Cognition:

Predictive Value of the **Cognitive Performance Test** (**CPT**) for Staging Function and Fitness to Drive in People With Neurocognitive Disorders

Burns, T., Lawler, K., Lawler, D., McCarten, J.R., & Kuskowski, M. (2018)

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What evidence based assessments do we use to **predict** IADL/ADL performance?

- Often therapists favor
  - non-standardized assessment methods
  - adapt assessments to meet their own needs
  - fail to follow assessment protocol.
- Why?
  - Therapist skill level, lack of time, lack of support from management, and personal values and beliefs (Wales et al., 2012).

Why the **CPT** & Why this Article?

- By an OT practitioner and for OT practitioners
- Provides evidence based assessment and practice model for intervention in driving and all IADLS and ADLS and is mediated by client factors
- CPT score of **<4.7/5.6** predicted failure on road exam **89%** of time & **75%** predicted success on road exam
- Provides valid prediction of client's ADL and IADL competency & level of support indicated
  - Medication, driving, hot meal prep, emergency response, money, etc.
- Avoids generic recommendations such as:
  - Mrs. Smith needs "**24/7 care"**

What is the **Cognitive Performance Test** (CPT)?

- Performance based assessment
- Reliability & validity established (Burns et al., 1994)
- Findings can be generalized to real world performance
- Predicts real world functioning
- Links function & cognition in the performance of daily life

CPT consists of 7 subtasks

- Medbox, Shop, Toast, Phone, Wash, Dress, Travel
- task cues and working memory requirements are systematically varied.
- differs markedly from traditional occupational therapy assessments, which highlight specific tasks that clients can or cannot perform.
- All subtasks are administered in one 45-minute session, in a private clinic setting with required environmental properties and standardized props.

Administration FAQ

- Each subtask is rated with a performance-level score (i.e., 6, 5, 4.5, 4, 3.5, 3, 2)
- Test is ended as soon as the performance score is identified.
- Common misconception is that the task needs to be finished, as in completing an ADL, before it can be scored.
- The total CPT score represents an average of subtask scores and is interpreted within its half-level profile system

How Does CPT Compare…?

- MMSE, MoCA?
  - provide diagnostic utility
  - severity level
  - Do not fully address functional implications especially in mild to moderate stage disease

Tell Me Again – What is the CPT?

- "*The CPT is a* ***standardized performance-based*** *assessment used to explain and predict the client's* ***capacity to function*** *in various contexts and guide intervention plans*" (CPT; Burns, 2018)

- Tracks severity of cognitive functional disability (baseline, serial)
- Top down approach to analyzing function, relies on observation of performance in everyday tasks to ascertain cognitive abilities

In Other Words, the CPT

- "Examines **cognitive integration** with **functioning in an IADL environmental context**, and…
- Rates executive control function,
  - the group of cognitive processes that mediate goal-directed activity"(Levy & Burns, 2011)

So What Does This Have To Do With Driving?

- Driving requires integration of complex cognitive resources: attention, planning, multitasking, divided attention to cues
- The CPT assess these same cognitive performance skills

What Did The Study Find?

Burns, T., Lawler, K., Lawler, D., McCarten, J. R., & Kuskowski, M. (2018). Predictive value of the Cognitive Performance Test (CPT) for staging function and fitness to drive in people with neurocognitive disorders. *American Journal of Occupational Therapy, 72*, 7204205040. https://doi.org/10.5014/ajot.2018.027052

CPT

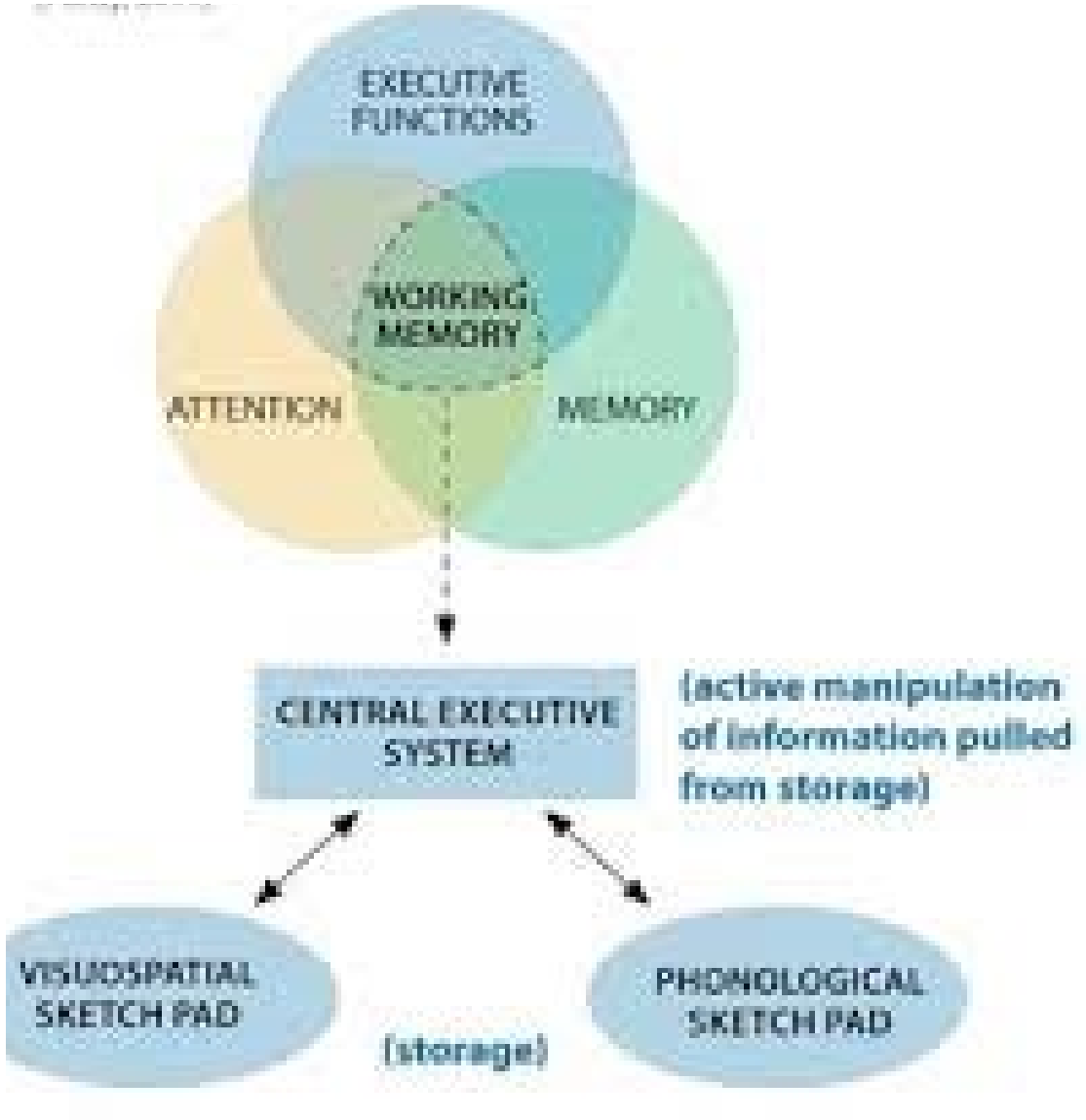
- Correctly classified mild vs. major neurocognitive disorder
- Cutoff score of **<4.7/5.6** showed 89% sensitivity for failing road exam & 75% ability to pass
- Better predictive value for fitness to drive that conventional cognitive measures

MMSE, MoCA, LACLS

- Did **not** differentiate the groups

I’m interested…Tell Me More…

- **7 subtasks**: Medbox, Shop, Phone Travel, Wash Toast, Dress
- All measure the same construct: **working memory & executive control functions** (e.g., task planning, problem solving, divided attention, new learning)



Administration – OBSERVE "Patterns"

- OT systematically varies tasks cues & working memory requirements to assess ordinal levels of functional cognition

Table 3: Performance Patterns by CPT Score

CPT Task Score	CPT Task Performance Patterns
6 or 5/5	The client demonstrates efficient & error-free execution of the task.
5 out of 6	The client is able to process multiple written, verbal, visual, and contextual cues, but with relatively mild working memory/executive function impairments they may be slow, inefficient, impulsive, or make overt errors they can correct.
4.5 or 4.0	Executive Dysfunction manifests in testing: The client cannot act on multiple task details and contextual directions without task reductions and cues. Although the person retains the main goal of each task, they cannot pay simultaneous attention to the details, nor inhibit the distracter props. Semantic memory impairment interferes here.

Rating? = CPT Cognitive **Functional Profiles**

Characteristics of Functional Cognition

- **5.6 Intact** IADLs performance. May have other cognitive or behavioral concerns. 5.0 Mild functional decline. Difficulties may or may not manifest in IADL. Check-in support or assistance with IADLs is considered. ADLs typically show no change.
- **4.5 Mild to moderate** functional decline. Difficulty with divided attention and solving problems. Complex tasks are performed with inconsistency or error. With IADLs, the person struggles to manage the details. ADLs may show decline in ability to self-initiate. Independent living poses risk for mismanaging meals, finances, medications, and co-morbidities. Driving poses safety risks. IADLs assistance and/or in-home assistance is needed. Assisted living environments provide a good fit.
- **4.0 Moderate functional decline**. IADLs need to be done by others. ADLs are remembered but the quality declines. The person benefits from daily structure and simple routines. Hazardous activities require supervision or restriction. The person is not safe to live alone.

Take Away Message

- The CPT provides a standardized clinical assessment process for determining evidence-based profiles for intervention.
  - For more information, see the 2018 CPT manual (Burns, 2018).

Don’t Stay in the “24/7” Fallacy

- Join WOTA Cognition SIS
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- Will send info. To WOTA membership
- Welcome all abilities and interests