



Sub-Optimal Effort in Neuropsychological Evaluation

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What do we mean by sub-optimal effort in NPE?

Webster's definition of sub-optimal:

"Below, or under, the best or most favorable degree of..."



What are the implications of sub-optimal effort for neuropsychological evaluation?

- We are not obtaining the examinee's best efforts throughout the evaluation
- Test results cannot be considered valid indicators of the person's actual abilities or deficits in the domains measured
- Variability in performance will likely not conform to normal variability, nor to expected patterns of ability and deficit



Further implications

The problem of “Fleas and Lice”
(Herbert J. Cross, Ph.D., 1978)

Patients with bona fide neurological illness or injury may also present with sub-optimal effort



Case example - Severe TBI

- Patient with severe TBI (GSC 6) and exaggerated deficit responses
- Context: Defense Legal Referral
 - TOMM - grossly invalid
 - Clinical presentation
 - Sentence completion task



Case Example - SPMS

- Patient with 25 year history of RRMS, now Secondary Progressive MS
- Referred by Disability Insurance Company
 - Prior limited NPE data available for comparison
 - Poor TOMM-Day 1; Perfect Hiscock-Day 2
 - Yet excellent scores on most NPE measures, except profound memory impairment on tasks the patient perceived as memory measures
 - Clinically tangential, word retrieval, speed



Economic factors

“The green poultice”

(Wilbur E. Fordyce, PhD)

- Litigation and financial settlements based upon deficits
- Disability income and pensions
- Family pressure to be disabled for reasons of economic security



Social factors

- Pressure from family to resume old role
- Pressure from family to be disabled
- Poor pre-injury relationship with work supervisor
- Loss of original job and/or company
- Work is not valued by peers



Personal factors

- Medical diagnosis more acceptable than pre-morbid labels and limitations
- Socially acceptable means to escape adult responsibilities
 - Work
 - Intimate relationships, sexual preference
 - Parenthood
 - Child-rearing



Specific psychiatric diagnoses may increase the risk of sub-optimal effort

Axis II Personality Disorders or Features

- Somatoform
- Conversion
- Narcissistic
- Anti-social
- Borderline
- Dependent
- Avoidant



What other factors increases the risk of sub-optimal effort in NPE?

Reactive Emotional Problems or Other Pre-Injury Psychiatric Vulnerabilities

- Anger at injury or illness
- Desire for justice
- Fear re: future financial viability
- Major depression
- Major anxiety or panic disorder
- Post traumatic stress disorder
- Substance abuse
- Bipolar disorder



Physical and medical factors in sub-optimal performances

- Fatigue or reduced endurance
- Chronic sleep deprivation
- Headache, neck pain, back pain
- Medication effects
 - Opioids
 - Benzodiazepines
 - Anti-convulsants



How do we measure and otherwise gauge sub-optimal effort?

Tests specifically designed to measure effort

- TOMM
- Word Memory Test
- Portland Digit Recognition
- Hiscock Digit Recognition Test
- MMPI and MMPI-2 Validity Scales
- Hiscock Abbreviated Research Version – 36 items
- Rey 15 Item with Delayed Recall



How do we measure and otherwise gauge sub-optimal effort?

Patterns of other test performances found to be associated with sub-optimal effort

- Digit Span
- WMS-R Mental Control
- CVLT Forced Choice
- Fail easy items, do well on difficult measures
- Failure to benefit from practice
- Bizarre reproductions of designs or figures
- Discrepancy between severity of tested impairments and injury severity or injury type



How do we measure and otherwise gauge sub-optimal effort?

Clinical observations:

Interview behavior that raises the index of concern about sub-optimal effort:

- Poor or excessive eye contact
- Limp handshake
- Unusual or dramatic gait, not in keeping with injury
- Excessively friendly or fawning comments
- Unusual stuttering or halting qualities to speech
- Child-like speech in context of minimal injury
- Rocking in chair during interview or testing
- Trouble supplying personal facts, e.g., date of birth, siblings' names, high school attended



How do we measure and otherwise gauge sub-optimal effort?

Clinical observations (continued):

Interview behavior that raises the index of concern about sub-optimal effort:

- Dark glasses and cane at 2 years post possible mild concussion
- Strange or unusual tremors
- Tone of victimization to reports of problems
- Pre-occupation with how entire life has been ruined by minor accident
- Endorses all possible symptoms and problem areas
- Reports very few abilities or strengths that haven't been changed
- Exaggerated report of pre-accident abilities and achievements
- Extensive family history of work related accidents and early pensions



How do we measure and otherwise gauge sub-optimal effort?

Clinical observations (continued):

Historical information of concern for patients with mild possible injuries:

- Patient had poor relationship with immediate supervisor at work
- Patient has abandoned almost all usual roles and activities
- Other family members have taken over most duties of daily living
- Patient no longer drives
- Patient can't make change or pay bills without errors
- Patient is very content with all of the family support he or she is receiving
- Patient asks if a chore worker or independent living aide can be assigned
- Patient applies for a therapy dog



How do we measure and otherwise gauge sub-optimal effort?

Clinical observations (continued):

Test behavior

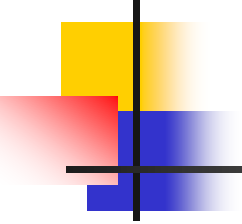
- Early and intense complaints about task difficulty, esp. on easy items
- Frequent requests for breaks, or ice packs
- Early reports of fatigue from testing
- Long response latencies
- Can't perform very easy tasks, e.g., 2-block Block Designs correctly
- No demonstrated ability to learn with practice (e.g., word pairs)
- Manipulative behaviors, e.g., making an extreme symptom claim then covertly watching interviewer for reactions
- Extremely poor performances on tasks that patient believes measure his or her reported problem areas, but normal performances on other less obvious measures of those same domains



How do we measure and otherwise consider sub-optimal effort?

Feedback session behavior

- Negative reactions to good news about preserved abilities
- Lack of genuine interest in any treatment plan
- Lack of interest in any return to work plan, or
- Indicates an interest in RTW, then “Yes, but(s)…” all viable options to achieve a return to work
- Irritability with family members who expect a return to normal function
- Family members who foster or support dependent role in patient



Limitations of test validity measures and implications for sub-optimal effort

- Necessary but not sufficient measure of test validity
- Formal measures of effort can't be given continuously throughout evaluation
- Some good measures are very time-consuming
- Some are irritating for patients (and staff!) to take
- There are a limited number of well validated measures
- Can complicate subsequent memory performances, e.g., interference effects
- Can add significant amount of time to test battery
- A patient may have significant injury and deficits, but is so afflicted with "compensation neurosis" that test score levels or patterns truly mask underlying neurological impairments



Recommendations

- Always give a formal measure of effort
- In legal/disability context: TOMM or WMT
- If Day Two of testing, give add'l validity measure(s)
- Look for “validity themes” in the overall pattern of evaluation results, and across the findings’ domains
 - Prior records - any concerns raised about symptom validity?
 - Interview impressions
 - Behavioral observations and comments from psychometrist
 - Are areas of cognitive ability and difficulty consistent within domains, e.g., simple versus complex attention, stages or types of memory, types of reasoning, speed of performance
 - Are these areas consistent with disease type or injury



Recommendations (con't)

- Questions to ask yourself:
 - If this person wanted to work, would their NPE pattern of ability and deficit support RTW success?
 - Are there alternate explanations to their sub-optimal effort, besides conscious malingering?
 - Can you write the report in a fair and respectful fashion, and help the reader understand the likely reasons for sub-optimal performance?
 - Can any of those reasons be treated or improved?
 - In the context of fairness, what recommendations are in the patient's best interest?