Assessment of Suboptimal Effort

Anne-Marie Kimbell, Ph.D.
Gloria Maccow, Ph.D.
Objectives

- Describe assessment of suboptimal effort.
- Describe several measures of symptom validity used to assess reported psychiatric symptoms and cognitive impairments.
Importance of Assessing Suboptimal Performance

- Psychologists routinely assess an individual’s cognitive functioning to answer specific referral questions.

- For example,
  - Does the patient’s present level of cognitive functioning represent a decline from previous levels of functioning?
  - Should the patient receive worker’s compensation?
  - Is the test-taker competent to stand trial?
Importance of Assessing Suboptimal Performance

- The accuracy of the psychologist’s decision depends on the accuracy of the test data.
- The accuracy of the test data depends on the cooperation and effort of the test-taker.
- What if test-takers do not perform to the best of their ability - what if effort is less than optimal for the tasks?
Suboptimal Performance

- Suboptimal performance encompasses any instance of less than maximal performance on testing, including those that may arise in the context of somatization, conversion, factitious disorder, or other forms of poor motivation and opposition that are not directly related to secondary gain.

- Malingering is only one of a number of explanations for suboptimal performance/effort and is not a synonym for it.

Strauss, Sherman, & Spreen, 2006
Malingering is . . .

“the intentional production of false or grossly exaggerated physical or psychological symptoms, motivated by external incentives such as avoiding military duty, avoiding work, obtaining financial compensation, evading criminal prosecution, or obtaining drugs.”

(DSM-IV, American Psychiatric Association, 1994)

“the willful production of poor performance on measures of psychological function for the purpose of obtaining some externally recognized gain or benefit.”

(Franzen & Iverson, 1998)
Assessing Validity of Psychiatric Symptoms
Pretrial Criminal Case

- Jason W., age 51, was employed as a finance manager.
- He was recently charged with embezzling $15,000 from the company he worked for and is awaiting trial.
- This is his only recorded criminal offense other than four speeding tickets and a DUI offense that was reduced to careless and reckless driving in a plea bargain.
- The MMPI-2 was administered as part of a pre-trial evaluation.
# Demographics

## Pre-trial Criminal Interpretive Report

**MMPI-2™**

**The Minnesota Report™: Reports for Forensic Settings**

*James N. Butcher, PhD*

<table>
<thead>
<tr>
<th>Name:</th>
<th>Jason W</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID Number:</td>
<td>2542</td>
</tr>
<tr>
<td>Age:</td>
<td>51</td>
</tr>
<tr>
<td>Gender:</td>
<td>Male</td>
</tr>
<tr>
<td>Marital Status:</td>
<td>Divorced</td>
</tr>
<tr>
<td>Years of Education:</td>
<td>14</td>
</tr>
<tr>
<td>Date Assessed:</td>
<td>12/01/2008</td>
</tr>
</tbody>
</table>
Assessing Validity of Neuro-Cognitive Symptoms
Criteria for Malingering

Criteria for *definite* malingering, neuro-cognitive deficit:

- Presence of substantial external incentive,
- Definitive negative response bias, and
- The response bias is not accounted for by psychiatric, neurological, or developmental factors (Slick, Sherman, and Iverson, 1999).
Criteria for Malingering, cont.

Criteria for *probable* malingering, neuro-cognitive deficit:

- Presence of substantial external incentive,
- Two or more types of evidence from neuropsychological testing, excluding definite negative response bias.

OR

- One type of evidence from neuropsychological testing, excluding definite negative response bias, and one or more types of evidence from Self-Report, and
- Behaviors meeting necessary criteria are not fully accounted for by psychiatric, neurological, or developmental factors.
Criteria for malingering, cont.

Criteria for possible malingering, neuro-cognitive deficit:

- Presence of substantial external incentive,
- Evidence from Self-Report,
- Behaviors meeting necessary criteria are not fully accounted for by psychiatric, neurological, or developmental factors

OR

- Criteria for definite or probable are met but the behaviors meeting necessary criteria are not fully accounted for by psychiatric, neurological, or developmental factors.
Malingering Checklist

A. Clear and substantial external incentive

B1. Definite response bias
B2. Probable response bias
B3. Discrepancy between known patterns of brain function/dysfunction and test data
B4. Discrepancy between observed behavior and test data
B5. Discrepancy between reliable collateral reports and test data
B6. Discrepancy between history and test data
Malingering Checklist

C1. Self-reported history is discrepant with documented history

C2. Self-reported symptoms are discrepant with known patterns of brain functioning

C3. Self-reported symptoms are discrepant with behavioral observations

C4. Self-reported symptoms are discrepant with information obtained from collateral informants

C5. Evidence of exaggerated or fabricated psychological dysfunction on standardized measures
Malingering Checklist

D. Behaviors satisfying Criteria B and/or C were volitional and directed at least in part toward acquiring or achieving external incentives as defined in Criteria A

E. The patient adequately understood the purpose of the examination and the possible negative consequences of exaggerating or fabricating cognitive deficits

F. Test results contributing to Criteria B are sufficiently reliable and valid
Strategies to Detect Feigned Cognitive Impairment

- Detection of excessive impairment, e.g.,
  - failures on very easy items
  - failures below chance on forced-choice formats
- Detection of unexpected patterns, e.g.,
  - similar performance on easy and difficult items
  - unexpected answers on forced-choice formats
Methods to Detect Feigned Cognitive Impairment

- Indices derived from conventional measures (Embedded Measures)
  - WCST (FMS)
  - TMT (time, errors)
  - WAIS-IV (Reliable Digit Span)
  - WMS-IV (Logical Memory Recognition, Verbal Paired Associates Recognition, Visual Reproduction Recognition)
Specifically developed measures (External Measures)

- Rey 15-item
- TOMM
- WMT
- VIP
- ACS (Word Choice)
Assessment of Suboptimal Effort

Validity Indicator Profile

- Designed for use with individuals ages 18-69 who are being treated for cognitive difficulties.
- Not recommended to evaluate response style of individuals known to have an intellectual disability or severe cognitive impairment.
Validity Indicator Profile

Two subtests

- Nonverbal (Picture Matrices; 100 items)
- Verbal (Word Matching; 78 items)
- Verbal subtest requires 10-20 minutes
- Nonverbal subtest requires about 30 minutes
Categorization of Response Style in Terms of Intention and Effort
Performance Curve

- Compliant
- Sector 1
- Sector 2
- Sector 3
- Knowledgeable responding
- Guessing
- Transition to Guessing
- Easy items
- Difficult items

Proportion Correct
Running Mean Serial Position
Assessment of Suboptimal Effort
Advanced Clinical Solutions for WAIS-IV and WMS-IV (2009)
Assessing Suboptimal Effort: ACS for WAIS-IV and WMS-IV

External Measures
  – ACS Word Choice (Ages 16-69)

Embedded Measures
  – WAIS-IV Reliable Digit Span
  – WMS-IV
    • Logical Memory Delayed Recognition
    • Verbal Paired Associates Delayed Recognition
    • Visual Reproduction Delayed Recognition
Word Choice

1. Examinee sees and hears 50 words in succession.

2. Examinee identifies each word as either man-made or natural.

   LIGHTNING   BROOM

3. Examinee sees card with 50 pairs of words and selects word that was previously presented from each pair.
### Advanced Clinical Solutions

#### Word Choice/Effort Record Form

**Examinee Name:** Client H  
**Examiner Name:** Examiner L

<table>
<thead>
<tr>
<th>Score</th>
<th>Total Raw Score</th>
<th>Table</th>
<th>≤2%</th>
<th>≤5%</th>
<th>≤10%</th>
<th>≤15%</th>
<th>≤25%</th>
<th>&gt;25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Choice (Maximum = 50)</td>
<td>46</td>
<td>3.1</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>LM II Recognition (Maximum = 30)</td>
<td>15</td>
<td>3.2</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>VPA II Recognition (Maximum = 40)</td>
<td>32</td>
<td>3.3</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>VR II Recognition (Maximum = 7)</td>
<td>4</td>
<td>3.4</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Reliable Digit Span (Maximum = 17)</td>
<td>9</td>
<td>3.5</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>

>25% = ≤50% and ≤75%

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### Word Choice/Effort Record Form

**Examinee Name:** Client H  

** Examiner Name:** Examiner L  

<table>
<thead>
<tr>
<th>Education Level (Circle one)</th>
<th>Race/Ethnicity (Circle one)</th>
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<tbody>
<tr>
<td>≤8 years</td>
<td>White</td>
</tr>
<tr>
<td>9–11 years</td>
<td>African American</td>
</tr>
<tr>
<td>12 years</td>
<td>Hispanic</td>
</tr>
<tr>
<td>13–15 years</td>
<td>Asian</td>
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<td>≥16 years</td>
<td>Other</td>
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</table>

#### Effort Score Analysis

<table>
<thead>
<tr>
<th>Cutoff Criterion (Circle one)</th>
<th>2%</th>
<th>5%</th>
<th>10%</th>
<th>15%</th>
<th>25%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Table 3.6</td>
<td>Table 3.7</td>
<td>Table 3.8</td>
<td>Table 3.9</td>
<td>Table 3.10</td>
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<tr>
<td>No Stimulus Group</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simulators</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Clinical Sample</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traumatic Brain Injury</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Special Group: Anxiety</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonclinical Sample</td>
<td>1</td>
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<tr>
<td>Education Level</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 3.2** Example of a Completed Word Choice/Effort Record Form Summary Page

Minimizes false pos
Suboptimal Effort

To maximize sensitivity and specificity,

– Use at least 3 validity indicators.
– Require at least 2 indicators at or below prescribed cut score when using low cut-offs (e.g. 10%).
Client A

- 35-year old White male with Master’s degree in business.
- Sustained mild TBI as a result of a motor vehicle accident.
- Experienced persistent neck pains and headaches after the accident.
- Had difficulty concentrating and remembering.
- Family physician prescribed mild pain medication and told Client A to monitor his symptoms.
Client A

- Client A’s work performance suffered and he requested to go on short-term disability, having used all of his allotted time off.
- He attempted to return to work after several weeks off.
- He reported an increase in symptoms, including fatigue, chronic headaches and neck pain, poor attention, and an inability to remember things.
- He missed many days of work, and when he was at work, he could not perform his job to the level required.
- Client A requested to go on long-term disability, due to the injuries he had suffered.
# Sample Data

<table>
<thead>
<tr>
<th>Effort Assessment Score Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examinee Name</td>
</tr>
<tr>
<td>Client A</td>
</tr>
<tr>
<td>Examinee ID</td>
</tr>
<tr>
<td>44555</td>
</tr>
<tr>
<td>Date of Birth</td>
</tr>
<tr>
<td>07-26-1974</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
</tr>
<tr>
<td>White</td>
</tr>
</tbody>
</table>

## WAIS-IV/WMS-IV Performance Summary

<table>
<thead>
<tr>
<th>Score</th>
<th>Index Score</th>
<th>Qualitative Description</th>
<th>Classification Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAIS-IV General Ability Index</td>
<td>90</td>
<td>Average</td>
<td>—</td>
</tr>
<tr>
<td>WMS-IV Delayed Memory Index</td>
<td>76</td>
<td>Borderline</td>
<td>—</td>
</tr>
<tr>
<td>WMS-IV Brief Cognitive Status Exam</td>
<td>—</td>
<td>—</td>
<td>Average</td>
</tr>
</tbody>
</table>
## Sample Data

### Effort Score Summary

<table>
<thead>
<tr>
<th>Score</th>
<th>Raw Score</th>
<th>≤2%</th>
<th>≤5%</th>
<th>≤10%</th>
<th>≤15%</th>
<th>≤25%</th>
<th>&gt;25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Choice</td>
<td>39</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>LM II Recognition</td>
<td>14</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>VPA II Recognition</td>
<td>24</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>VR II Recognition</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Reliable Digit Span</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>3</strong></td>
<td><strong>4</strong></td>
<td><strong>5</strong></td>
<td><strong>5</strong></td>
<td><strong>5</strong></td>
<td><strong>5</strong></td>
<td>—</td>
</tr>
</tbody>
</table>

### Effort Score Analysis

<table>
<thead>
<tr>
<th>Group of Interest</th>
<th>Percentages With Matching Number of Cut Scores at Cutoff</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Stimulus</td>
<td>2% 5% 10% 15% 25%</td>
</tr>
<tr>
<td>Simulators</td>
<td>50 38 —</td>
</tr>
<tr>
<td>Overall Clinical Sample</td>
<td>8 10 8</td>
</tr>
<tr>
<td>Traumatic Brain Injury</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Temporal Lobectomy</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Major Depressive Disorder</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Intellectual Disability-Mild Severity</td>
<td>3 3 0</td>
</tr>
<tr>
<td>Nonclinical Sample</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Education Level</td>
<td>0 0 0</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>0 0 0</td>
</tr>
<tr>
<td>GAI</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>
Evidence for Malingering?

- Presence of substantial external incentive?
- Definitive negative response bias?
- Is response bias accounted for by psychiatric, neurological, or developmental factors?


Resources


Customer Service
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1-866-335-8418 (Canada)

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