, 2000a; Ritscher, 2004). It has also been documented that Rorschach scores assessing functional capacity can predict subsequent outcome over intelligence and the MMPI Ego Strength scale (Meyer, 2000b). This body of literature suggests that clinicians should not expect information obtained from the Rorschach and self-report measures to directly correspond with one another.

More important, the scores augment one another, and this literature makes clear why multimodal assessment is beneficial in accurately identifying psychological issues.

Historically, the Rorschach has been administered, scored, and interpreted in different ways. While the CS system was notable in emphasizing standardized administration and empirically supported variables, it is not without limitation. Recent efforts to capitalize on empirical Rorschach findings resulted in publication of the Rorschach Performance Assessment System (R-PAS; Meyer et al., 2001). The R-PAS provides clearer and more detailed guidelines for test administration. For example, revised administration procedures result in all patients providing a more similar number of responses (typically 18 to 28), which improves interpretation of data. Relative to the CS, some scoring variables were added, excluded, or reconfigured, based upon empirical literature (e.g., Mihura et al., 2013). In summary, the R-PAS was developed to make the Rorschach more approachable to both new and experienced clinicians. It is expected that this broad reformulation of the test will facilitate increased reliability, validity, and utility.

COGNITIVE MEASURES

Here, we provide a brief summary of select measures that general practitioners might consider to establish a general overview of a veteran's intellectual and cognitive abilities, as well as basic screening measures that might be considered when there is concern regarding impairments that might warrant a more comprehensive neuropsychological evaluation. Interested readers are referred to other seminal works (Lezak et al., 2012; Strauss, Sherman, & Spreen, 2006) for a more complete review of common measures administered in the clinical neuropsychological evaluation setting.

Wechsler Adult Intelligence Scale, Fourth Edition (WAIS-IV)

The WAIS and its revisions are among the most frequently relied upon measures of intellectual and cognitive functioning among clinical psychologists and neuropsychologists. The fourth edition of the WAIS (Wechsler, 2008) includes subtests that assess cognitive abilities in the areas of verbal comprehension, perceptual reasoning, working memory, and processing speed abilities, with performances resulting in an overall composite of intellectual ability. The WAIS-IV allows the clinician to obtain rich information related to these various areas of cognitive function in a relatively brief span of time (90 to 120 minutes).

Incidentally, it has been our experience that many clinical psychologists and neuropsychologists continue to make use of the third edition of the WAIS (WAIS-III). Indeed, some have questioned whether there is sufficient evidence that the shift from the WAIS-III to WAIS-IV is warranted on an empirical basis (cf., Loring & Bauer, 2010; Russell, 2010). Ultimately, there is no well-established consensus as to when it is "time" to transition from one published instrument to the next (Bush, 2010), and the decision to "make the switch" is left to the discretion of the individual clinician in review of the American Psychological Association (2010) Ethics Code on issues related to use of "obsolete" tests (see Standard 9.08b).

Brief Screening Instruments

The Mini-Mental State Examination (MMSE; Folstein, Folstein, & McHugh, 1975) and its more recent revision (Folstein, Folstein, McHugh, & Fanjiang, 2010; MMSE-2) are very brief measures of orientation and cognitive screening that are often administered in medical settings, particularly among aging individuals who may show early signs of Alzheimer's disease or other form of neurodegenerative dementia. The task allows the clinician to assess basic domains of orientation, attention, language, visual-spatial, and executive functioning in a short period of time (i.e., 5 to 10 minutes at most). As with any cognitive screening instrument, the MMSE is most likely to identify fairly severe cognitive impairments (e.g., as in the case of advanced Alzheimer's dementia), but is likely to result in false negative identifications of cognitive limitation among those who may experience limitations earlier in the disease course or who present with more subtle signs of impairment. Nevertheless, to the extent that an aging veteran (and/or his or her family) express concern about cognitive changes, diminished MMSE performance would clearly warrant a referral for a more comprehensive neuropsychological evaluation to further inform the quality and severity of impairment, potential causes, and relevance to everyday functions. Another example of a brief cognitive screening instrument is the Montreal Cognitive Assessment (MoCA; Nasreddine et al., 2005), which has been translated in a variety of languages and includes cognitive tasks (e.g., set-shifting) that may be more sensitive to executive difficulties that are not assessed by the MMSE or MMSE-2.

The Repeatable Battery for the Assessment of Neuropsychological Status (RBANS; Randolph, 1998) is a more comprehensive screening measure that consists of 12 subtests that evaluate multiple cognitive constructs. A majority of the subtests are revised versions of classic neuropsychological tests and contribute to Immediate Memory, Visuospatial/Constructional, Language, Attention, and Delayed Memory Index scores. Not surprisingly, RBANS subtests are meaningfully related to conceptually similar tasks. For example, Randolph reported that the RBANS List Learning subtest is highly correlated with well-validated memory tests. Overall, Randolph reported that the instrument has strong psychometric properties; however, it is notable that factor analytic studies have most commonly resulted in a two-factor structure (e.g., see Duff et al., 2006; Wilde, 2006), as opposed to an underlying structure that is consistent with the Index structure.

While the RBANS was developed to function as a stand-alone battery for efficiently and effectively identifying dementia in older adults, subsequent research has documented that it is useful in a wide range of clinical contexts, such as stroke (Larson, Kirschner, Bode, Heineman, & Goodman, 2005), schizophrenia (Holzer et al., 2007), and Parkinson's disease (Beatty, Ryder, Gontkovsky, Scott, McSwan, & Bharucha, 2003). There is additionally a body of research that supports the use of the RBANS as a clinically valid and reliable measure that can be used with individuals who sustain a moderate or severe traumatic brain injury (e.g., see McKay, Casey, Wertheimer, & Fichtenberg, 2007). Further, Lippa, Hawes, Jokic, and Caroselli (2013) reported that the RBANS is useful in assessing cognitive functioning in acute TBI settings. Specifically, the Delayed Memory Index and Total Score were significantly predicted by post-traumatic amnesia. A unique feature relative to many neuropsychological measures, RBANS tasks are available in alternative versions that make the

instrument especially useful in situations where serial evaluation is warranted (e.g., pre- and post-surgical evaluation).

DSM-IV-TR and DSM-5

We conclude with a brief discussion of recent developments in the use of diagnostic criteria to support formal psychological diagnoses, issues that are directly relevant to psychological assessment in any outpatient mental health setting. The fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994)* and the text revision (*DSM-IV-TR; American Psychiatric Association, 2000*) largely defined the psychological assessment practices of mental health providers for the better portion of the last two decades. The *DSM-IV-TR* has also represented a “gold standard” for innumerable research samples, culminating in a wealth of empirical data relevant to issues of etiology, best practices in treatment, and prognosis of varied mental health disorders. As such, it is not surprising that the May 2013 release of the *DSM-5 (American Psychiatric Association, 2013)* has been surrounded by controversy, particularly in light of the changes that have been made, which are in some instances fairly substantial. An extended review of *DSM-IV-TR* and *DSM-5* similarities and differences across conditions far transcends the scope of this chapter, and the reader is encouraged to develop a more comprehensive working knowledge of *DSM-IV-TR/DSM-5* changes. However, as one illustration, consider the modifications made to the diagnosis of PTSD within *DSM-5* (see Table 2.1).

The most striking modification relates to a lowered threshold to fulfill criterion A (the trauma event itself). *DSM-IV-TR* required not only exposure to a plausible traumatic event (A1), but the exposure was necessarily followed by a specific response of intense fear, helplessness, or horror. By contrast, in *DSM-5*, criterion A requires exposure to a traumatic event only and does not include a specific behavioral, cognitive, or emotional response. *DSM-5* criterion A also affords a broader definition of what constitutes a plausible traumatogenic event, including vicarious trauma exposure (e.g., learning of a traumatic event experienced by a close family member or friend; A3). Those who experience repeated or extreme exposure to “aversive details of the traumatic event(s)” (e.g., police officers who are repeatedly exposed to details of child abuse) may also meet criterion A, though the manual clarifies that A4 does not apply to exposure through public media (e.g., television, films) unless that exposure is “work related.”

The manual further clarifies that while indirect exposure to the traumas of others may fulfill criteria for a traumatic event, these indirect exposures are limited to experiences that affect close relatives or friends, and these events must be violent or the result of an accident (e.g., suicide, assault, serious injury). Death of a family member due to natural causes, for example, would not qualify as a traumatic event. According to the *DSM-5* (p. 274), “a life-threatening illness or debilitating medical condition is not necessarily considered a traumatic event.” However, certain medical incidents (e.g., waking during surgery) may be construed as plausible traumatic events, as can medical catastrophes sustained on the part of one’s child (e.g., life-threatening hemorrhage). *DSM-5* Criterion B places slightly greater emphasis on dissociation (B3). *DSM-5* Criterion C retains avoidance symptoms, and other *DSM-IV-TR* Criterion

Table 2.1. COMPARISON OF DSM-IV-TR AND DSM-5 DIAGNOSTIC CRITERIA OF POST-TRAUMATIC STRESS DISORDER (PTSD)

| DSM-IV-TR Criteria | | DSM-5 Criteria | | Key DSM-5 Changes |
|--|--|---|---|---|
| Criterion A (Trauma Exposure) | A1: experienced, witnessed trauma events; <i>and</i> A2: response of intense fear, helplessness, horror | Criterion A (Trauma Exposure; 1 or more) | A1: Directly witness trauma event A2: Witnessing event of others A3: Learning of trauma of close family or friend A4: Experiencing repeat or extreme exposure to aversive details of trauma event(s) | Broadened definition of vicarious trauma (A3); no longer required to respond with intense fear, helplessness, horror |
| Criterion B (Re-experience; 1 or more) | B1: Recurrent, intrusive recollections B2: Recurrent distressing dreams B3: Acting/feeling as if event recurring B4: Intense distress with cues B5: Physiological reactivity | Criterion B (Intrusions; 1 or more) | B1: Recurrent, involuntary, intrusive memories of the trauma B2: Recurrent distressing dreams (content and/or affect related to trauma) B3: Dissociative reactions (e.g., flashbacks) B4: Intense/prolonged distress at exposure to cues B5: Marked physiologic reactions to cues | Slightly greater emphasis on dissociation (B3) |
| Criterion C (Avoidance/ Numbing; 3 or more) | C1-C2: Avoid thoughts, feelings, activities, places C3: Inability to recall trauma C4: Diminished interests C5: Detachment/estrangement C6: Restricted range of affect C7: Foreshortened future | Criterion C (Avoidance; 1 or 2) | C1: Avoidance/efforts to avoid distressing memories, thoughts, feelings C2: Avoidance/efforts to avoid external reminders that arouse distressing memories, thoughts, feelings associated with the trauma event(s) | DSM-5 Criterion C retains avoidance symptoms; other DSM-IV-TR C symptoms (e.g., inability to recall; diminished interest) appear in DSM-5 Criterion D |

(continued)

Table 2.1. CONTINUED

| <i>DSM-IV-TR</i> Criteria | | <i>DSM-5</i> Criteria | | Key <i>DSM-5</i> Changes |
|---|--|---|---|---|
| Criterion D (Persistent Increased Arousal; 2 or more) | D1: Sleep difficulty D2: Irritability, anger D3: Difficulty concentrating D4: Hypervigilance D5: Exaggerated startle | Criterion D (Negative alterations in cognitions and mood; 2 or more) | D1: Inability to remember important aspect of trauma (not due to drugs/TBI) D2: Persistent, exaggerated negative beliefs/expectations about oneself, others, or world D3: Persistent, distorted cognitions about cause/consequences of the trauma causing one to blame self or other D4: Persistent negative emotional state D5: Diminished interests/participation in activities D6: Feel detachment/estrangement from others D7: Persistent inability to feel positive emotion | DSM-5 Criterion D includes several <i>DSM-IV-TR</i> Criterion C symptoms (e.g., inability to recall; diminished interest; feelings of detachment/ estrangement) |
| Criterion E (Duration) | Duration of the disturbance (symptoms associated with Criteria B, C, D) more than 1 month | Criterion E (Alterations in arousal/ reactivity; 2 or more) | E1: Irritable behavior; angry outbursts E2: Reckless or self-destructive behavior E3-4: Hypervigilance; exaggerated startle response E5: Concentration problems E6: Sleep disturbance | DSM-5 Criterion E subsumes most of <i>DSM-IV-TR</i> Criterion D, and adds reckless, self-destructive behavior |

| <i>DSM-IV-TR</i> Criteria | | <i>DSM-5</i> Criteria | | Key <i>DSM-5</i> Changes |
|--|---|---|--|---|
| Criterion F (Distress/ Impairment) | Disturbance causes significant distress/impairment in social, occupational, other functioning | Criterion F (Duration) | Duration of the disturbance (Criteria B, C, D, E) is more than 1 month | Largely unchanged from <i>DSM-IV-TR</i> Criterion E |
| | | Criterion G (Distress/ Impairment) | The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning | Largely unchanged from <i>DSM-IV-TR</i> Criterion F |
| | | Criterion H (Physiological Exclusion) | The disturbance is not attributable to the physiological effects of a substances (e.g., medication, alcohol) or another medical condition | New to <i>DSM-5</i> |
| | | <i>Specify whether</i> with dissociative symptoms | 1. Depersonalization 2. Derealization | New to <i>DSM-5</i> |
| <i>Specify if:</i> | Acute (< 3 months) | n/a | n/a | <i>DSM-5</i> does not include acute/chronic specifiers |
| <i>Specify if:</i> | Chronic (> 3 months) | n/a | n/a | <i>DSM-5</i> does not include acute/chronic specifiers |
| <i>Specify if:</i> | Delayed (> 6 months post stressor) | <i>Specify if:</i> | With “delayed expression” (if full diagnostic criteria not met until at least 6 months) | Largely unchanged, though “delayed onset” is “delayed expression” in <i>DSM-5</i> |

NOTE: The above *DSM-5* criteria are to be applied to adults, adolescents, and children older than 6 years. Alternate diagnostic criteria (not shown here) have been developed for children younger than 6 years.

C symptoms (e.g., inability to recall, diminished interest, feelings of detachment/estrangement) appear in *DSM-5* Criterion D. *DSM-5* Criterion E subsumes most of *DSM-IV-TR* Criterion D symptoms, and adds reckless and self-destructive behavior.

Criterion F of *DSM-5* (duration) retains the *DSM-IV-TR* Criterion E requirement that symptoms persist for more than one month. *DSM-5* Criterion G, like *DSM-IV-TR* Criterion F, requires that the disturbance causes significant impairment in important areas of functioning. New to *DSM-5* is Criterion H, which indicates that the disturbance is not attributable to the physiological effects of a substance (e.g., alcohol, medication), as well as a dissociative symptoms (depersonalization, derealization) specifier. Unlike *DSM-IV-TR*, *DSM-5* does not include "acute" or "chronic" specifiers, and while there is a specifier included for late-stage symptom development, *DSM-5* describes this as "delayed expression" rather than "delayed onset" if symptoms develop 6 months after the time of trauma exposure.

Clearly, changes like these are significant enough to have implications for clinicians, researchers, and policymakers alike. At the time of the current writing, it is not yet clear whether and to what extent *DSM-5* will be adopted within the VA system of care (or in civilian outpatient mental health settings). Nevertheless, the reality is that *DSM-5* is here to stay, and a working knowledge of *DSM-5* revisions will likely benefit the practices of outpatient mental health providers in one way or another (e.g., review of others' use of *DSM-5*, if not their own).

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