The externalizing spectrum of psychopathology emerged initially from research on mental disorders defined within current nosologies (i.e., DSM-IV-TR). Although substance problems, conduct disorder, and antisocial personality disorders are conceptualized as distinct and are listed in separate sections of the DSM–IV–TR, extensive research shows that these disorders co-occur at well beyond chance levels (see, e.g., Krueger et al., 2002). Indeed, multivariate analyses of patterns of co-occurrence among these disorders have revealed a common genetically-mediated vulnerability factor linking these disorders (Krueger et al., 2002) and distinguishing them from other commonly occurring disorders (e.g., internalizing disorders; Krueger, 1999; Krueger, Caspi, Moffitt, & Silva, 1998); however, very little research actually exists to elaborate on neurocognitive mechanisms (such as executive cognitive functions) that are directly linked to this shared externalizing factor, as well as which may be uniquely linked (and thereby separating) individual forms of symptoms and traits. The MMPI-2-RF Externalizing Scales provide an excellent avenue for such analyses.

The current study will report findings from 100-150 community-dwelling individuals of a diverse background recruited specifically for potential externalizing/psychopathic propensities. These individuals were administered the MMPI-2-RF and several tasks that index executive cognitive functions (e.g., go/no-go task, Porteus Maxes) and deficits in affective processing (e.g., lexical decision task, Iowa Gambling Task), among a large battery of interviews, self-report inventories, and tests of neurocognitive functioning. Preliminary analyses indicate significant correlations between general externalizing and executive cognitive functions (in particular response inhibition), but also unique associations between non-response inhibitory functions and substance abuse.
Performance of the MMPI-2-RF Personality Psychopathology Five Scales (PSY-5) with Neuropsychological and Neurobehavioral Functioning Measures in a TBI Population

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Research suggests that personality and executive functioning tend to be indicators of adaptive problem-solving abilities, and are correlated with neurobehavioral symptoms (Heilman & Valenstein, 2011). Understanding these factor relationships is particularly helpful during rehabilitation with traumatic brain injury (TBI) patients (Dikman et al., 2010; Lezak, 2004); however, additional research is needed to evaluate how assessment measures capture these dimensions with TBI.

Therefore, this pilot study will examine performance of the revised MMPI-2-RF PSY-5 scales, as measures of adaptive functioning, with (a) objective neuropsychological tests, as well as (b) self-reports of neurobehavioral symptoms. MMPI-2-RF profiles will be retrospectively scored with MMPI-2 data collected with a non-litigating, moderate to severe TBI sample during post-acute rehabilitation (N = 70). Correlation analyses will be conducted between MMPI-2-RF PSY-5 scales (as measures of adaptive functioning) and (a) subtests of the Weschler Adult Intelligence Scale, 4th Edition (WAIS-IV; Weschler, 2008); Trail Making Tests (TMT; Reitan & Wolfson, 1985), Booklet Category Test (BCT; Defillipis & McCampbell, 1979), and (b) Neurobehavioral Functioning Inventory (NFI; Kreutzer, Seel, Marwitz, 1999). Relationships between MMPI-2-RF PSY-5 scales, neuropsychological tests, and neurobehavioral self-report scales will be reported with the sample. Predictor relationships and effect sizes will be examined.
Thought vs. Action: Differences Between Suicide Ideators and Suicide Attempters in a US Military Veteran Population

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Suicide is a growing problem among our nation’s military veterans and has become a focus of the Department of Veterans’ Affairs clinical and research initiatives. At 20% of the national suicide rate, the number of suicides by US military veterans averages 6500 per year and 18 per day.

In an attempt to learn more about the personality and psychological factors underlying suicidal ideation and behaviors, which will ultimately inform VA suicide prevention efforts, the proposed study will examine differences between veterans who have presented with suicidal ideation and veterans who have reported past suicide attempts, controlling for depression. In other words, suicide ideators (without previous suicide attempts) and suicide attempters (with or without current suicidal ideation) will be compared with one another and also to a third (control) group of veterans with no reported suicidal ideations or behaviors, all of whom have primary diagnoses of depressive disorders. Multivariate analyses of variance will be conducted to explore differences among these three mutually exclusive groups, on the Minnesota Multiphasic Personality Inventory – 2, Restructured Form (MMPI-2-RF; Ben-Porath and Tellegen, 2008). The original sample is made up of over 1000, mostly male, pre-9/11 US military veterans who were admitted to a large VA psychiatric inpatient unit in the northern United States. Results, limitations, clinical implications, and future research directions will be discussed.
The MMPI-2-RF in the Epilepsy Monitoring Unit

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BACKGROUND: The MMPI-2 is commonly used in the clinical evaluation of patients admitted to Epilepsy Monitoring Units for diagnostic classification of seizure-like spells. Primary differential diagnoses include epilepsy and psychogenic non-epileptic events (PNES) that resemble epileptic seizures. The latter is thought to be a form of somatoform disorder, and correct and early identification is crucial to redirecting patients to appropriate health care, specifically Psychiatry and Psychology instead of Neurology. The shorter length and better psychometric properties of the MMPI-2-RF make it attractive for use in this setting, but new research is needed with the MMPI-2-RF to establish diagnostic utility of the restructured scales for differentiating patients with epilepsy from those with PNES.

METHODS: We have completed the RF on two EMU samples. The initial study involved retrospective rescoring of completed MMPI-2 protocols (\(N=429\)). The second study (\(N=209\)) involved a randomized, prospective comparison of the MMPI-2 (and the rescored MMPI-2-RF) with the Personality Assessment Inventory (PAI). All patients had confirmed diagnoses of epilepsy or PNES based on video EEG monitoring.

RESULTS: In the retrospective study, mean comparisons revealed group differences on Validity Scales Fs and FBS-r; Restructured Clinical Scales RC1 and RC3; and Somatic Scales MLS, GIC, HPC, and NUC. The best overall classification rate was 68\% using a cutting score of 65\(T\) on RC1. NUC classification accuracy was maximized at 67\% at a \(T\) score of 85, and FBS-r classification accuracy was maximized at 64\% at a range of \(T\) scores between 60 and 70 with trades in sensitivity and specificity within that range. In the prospective comparison trial RC1 \(T\) score of 65 provided the best classification rate at 73\%. NUC at the clinical cut score of 65\(T\) provided classification accuracy of 57\% (91\% sensitivity; 21\% specificity). A \(T\) score of 85 provided classification accuracy of 68\% (68\% sensitivity and specificity). A \(T\)-score of 65 on FBS-r provided 66\% classification accuracy (78\% sensitivity, 55\% specificity). The best indicators (79\% classification accuracy) from the PAI were Somatic Complaints (SOM) \(\geq 70\) and the Conversion subscale of SOM \(\geq 70\).

CONCLUSIONS: RC1 alone is the best MMPI-2-RF scale for differential diagnosis of epilepsy from PNES with a \(T\)-score of 65 and classified between two thirds to nearly three fourths of the samples.

In the interest of full disclosure, it is noted that these data have been previously published in the following:


We respond to Odland et al.’s (The Clinical Neuropsychologist 25:1134-1144, 2011) claim that a number of MMPI-2 scales, including the Restructured Clinical (RC) scales cannot be interpreted in routine clinical practice due to excessive elevation rates among the *normal* population. Given their assertion concerning the RC scales, similar claims potentially could be made relating to the MMPI-2-RF, which is anchored by the RC scales.

The current study seeks to respond to similar potential claims regarding the MMPI-2-RF by comparing elevation rates among the MMPI-2-RF substantive scales to epidemiological data. Furthermore, we critique assumptions of Odland et al.’s argument that the RC scales overpathologize *normals*. Specifically, Odland et al. investigated hypothetical elevation rates among the normative sample using a Monte Carlo procedure without making comparisons to epidemiological data. Moreover, an implicit assumption of Odland et al.’s argument is that the normative sample represents the *normal* population; however, the normative sample is intended to represent the population as a whole, including individuals who have significant psychopathology.

The sample consisted of 2276 participants (1138 men, 1138 women) from the MMPI-2-RF normative sample. The majority of the sample was Caucasian (81.8%) but included some African Americans (11.6%). On average, individuals in the sample were middle aged ($M = 41.1, SD = 15.3$).

Results indicated that elevation rates on the MMPI-2-RF scales were broadly consistent with diagnostic rates of associated disorders in epidemiological data. We discuss implications of these findings and present a further refined critique of Odland et al.’s claims.
The purpose of this study is evaluate the factor structure of scores from the MMPI-2-RF. Previous research using confirmatory factor analysis applied to item-level data for broad-band personality measures has often yielded mixed or negative results, partly due to the stringent models applied with the typical CFA model, including the absence of item cross-loadings and all error covariances fixed to zero (Marsh, Lüdtke, Muthén, Asparouhov, Morin, & Trautwein, 2010). Exploratory Structural Equation Modeling (ESEM; Asparouhov & Muthén, 2009) is a recently developed statistical procedure which combines the positive characteristics of exploratory factor analysis (EFA; i.e., allowance of cross-loadings and factor rotation) with the positive characteristics of confirmatory factor analysis (CFA) that are not available in traditional EFA (i.e., estimation of error terms, correlated error terms when appropriate, and standard errors for factor loadings).

We will evaluate the factor structure of the MMPI-2-RF using the ESEM approach. One of the strengths of the MMPI-2-RF is the evaluation of constructs at multiple levels of abstractions, with three constructs at the highest level of the hierarchy (Higher-Order Scales), nine scales at the middle level (RC scales), and a number of narrow-bandwidth scales at the bottom of the hierarchy (SP scales, Interest Scales). Therefore, for the present study, we will use ESEM to model the factor structure of the MMPI-2-RF starting at the item-level, but also including factors at each of the three levels of the hierarchy. We will be using a dataset of MMPI-2-RF responses requested from the NCS Pearson archive (data delivery still pending). We have requested approximately 2,000 cases, including a combination of protocols from inpatient and outpatient mental health settings. Psychometric implications of the results will be discussed, as well as conclusions related to the usefulness of the ESEM approach in personality assessment research.

References
Predicting Law Enforcement Officer Performance Outcomes Using the MMPI-2-RF

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This study involves an examination of the utility of the MMPI-2-RF in predicting post-hire performance outcomes of hired law enforcement officer applicants. Predictor variables include both existing MMPI-2-RF scales and potential new scales or scale combinations (i.e., indices).

Criterion variables consist of (1) ratings by police trainers of the officer-subjects’ (a) post-hire performance (normal and stress conditions) on seven field and five general performance dimensions used routinely by police training evaluators and linked to psychological screening criteria; (b) overall ranking among their peers; and (c) global rating of desirability as a police officer; (2) history of sustained citizen and/or internal affairs complaints and 24 other measures of counterproductive work behavior, and (3) reason(s) for separation if no longer employed.

Data to be presented include a comparison of this new sample with the existing Law Enforcement Candidate comparison group available for the MMPI-2-RF, correlations between MMPI-2-RF Validity Scales and Substantive Scales and the criterion data just mentioned, and examination of the utility of using lower (than the traditional T ≥ 65) cutoffs in predicting these outcomes.

The authors will compare findings to those reported by Sellbom, Fischler, and Ben-Porath (2007) in their examination of the utility of the MMPI-2 in predicting negative outcomes in a sample of law enforcement candidates.
Validation of the Korean MMPI-2-RF Using a Korean Psychiatric Sample

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Tellegen and colleagues (2008) developed the MMPI-2-RF (Restructured Form), a comprehensive and psychometrically modern test centered around the Restructured Clinical (RC) scales and supplemented by scales measuring specific problem areas not addressed by the RC scales. The Korean MMPI-2-RF has recently been standardized with a normative sample of 651 men and 651 women and has shown promising results regarding cross-cultural equivalence (Han, Moon, Lee, & Kim, 2011).

The purpose of this project was to investigate the utility of the Korean MMPI-2-RF in Korean clinical settings. Data from a total of 395 psychiatric patients (158 inpatients and 237 outpatients) have recently been collected. All clinical patients were administered the SCID (Structured Clinical Interview for DSM Disorders), a Biographical form, a Medical Record Form, the Korean version of the MMPI-2, and the SCL-90-R (Symptom Checklist-90-Revision). In addition, each of the patients was rated by his/her therapist on a Therapist Rating Form.

In this presentation, mean raw and T scores for the Korean psychiatric sample will be plotted against Korean adult norms. Alpha coefficients will be presented for the psychiatric sample for validity, RC, Specific Problems, Interest, and PSY-5 scales. Correlations between MMPI-2-RF scales and SCL-90 scales to examine concurrent validity will be reported. Correlations between MMPI-2-RF scales and items on the Therapist Rating Form will be examined to determine principal correlates of each scale.
Examining Item Level Efficacy of Korean MMPI-2-RF Validity Scales to Over-Reporting and Under-reporting of Symptoms

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Test takers’ effort to exaggerate or deny various symptom complaints (response distortion) is a serious problem that threatens the validity of self-report test results. The validity scales of MMPI and MMPI-2 have extensively been used to identify response distortion; however, numerous studies have shown that coaching reduces the effectiveness of validity scales, thus complicating test validity.

The MMPI-2-RF is a relatively new and much shorter inventory than the MMPI-2 (Tellegen & Ben-Porath, 2008). With Koreans being the third largest immigrant group in the United States (United States Census, 2000), Korean clients will be more frequently seen in testing situations, and assessors will need information on Korean culture-specific assessment interpretation. Additional studies testing the efficacy of these revised and new validity scales are needed.

Dykhouse and Han (2011) examined the utility of Korean MMPI-2-RF over (under)-reporting validity scales in detecting response distortion in uncoached and coached settings (N = 307). Korean college students took the Korean MMPI-2 under standard condition, and within one week retook the MMPI-2 under one of four conditions (over-reporting, coached over-reporting, under-reporting, or coached under-reporting). Consistent with US and Korean research, over (under)-reporting validity scales successfully discriminated over or under-report condition from standard condition. Efficacy of validity scales diminished under coached settings.

The purpose of this study is to provide information on items or item clusters that best differentiate over and under-report from honest profiles under coached and uncoached conditions. Analyses at the item level will determine which MMPI-2-RF items are most effective in detecting symptom feigning and most sensitive with coaching instruction. Clinicians will be provided with a better understanding of item content that best describe over (under)-report characteristics. If consistent item groupings emerge with replication, aggregating items based on their efficacy into composite scales would make identification of individuals who feign symptoms more efficient.
The Inventory of Depression and Anxiety Symptoms (IDAS; Watson et al., 2007) is a 99-item self-report questionnaire designed to assess specific symptom characteristics of major depression and anxiety disorders. It was developed to address poor discriminant validity in previous depression and anxiety instruments (e.g., BDI & BAI) and map onto hierarchical structural models of internalizing psychopathology (e.g., Watson, 2005). The IDAS consists of 10 specific symptom scales and 2 broader scales (General Depression and Dysphoria), as well as scales designed to capture each of the Major Depressive Episode criteria. Consequently, the IDAS represents an ideal criterion with which to examine both the convergent and discriminant validity of the MMPI-2-RF internalizing scales.

We examined the MMPI-2-RF and IDAS in a sample of 148 disability and pain patients. After removing invalid protocols (VRIN-r/TRIN-r > 80, F-r > 100), our final sample included 116 patients. The hierarchical structure of MMPI-2-RF scales maps well onto the IDAS. Indeed, EID and RCd are both significantly related to the Dysphoria and Anxious Mood scales on the IDAS. While the RC scales were associated with conceptually relevant IDAS scales in the expected manner, it was the Internalizing Specific Problems scales that exhibited the best evidence of discriminant validity in capturing depression and anxiety symptoms, attributable to their discreet focus in content. For example, IDAS Traumatic Intrusions was most strongly associated with Anxiety ($r = .57$), Angry Mood with Anger Proneness ($r = .71$), and Poor Concentration/Indecisiveness with Cognitive Complaints and Inefficacy ($r = .76$ & .56, respectively).

In general, the pattern of the MMPI-2-RF and IDAS scales was consistent with previous research that mapped the RC scales with depression and anxiety symptoms (Sellbom et al., 2008). However, the current study extends this work by highlighting the particular use of the Specific Problems scales in assessing mood and anxiety psychopathology. Implications of the findings and recommendations for differential diagnosis of internalizing psychopathology with the MMPI-2-RF will be discussed.
Utility of the MMPI-2-RF Validity Scales in Detecting Over-Reported Post-Traumatic Stress Disorder Symptoms in Veterans

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Some veterans may attempt to present themselves in an overly negative light in an attempt to falsely obtain government compensation due to a service-connected injury and/or emotional trauma. This may include feigning symptoms of post-traumatic stress disorder when undergoing psychological evaluations to determine the validity of such claims (Arbisi et al., 2006). The MMPI-2-RF validity scales have shown utility in detecting feigned symptoms of PTSD (Marion et al., 2011); however, no studies have investigated their utility in a sample of compensation-seeking veterans. Furthermore, some individuals may have prior experience or knowledge regarding the symptoms of PTSD, which could assist them in avoiding detection (Marion et al., 2011). This effect could be even greater for individuals who have prior mental health training, as they would have more extensive knowledge about the clinical presentation of PTSD symptoms. No studies to date have determined the utility of the MMPI-2-RF validity scales in detecting feigned PTSD symptoms in a sample of individuals with mental health training.

The current study sought to examine the utility of the validity scales in detecting feigned PTSD by comparing three groups: 1) veterans with PTSD (n = 54); 2) veterans instructed to feign PTSD (n = 29); and 3) mental health experts instructed to feign PTSD (n = 30).

Results indicated that the validity scales showed utility in differentiating between veterans with PTSD and both feigning groups, with effect sizes primarily in the large range (ds ≥ .80). F-r was associated with the largest effect size for differentiating between veterans with PTSD and mental health experts, whereas Fp-r was associated with the largest effect size for differentiating between veterans with PTSD and veterans feigning PTSD. Classification analyses indicated that using both F-r and Fp-r to assess feigned PTSD allows for the best balance of sensitivity and specificity.
Comparing Countdown- and IRT-based Approaches to Computerized Adaptive Personality Testing

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Computerized adaptive testing (CAT) is an emerging technology for improving the efficiency of personality assessment. However, few studies have directly compared the efficiency and validity of two competing methods for personality CAT: (a) methods based on item response theory (IRT-CAT), versus (b) methods based on the countdown method (CM-CAT).

To that end, we conducted real-data simulations with previously collected responses (N = 8,690) to the Schedule for Nonadaptive and Adaptive Personality (SNAP). Three CAT algorithms (IRT-CAT, IRT-CAT with a minimum of five items administered, and CM-CAT) were evaluated with respect to item savings, classification accuracy, and comparative validity. All CATs yielded lower classification accuracy and validity than traditional testing, but required 18% to 86% fewer items. Ultimately the IRT-CAT with a minimum five-item requirement struck the most ideal balance of highest item savings, and generally fewer costs to validity and accuracy.

These results confirm findings regarding item savings trends from previous CAT studies. Implications of these findings for CAT personality assessment -- including CAT versions of the MMPI-2 and MMPI-2-RF -- will be discussed.