

## Noncredible Performance in Individuals with External Incentives: Empirical Derivation of the Psychosocial Distress Scale

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Individuals with monetary incentives may over-report psychosocial distress. This study compared the MMPI-2 responses of patients seeking financial compensation who scored below cutoffs on effort measures to those of patients that were not seeking compensation related to illness to derive a subset of items sensitive to noncredible complaints of psychosocial distress. A group of 90 personal injury litigants and disability claimants that scored below empirically derived cutoffs on two or more effort measures completed the MMPI-2 following primarily mild head injuries. A comparison group of 77 head trauma patients that were not involved in litigation or compensation claims also completed the MMPI-2. Credible and noncredible groups were compared on a subset of 232 MMPI-2 items measuring reported psychosocial distress selected rationally. A psychosocial distress scale was constructed by selecting the 20 items that best distinguished credible and noncredible groups. The resulting scale had an internal consistency reliability of .89 and explained 62% of between group variance. A cutscore of 12 on the PDS was associated with 82.6% classification accuracy, 97.4% specificity, and 70% sensitivity. The accuracy of the PDS in the current sample suggests that noncredible reports of psychosocial distress can be identified, and that the scale may generalize to other settings and patient groups.

Personal injury litigants and disability claimants are considered to be prone to symptom exaggeration that has generally been conceptualized as involving physical, cognitive, and/or emotional complaints. In the physical domain, the work of Bianchini, Greve and Glynn (2005) and their criteria for Malingered Pain-Related Disorder (MPRD) is most relevant, while the criteria for Malingered Neurocognitive Dysfunction (MND) set forth by Slick, Sherman & Iverson (1999) have been the gold standard for directing clinical research in the area of noncredible performance within the cognitive domain. The area of exaggerated emotional complaints, i.e., depression, has received less attention, but is represented in the Malingered Depression Scale (MDS) by Steffan, Clopton, and Morgan (2003) and the Malingered Mood Disorder Scale (MMDS) empirically-derived by Henry, Heilbronner, Mittenberg, Enders and Roberts (2008). The relationship between noncredible performance and over-reporting of psychosocial distress has not been empirically investigated. The credibility of cognitive performance is typically addressed symptom validity testing. However, there is no empirical counterpart to addressing the credibility of self-reported psychosocial distress. The purpose of the current study was to empirically derive a subset of items from the MMPI-2 sensitive to psychosocial distress. We predicted that individuals who exhibited noncredible performance on cognitive SVT under external incentive conditions would also over report symptoms of psychosocial distress on the MMPI-2 compared to no incentive controls.

### Method

Review of archival data identified 90 adults who underwent a comprehensive neuropsychological examination including the MMPI-2 that had external incentives involving personal injury ( $n=47$ ) or disability claims ( $n=43$ ). Subjects were chosen for inclusion if they met criteria for noncredible performance by scoring below empirically derived cutoffs on 2 or more effort measures (TOMM, CARB, VSVT, WMT, Reliable Digit Span, Vocabulary-Digit Span). The EI group had heterogeneous diagnoses including mild head injury, depression, and other claimed conditions. Average age and education was 45.53 ( $SD=10.68$ ) and 15.02 ( $SD=3.13$ ) respectively. The nonincentive control group was comprised of 77 adults tested within a month following hospitalization for head trauma who were not seeking compensation or involved in litigation related to their injuries. Average age and education for the group was 38.05 ( $SD=16.48$ ) and 15.02 ( $SD=3.13$ ), respectively.

The selection of items from the MMPI-2 began with identifying an initial item pool sensitive to psychosocial distress broadly defined to include interpersonal, social, or familial causes or consequences of stress. Two study investigators independently selected items which resulted a final pool of 232-items representing several MMPI-2 scales or subscales (Family Problems, Social Health Concerns Antisocial Practices, Low-Self Esteem, Ego Strength, Need for Affection, Family Discord, Social Alienation, Lack of Ego Mastery, Lees-Haley Fake Bad Scale, Henry-Heilbronner Index). We then identified a final set of 20 items with the strongest bivariate associations with group membership ( $R\text{-squared}=.62$ ), and these items were chosen to comprise the Psychosocial Distress Scale.

### Results

The internal consistency reliability estimate for the 20-item PDS was  $\alpha=.893$ . The EI group scored significantly higher ( $M=14.29$ ,  $SD=3.86$ ) on the PDS than the NI group ( $M=14.29$ ,  $SD=3.86$ ),  $F(1, 165)=274.38$ ,  $p<.001$ . A bivariate logistic regression analysis to predict incentive status based on the 20-item PDS score. PDS was a significant predictor of incentive status,  $\beta=.629$ ,  $SE=.097$ ,  $p<.001$ .