Why I still like the verbal reasoning subtest of the Cognitive Competency Test (and am even liking the picture interpretation subtest, too)

(Paper-based versus functional assessments)

or

(Can the verbal reasoning subtest tell you someone is safe to go home?)

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SHAME REALLY, HIS EXAM RESULTS AND REFERENCES WERE EXCELLENT, BUT HIS INTERPRETATION OF THE SQUIGGLY LINES WAS ALL WRONG!

PSYCHOMETRIC TESTS WOULD WEED OUT 25% OF ALL APPLICANTS

MEDICAL SCHOOL
Outline

• Introduction (and why this interests me)
• Objectives
• Super duper fast background
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  • What others have said about the test
• Test administration/scoring – a few tips and common errors
• Quantitative vs. qualitative interpretation
• Picture interpretation... really?
• A couple of cases
• Questions to answer
Introduction (and why this interests me)

- Much discussion and debate about the merits of the Cognitive Competency Test and its utility as an assessment of cognition and its ability (or inability) to inform a client’s level of functional independence.
- Lots of CAOT webinars on cognition over the past few years; 2-day course in Halifax
- Recent research (masters and doctoral level) by OTs
- My background – psychology, psychology lab, worked for a neuropsychologist as psychometrist in a healthy aging program
- Really want to talk about this with other OTs!!!
Disclaimer

- Even though I’m doing a presentation about a paper-based test... I am still all about FUNCTION.
- Nothing is as informative as seeing someone *do* something!
Why?

- Verbal reasoning subtest often used alone
- Easy-to-administer with cutoff score
- But functional?
- But how do you rationalize when there are differences in “score” and “function”
Objectives

- To provide a very brief background on the CCT.
- To discuss the value in analyzing the quality of the client’s performance with the actual verbal reasoning score, and how this can provide meaningful information.
- To provide case examples of how the picture interpretation subtest can relate to the verbal reasoning subtest, and what this could mean functionally.
- To pose other questions around the verbal reasoning subtest (e.g., how it compares to the Independent Living Scales subtest on Managing Health and Safety).
Ultimately...

- To spark interesting discussion and contribute to our *confidence* in how we select and use screening and assessment tools, in concert with actual functional assessments.
“Occupational therapists commonly assess cognitive capacities such as memory, attention, and problem solving when working with older adults. Results of cognitive assessments provide critical information used to determine safety for independent living, driving ability and eligibility for a variety of services... OTs commonly use standardized screening measures such as the Mini Mental Status Exam or the Montreal Cognitive Assessment. Interpretation of scores beyond the limits of the data to support them can result in unethical health care, including incorrect identification of dementias and incorrect decisions about driver’s licenses or placement.”

Alison Douglas, PhD, OT Reg(Ont)
Summit on Aging, OSOT, 31 October 2009
Super duper fast background

- Cognitive Competency Test
  - Familiar
  - Used across Canada (Alison Douglas et al., 2007)
  - “Standardized” for older adults, with “norms”
  - Has some construct validity, correlations with other clinical measures (e.g., MMSE) (Briana Zur, 2011)
About the CCT

- Described by its developers as an assessment tool that attempts to measure cognition in relation to everyday living, and was designed to close a gap between psychological assessment and everyday functioning (Wang, 1990; Wang & Ennis, 1986).
- “an ability to know and to make use of knowledge” (Wang, Ennis, & Copland, 1987. p. 1)
- “incorporates the concept of multidimensionality of cognitive skill and adopts a practical approach by simulating daily living skills” (Wang & Ennis, 1986, p. 120)
  - Face validity
What others have said about the test

- Douglas et al., 2007 – Critical review of cognitive assessments for older adults
- Zur, 2011 – Assessment of occupational competence in dementia: Identifying key components of cognitive competence and examining the validity of the Cognitive Competency Test
- Debbie McQuillen
  - 19 June 2012 - Assessment of cognition in seniors: Are you assessing what you think you are? Choosing assessment tools
    - Functional assessments of cognition (CCT, ILS, AMPS)
    - “Bad” vs. “good” score
    - Can they do what they say they’d do?
      - Ask the question, follow it with functional activity
      - Medication, money, safety (calling superintendent, etc.)
What others have said about the test

- Debbie McQuillen
  - 15 Jan 2013 - Assessing cognition in seniors: Making sense of the numbers (beyond the cut off scores)
  - April 2013 – 2 day CAOT workshop on cognition in Halifax
    - Functional
    - Subsections stand alone
    - Cultural bias
    - Outdated
What others have said about the test

- Sylvia Davidson
  - 26 June 2012 – Occupational therapists and their role with older adults: The generalist as specialist?
    - Occupational therapists have *the knowledge and the skills* to be experts in the care of older adults
    - We can *build the relationships* we need to be effective leaders in the care of older adults
    - We can inspire others with our *passion* and our *vision*!
    - “Function trumps numbers”
Test administration/scoring
(a few tips and common errors)

- **Client**: Hearing, vision, language, fatigue, medication, position, comfort, cultural background, mental status, time of day
- **Administrator**: Tone of voice, speed of speech, position, rapport
- Generally encouraging, but not correcting
  - Avoid: “That’s right!”
  - Ok: “You’re doing just fine”
- Always introduce
- Sometimes you just have to cut them off...
Test administration/scoring
(a few tips and common errors)

- LOOK IT UP
  - Not good enough to go by “feel”
- Know how many times you can cue!
- Appropriate cues:
  - “Tell me more”; “Anything else”
  - Repeating the question (as often as necessary)
- Inappropriate cues:
  - “Who would you call?”
- Try to maintain standardized approach.
- But can ask supplemental questions (but note this)
Test administration/scoring
(a few tips and common errors)

- Scoring:
  - Specific examples are given
  - Not cover everything
  - Refer to general guidelines on scoring
    - Grasps idea
    - Safety for self or others
    - Appropriate situational priorities
    - Social convention/considerations
Test administration/scoring
(a few tips and common errors)

• Some common issues/questions
  • #2 – During a very bad winter storm, your electric power goes out and you know it will be out for a very long time, what will you do?
    • Light, lamp, lantern, flashlight
    • 1 point?
  • #6 – What would you do if you saw thick smoke coming from under your neighbour’s door?
    • Break down the door and save them
    • 1 point?
  • #10 – prioritizing urgent household tasks
    • I’d throw out the cup and call the electrician.
Quantitative vs. qualitative interpretation

- Content
  - What are they saying
  - Are they even talking about the situation?
  - Do they demonstrate understanding of the situation?
- Context
  - Where do they live?
  - What supports do they have?
  - What is their life experience?
Quantitative vs. qualitative interpretation

- CCT IS JUST A SCREEN!!
- Discussed with neuropsychologists
- Modifications to questions
- Note all cues
Qualitative interpretation

- Helpful observations to make while administering
  - **Participation** – cooperative, etc.
  - **Tangentiality** – “One time, the road was really slippery but I had just put on winter tires. Man, they really need to plow the streets better…”
  - **Concrete** – “I don’t smoke.” “We don’t use gas.” “No one would break into our home.”
  - **Perseverative** – If found door open: “I’d check for smoke and fire.”
  - **Risk-taking** – If there was smoke coming from my neighbour’s door: “I’d kick down the door and drag my neighbour out.”
  - **Vague** – “You just always have to do the right thing… and make sure you contact someone!”
  - **Knowledge** – “I don’t know. My husband takes care of all that.”
  - **Word-finding** – If power out during winter storm: “Make sure I have enough round things.”
  - **Need for cues** – indicates need for prompting/support
  - **Need for question to be repeated** – attention? memory?
8. If you have an appointment at 12:00 and it will take at least an hour to get there, at what time will you leave home?*

9. It is a cold winter day and the streets are very slippery, but you find that you are out of bread and fresh food. What could you do?

10. It has been a tough day for you. The light bulb in the bathroom burned out, you chipped a cup, and you find that your fridge is not working. What is the most important (most serious) thing you should take care of?  
What is the second?  
The third thing is  

Q = cue; C = concrete; P = perseveration; V = vague; T = tangential; WF = word-finding; RT = risk-taking

Verbal Reasoning Subtest VII of the Cognitive Competency Test. *Question 8 modified in consultation with neuropsychologist.

Interpretation tips – reporting

- What I used to write:
  - Where they lost their points
  - Some qualitative observations
  - Client’s score 11/20 is in the impaired range of the verbal reasoning subtest of the Cognitive Competency Test, which suggests client does not have adequate verbal reasoning/problem solving skills in safety situations.
Interpretation tips – reporting

- What I write now:
  - Indicated knowledge in 8/10 safety situations presented
  - Able to identify at least 1 appropriate action in 9/10 situations presented
  - Qualitative observations with examples
  - Suggestive of being able to manage common/familiar situations
  - Impaired score suggests client may have difficulty with unfamiliar/more complex situations
Interpretation tips – discrepancies

- Explaining to team/families ****HELPFUL!
  - High score, but poor performance functionally (e.g., issues with meal prep, personal care)
    - Verbal reasoning is strongly weighted on VERBAL skills.
    - High score demonstrates client’s knowledge/intelligence and verbal skills, which is why they may present as seeming alright
    - Functional assessments more telling (can’t “walk the walk”…)
  - Impaired score, but good performance functionally
    - Look at quality, context of the responses
    - One lady scored 9/20 on verbal reasoning
      - Intellectual disability; staff in apartment building and very strong social/formal supports
      - Safe behaviours, awareness/insight
      - Responses were appropriate to her context/environment!
Picture interpretation... really?

- Neuropsychologist who used it with difficult case
  - Someone who scored “high” on everything
  - Completed functional assessments well (ADLs and IADLs)
  - But team and family still had questions based on his personal history
- Examples of individuals who’ve scored in normal range of VR, but then bomb the PI... what??
Picture interpretation... really?

- Present pictures and ask them “Tell me what is happening in this picture”
  - Concrete/perceptual elements vs. inferential statements
  - BE CAREFUL OF SCORING!
- Interpretation
  - “Such cognitive skills are necessary prerequisites for appropriate social interaction.” (CCT)
  - Client had difficulty interpreting cues in the social and physical environment. This raises concerns about client’s ability to appropriately interpret a social or safety situation.
What is happening in this picture?
Case #1

- Mr. JC
  - VR – 16/20
    - If bad winter storm, power out – go to a friend’s or down to the store, see why I have no power, put on all my clothes to be warm
    - Risk-taking actions – break down the door and save them
  - PI – 4/10
    - Man fixing the wheel, car is for sale
    - Guy swimming, dog, barn, trees, road, bridge, guy diving, guy holding onto something
  - Personal care – “inappropriate sequencing,” not wash everywhere
  - Great phone skills... (phoned nursing unit when roommate needed help)
  - Money management – unable to name income, describe how he pays bills, name his bank
  - Meal prep – AMPS process was -0.43 (well below cutoff)
    - Forgot to make toast
    - Kettle whistling and steaming for 4+minutes
  - History – living on own, unpaid bills, decreased hygiene, disorganized home
Case #2

- Mr. DJ (diplomat)
  - VR – 14/20 – even though impaired, score was “inflated”
    - +++tangential
    - +++perseveration (on fire)
    - Disoriented (place and time)
  - PI – 3/10
    - Details, details, but never the big picture
    - Misinterpreted concrete elements, too
  - Personal care – needed supervision/cuing
  - Money
    - Good math, reading price tag
    - Unable to name coins
    - “This is a kind of goose or a duck”
    - Absolutely not able to give any current details
    - Lots of irrelevant information (number of branches across Canada)
  - History – Worked in embassies mainly in Asia; poor hygiene; living alone; sister in BC; reclusive and eccentric; home incredibly dirty (sister found dead cat)
Future clinical questions to answer...

- How does VR score compare with...
  - Diagnoses?
  - ILS – managing health and safety subtest?
    - Data collection initiated
  - AMPS process score?
  - Picture interpretation?
Take home...

- Be confident
- Be client-centred
- Be contextual (always “depends” on something... 😊)
- Don’t throw it out – it’s still useful
- It’s JUST A SCREEN!!! Never let any single test be the sole basis for diagnosis and discharge.
  - Interdisciplinary
  - Functional abilities, social network/environment are more important for discharge
- Combine standardized assessments with direct observation and clinical reasoning
Take home...

“A test isn’t smarter than the person using it.”

- Dr. Yves Turgeon, neuropsychologist
“You’re not leaving the house like that. You need to comb your hair. And you’ve got your shoes on backward.”
“Still, let’s do an x-ray just to be sure.”
References


References


Special thanks to consulting neuropsychologists!

- Dr. Yves Turgeon
- Dr. Elizabeth Minerva Moore
Discuss!!

Thank you!

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