

# Effort Testing

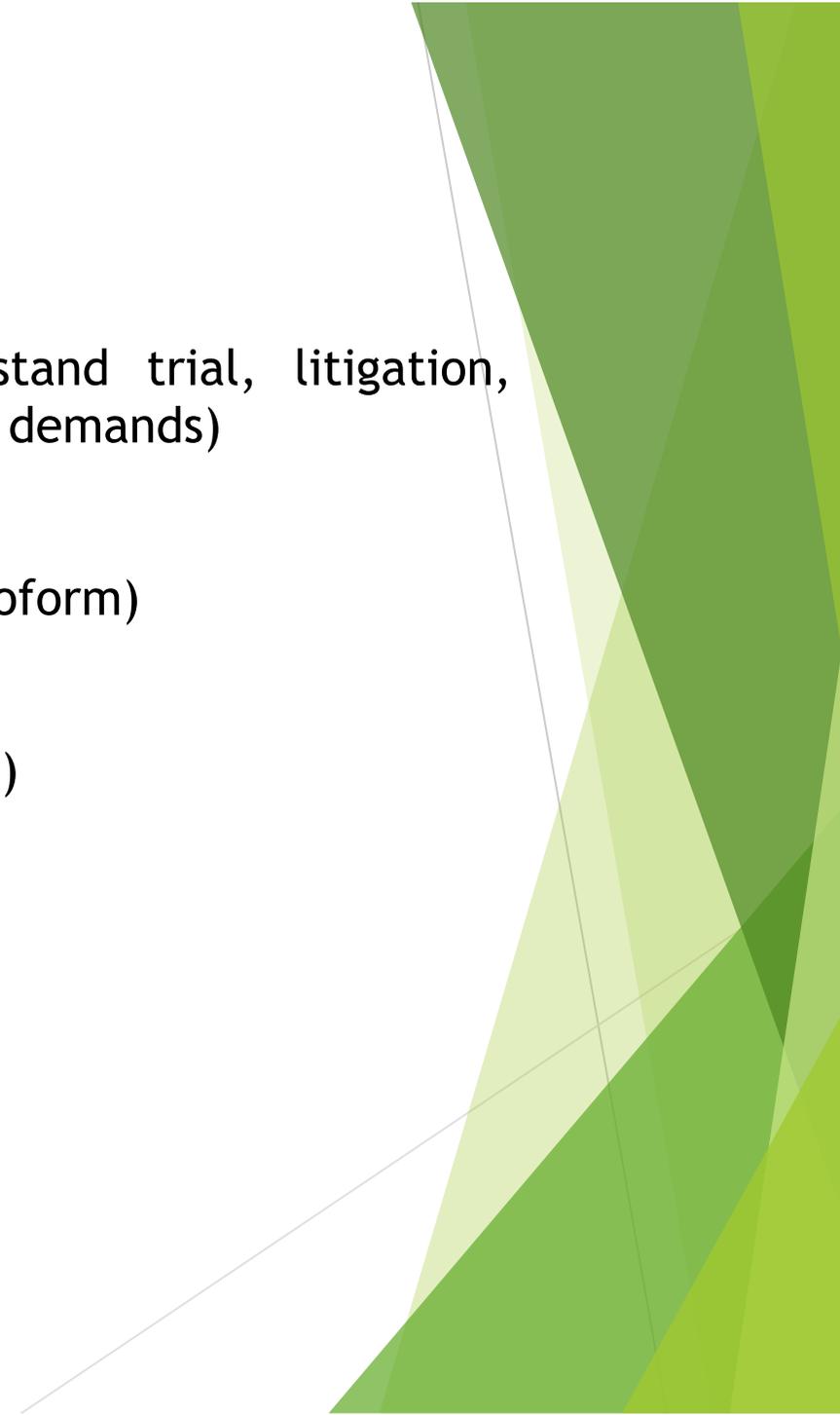


# Effort testing

- ▶ Numerous terms (effort testing, symptom validity, sub-optimal effort and malingering) are commonly used interchangeably and arguably relate to related concepts but at different point on a spectrum.
- ▶ In some contexts performance on tests may be influenced by potential ‘secondary gain’, or financial reward, such as compensation payments based on medico-legal reports - in such settings people may be inclined to feign impairment.
- ▶ Effort tests are designed to appear difficult on the surface, but actually be easy to pass (they typically have a skewed distribution where a very high proportion of people will pass), many are based on forced-choice or recognition memory performance, where scores below a set cut-off are statistically unlikely and therefore indicative of potential reduced effort / malingering.
- ▶ The BPS (2009) and the AACN (2009) both produced guidelines on effort testing and recommended measures of effort be incorporated into routine clinical practice. They suggested using a stand-alone measure, and at least one embedded effort test for all assessments!

# Different reasons for invalidity?

- ▶ External incentives (e.g. medication, capacity to stand trial, litigation, disability benefits, avoidance of responsibility or school demands)
- ▶ Internal incentives (e.g. maintaining sick role)
- ▶ Conscious vs. unconscious (factitious disorder vs. somatoform)
- ▶ Personality style prone to exaggerating difficulties
- ▶ Not motivated to apply full effort (e.g. fatigue and pain)
- ▶ Concerns regarding not being taken seriously



# The importance of SVTs

- ▶ Invalid test interpretation – inappropriate allocation of resources; inappropriate treatment recommendations
- ▶ Sweet et al (2002) review: articles relating to forensic NP practice increased from 4% in 1990 to 14% in 2000 and 86% were relating to malingering!
- ▶ Most North America – higher evidentiary standards for courts
- ▶ **In UK 67% of NP working in forensic arena believe they can rely on clinical judgements! (McCarter et al., 2009)**
- ▶ However, clinical judgement no better than chance (Faust et al., 1988)

# Malingering

- ▶ Negative consequences associated with label (e.g. Stigma, fraud)
- ▶ In clinical practice terms used if fail SVT: “invalid”, “inconsistent with severity of illness/injury/condition”, “exaggeration”, “poor effort”, “non-compliance”.
- ▶ Different to North America where have ethical obligation to make a diagnosis of malingering when warranted (Steward & Connor, 2009)
- ▶ Malingers put in effort to underperform which is not the same as “poor effort”!

# Operationalising malingering

Slick, Sherman & Iverson, 1999

## Probable MND:

- ▶ External incentive (Criterion A)
- ▶ And two types of evidence from neuro-psychometric testing (criterion B)
- ▶ Or one type of evidence from neuro-psychometric testing and evidence from self-reported symptoms (Criterion C)
- ▶ Behaviours cannot be accounted for by neurological, psychiatric or developmental factors (Criterion D).

## Definite MND:

- ▶ Statistically below chance performance on forced choice test

## Possible MND:

- ▶ Evidence from criteria C (self report)

# Effort Testing (continued)

- ▶ It is important to note the effort tests can be failed for various reasons other than poor effort or malingering, including: severe learning disability, severe amnesia, moderate to severe dementia, severe sensory or physical disability or conditions where alertness/attention is severely impaired.
- ▶ Several stand-alone measures have been designed to measure effort and potential malingering, including the Rey-15, the Test of Memory Malingering (TOMM, Tombaugh, 1996), and the Green Word Memory Test (Green et al, 1996).
- ▶ Numerous tests also include embedded effort tests within widely used neuropsychology batteries, e.g.
  - ▶ Reliable digit span (RDS) within the WAIS; longest string of digits correctly recalled on fwds + backwards trials (both trials correct), cut-off of 6 or 7.
  - ▶ RBANS Effort Index - (based on recognition memory and digit span)
  - ▶ Child and Adolescent Memory Profile - Based on recognition items
  - ▶ Books Like Lezak et al (2012) have chapters on effort testing which provide details of stand-alone and embedded effort tests. Check the norms, and clinical reference group of such tests before applying them!

# Reliable Digit Span (RDS)

- ▶ Rickards et al (2017) - cutoff of  $\leq 6$  considered most appropriate for all clinical groups (90% specificity).
- ▶ BUT - some cautions with specific clinical populations (stroke, severe memory disorders, learning disability) where there may be severe impairments of intellectual / cognitive functioning.
- ▶ Cautions also for use with clients with significant mental health issues.
- ▶ Older adults with neurodegenerative disease - 87% of the sample scored above the cutoff.
- ▶ However, in MCI and dementia populations the RDS has been shown to result in unacceptably high false-positive rates. This can lead to misinterpretation of performance, with scores relating to true cognitive impairment.

# Test of Memory Malingering

- ▶ Repeatedly reported as one of the most extensively used and well validated effort tests (Mittenberg et al., 2002, Sharland & Gfeller, 2007, Sullivan, Lange, Rael et al., 2005; Carter et al, 2009)
- ▶ 50 line drawings
- ▶ Forced choice of visual recognition
- ▶ Trial 1, trial 2 and retention
- ▶ Also suitable for children. Other popular tests include Green's Word Memory Test, Medical Symptom Validity Test and Non Verbal Symptom Validity Test. These are suitable for adults and children, computerised, self-scoring and the latter two much quicker than the TOMM.



# Embedded symptom validity indicators

- Don't add time to battery
- Direct evidence of invalid performance
- Less vulnerable to coaching
- Assess across variety of domains
  
- Several studies have explored the use of multiple symptom validity tests, e.g. Victor et al (2009) examined performance across a range of tests and found failure on at least one embedded effort test was fairly common (41% at least one measure). They suggested failing two or more embedded effort tests should be the criteria for detecting probable malingering.

# Interpretation - signs of poor effort (Heilbronner, 2009)

- ▶ Disparity between real-world observations and test performance or self-report
- ▶ Inconsistency between an individual's behaviour when he/she is aware of being evaluated versus when not aware of not being evaluated
- ▶ Inconsistencies between self-report and historical records
- ▶ Inconsistency across serial testing that cannot be explained by an underlying neurological process or known psychiatric condition.
- ▶ Discrepancies between the severity of cognitive impairment in relation to the patient's injury / illness
- ▶ The pattern of test performance
- ▶ Scores below cut-off on forced choice tests
- ▶ Implausible self-reported symptoms or changes in test scores across repeat examinations or unusual or bizarre errors during interview, not captured during testing.
- ▶ 'Passing' an effort test does not rule out poor effort.

# Case Example

- ▶ Mid 30's woman who has suffered a traumatic brain injury
- ▶ Lives at home with her mother, and has one close friend
- ▶ Previous longstanding history of difficulties at school, and longstanding mental health problems (OCD)
- ▶ Previous psychometrics completed several years ago refer to her being difficult to assess, and aspects of the presentation being unusual.
- ▶ Left school at 16, with poor grades in her GCSE's - grades E
- ▶ No difficulties with activities of daily living (washing, bathing, dressing, cooking - other than some influenced by the OCD)
- ▶ Vague complaints of back pain, 'fuzzy head' that comes and goes, with no indication of these in the medical records.



# Observations during assessment

- ▶ Engages well with the history taking session, jovial and chatty, but acknowledges she is 'dreading' the assessment.
- ▶ Able to give a broad history of her schooling, family and other personal circumstances.
- ▶ Can recall having completed the WAIS some 3 years previously and she makes reference to the block design subtest.
- ▶ Testing completed across 2 sessions: TOPF, WAIS, WMS, DK-EFS (3 subtests), TOMM and HADS - highly variable in her engagement across testing, at times fairly well engaged but at other times tutting, asking how much longer it will take, *'my head is pounding'*, *'if only you'd done this earlier I'd have done better'*.
- ▶ Some of the tests take much longer than anticipated to complete.
- ▶ TOPF and WAIS comparisons are all highly significant yet seem disproportionate to her level of functioning. TOMM trial 2 score - 49/50 (above the cutoff)

# Observations (cont)

- ▶ WAIS profile is comparable to the previous administration 3 years prior (this is therefore likely to be an accurate profile).
- ▶ WMS engagement was very poor, and she scores at floor level; auditory, visual, immediate and delayed recall all fell below the 1<sup>st</sup> percentile. However, she remembered me between sessions, could recall testing that occurred 3 years ago, and recounts several recent events.
- ▶ Impression - She has clearly suffered a TBI and has some cognitive difficulties related to this. Despite passing the effort test, the validity of her memory profile in particular is inconsistent with her level of functioning. She is largely independent with activities of daily living yet her psychometric profile suggests otherwise.
- ▶ Her primary complaint consistently related to her mental health difficulties, not any changes due to her brain injury. There is a clear 'sick role'.