Limitations of Standardized Testing for Assessment of Communication Ability post TBI

Brief Summary of Evidence (prepared November 2017)

1) **Lack of Ecological Validity/Context-sensitivity:**

- Standardized tests of Executive Functions (EF) sub-skills have been widely criticized for their lack of ecological validity
  - typically bear little resemblance to the way EF are used in everyday life.
  - Given that EFs in real life are used primarily for independent goal-oriented behavior (i.e. self-structured behavior in novel situations), these highly structured tests can mask deficits that would be evident outside of the clinic. **Example:** a student with ABI could organize their thoughts and complete academic assignments in a treatment session and still fail to do so in real school settings (Ciccia et al, 2009).

- Situational assessments were found to be more predictive of vocational success than neuropsychological assessment findings. These authors also found that situational assessments were particularly critical for the assessment of EF (Leblanc et al, 2000).

- Dissociation between test performance and everyday functioning is a common feature of frontal lobe injury. **Great caution** needs to be exercised, then, in interpreting data from structured/formal assessments (Snow & Douglas, 1999)
  - One can have severe dysfunction in daily activities while having good performance on standardized cognitive tests. (Anderson et al, 2000).
  - Similarly, some cognitive-communication deficits may, on formal assessment, appear to be subtle, while exerting damaging and wide-ranging effects in everyday activities that lack structure and predictability (Naugle & Chelune, 1990; Prigatano, 1987; Ylvisaker & Holland, 1985).

- A variety of factors can limit a test’s predictive and ecological validity (Chayter & Schmitter-Edgecombe, 2003). These factors include:
  - the distraction-free test environment and supportive behaviour of the examiner which may mask functional cognitive and emotional problems
  - the constructs that a test measures
  - limited behaviour sampling (testing only captures a small sample of a person’s range of behaviour/performance and likely doesn’t stress the person to their point of functional weakness)
  - use of compensatory strategies (a person may successfully employ a compensatory strategy in everyday life but be prevented from using it in a testing situation)
  - non-cognitive deficits such as behavioural and emotional deficits may compound their cognitive deficits.

- Considering the recent model of cognitive-communication competence (MacDonald, 2017), evidence-based assessment should reflect a broader assessment process that includes
- self-evaluation, clinical observation, real-world evaluation, communication partner evaluation, hypothesis testing, behavioural sampling under a range of conditions, and contributing information from multidisciplinary colleagues.

- Evaluation beyond impairment level testing is encouraged and is broadened to include the dynamic interaction with communication partners, analysis of communication demands and environments, and goal setting in the seven areas of communication competence: family, social, community, workplace, academic, information management and problem-solving communications (Coelho et al., 2005, Turkstra et al., 2005, Togher et al., 2004, Larkins et al., 2004).

- There are significant limitations to screening for cognitive-communication disorders. Deficits are usually only apparent during thorough evaluation and during complex activities of daily life (MacDonald, 2007).

- INCOG recommends (based on evidence) that a person’s cognitive-communication ability should not be evaluated and treated as an isolated skill but should be viewed in the broader context of the person’s everyday communication needs (Togher et al., 2014).

- SLPs have a need for their assessments to be person-centered, meaningful, ecological while also being measurable (reliable, observable).

- This is a difficult balance to achieve and made all the more difficult given the fact that a 2005 review of cognitive-linguistics tests demonstrated that none of the 31 tests reviewed were predictive of performance in contexts relevant to daily life (Solberg, 2011, Turkstra et al., 2005).

- Because SLPs often truly have limited time for testing or perceive that they have limited time for assessment, they tend to administer standardized tests, from which they infer function and then plan treatment (often traditional drill & practice). So in order to assess function, Solberg suggests that “standardized self-report ratings in conjunction with objective screenings may offer an efficient way to take evaluation beyond impairment level testing to facilitate functional assessment and goal setting” (Solberg & Mateer, 1989).

- As per their regulatory College, SLPs MUST sample and/or survey a broad variety of communication, situations, complexities and environments before coming to a conclusion, regarding the presence or absence of ACCD (CASLPO, 2015).

- Controversy with standardized assessment (and decontextualized therapy) because conditions are not indicative or real-world settings where situational constraints, social rules, priorities and personal motivation are contributing factors (Jessica Brown, University of Minnesota).

2) **Fail to assist with identifying both challenges and strengths in functional tasks/activities to inform personally relevant activity/participation-focused goal setting and intervention**

- As stated in CASLPO’s Practice Standards and Guidelines for Acquired Communication Disorders (revised 2015), “the WHO’s ICF recommends an assessment at the levels of impairment, activity limitations, participation restrictions and environmental barriers. Therefore, in addition to impairment level standardized testing in structured clinical and hospital environments, clinicians must evaluate the functional impact of an individual’s cognitive-communication difficulties on their performance in daily life.
activities and their participation in meaningful roles within society (social participation, parenting, work, school, etc.).”

- Self-report may be more valuable than objective test measures to identify functional challenges and to develop participation-level goals (Duff, Proctor & Haley, 2002; Frith, Togher, Ferguson et al., 2014).

3) **Fail to detect subtle communication deficits:**

- CASLPO assessment standards include MUST and SHOULD statements. In cognitive-communication assessment, CASLPO states that SLPs MUST consider the use of both standardized and non-standardized assessments/surveys in their assessment protocol and that given the limitations of standardized testing in detecting subtle cognitive-communication communication deficits, it is important to include protocols that evaluate contextualized communication (2015).

- Also, SLPs MUST sample and/or survey a broad variety of communication, situations, complexities and environments before coming to a conclusion, regarding the presence or absence of ACCD (CASLPO, 2015).

4) **Concerns re: use of standardized testing during early recovery (before 3-5 months post TBI)**

- Don’t rush to formal evaluation. Patients are still having spontaneous recovery, results of assessment (standardized testing) will quickly become invalid as the patient changes and is not yet experiencing chronic communication challenges. Early on, patient may not be able to attend to testing/tasks due to any number of physical, emotional, mental reasons which can also invalidate test results.

- Assessing and treating a person for cognitive-communication difficulties in acute/inpatient rehab may not prove to be effective or helpful if the patient is still at the stage where we don’t yet know what the needs will be because they are still recovering and learning for themselves what they’ll need. May be more effective to focus on the environment, communication partners. (Lyn Turkstra, email communication to C. Di Salle on Nov 1, 2017, Turkstra, 2013)

5) **Linguistic tests don’t capture communication difficulties that are common with TBI**

- Most linguistic/language or cognitive-linguistic tests focus on expressive and receptive language with are not necessarily what people with TBI have difficulty with.

6) **Over-reliance on test scores**

- There are instances where tests may still be needed as part of a broad assessment, however often times the focus and interpretation is based on final scores or subtest scores which misses important information that can be gleaned from the testing such as how the task is completed, how the client approaches the task, whether or not self-generated use of compensatory strategies, client ability to change behaviour after feedback from the examiner, and general coping when under pressure. (Hartley, 1989).
References


