A4 / LEARN Computerized Cognitive Composite (C3) Methods

The Computerized Cognitive Composite (C3) includes tasks from the CogState battery (Darby et al. 2011; Lim et al. 2012a) aimed at measuring processing speed, working memory, visual navigation, and executive function. and 2 investigator-developed sensitive episodic memory probes of hippocampal function (Sperling et al. 2003; Rentz et al. 2010; Stark et al. 2010). Cognitive function was assessed using the Memory Complaint Questionnaire (MAC-Q) and the C-Path PRO. The MAC-Q (Reid et al. 2012) is a brief measure of subjective memory complaint in people with normal cognitive function. The CPath PRO Questionnaire consists of questions asking for the participant's self-assessment of current ability to perform cognitive activities and interpersonal interaction.

The following files contains the results of the C3 assessments that were collected by Cogstate:

	Filename	File label
1	cogstate_battery.csv	Cogstate - Computerized Battery
2	cogstate_cpath.csv	Cogstate - Critical Path Institute: Activities of Daily Living
3	cogstate_macq.csv	Cogstate - Memory Complaint Questionnaire

1. Computerized Battery Specifications

The information of each test code (TCode) and it's recommended primary outcome variable is provided below:

TCode	Cogstate Test	Cognitive Domain	Primary Outcome Variable	Interpretation
BPET	Behavioral Pattern Separation Object Test: Encoding	Recognition memory	(Encoding test only)	
BPXT	Behavioral Pattern Separation Object Test: Explicit (Old, Similar, New)	Recognition memory	metric	Higher score = better performance
DET	Detection Test	Psychomotor Function	lmn	Lower score = better performance
FNFT	Face Name Associative Memory Exam: Encoding (Name Fits)	Associative Memory	(Encoding test only)	
FSBT	Associative Memory	Face Name Associative Memory Exam: Facial Recognition (Face Seen Before)	cor	Higher score = better performance
FNLT	Face Name Associative Memory Exam: Free Recall (1st letter of name)	Associative Memory	cor	Higher score = better performance
FNMT	Face Name Associative Memory Exam: Name Recognition (Face-Name Matching)	Associative Memory	cor	Higher score = better performance
IDN	Identif ication Test	Attention	lmn	Lower score = better performance
OCL	One Card Learning Test	Visual Learning	acc	Higher score = better performance
ONB	One Back Test	Working Memory	lmn	Lower score = better performance
ONB	One Back Test	Working Memory	acc	Higher score = better performance

2. Critical Path Institute: Activities of Daily Living (C-PATH) Specifications

C-PATH includes a 26-item questionnaire that subjectively assesses impairment of memory and its impact on an individual's ability to function independently. The outcomes include:

Scale Outcome	Scoring	Interpretation
Complex Activities of Daily Living Score (CADL)	Sum of items 1 through 16	Lower score = Higher level of Complex Activities of Daily Living functioning
Interpersonal Functioning Domain Score (IF)	Sum of items 17 through 26	Lower score = Higher level of Interpersonal Functioning
Total Activities of Daily Living Score	Sum of items 1 through 26	Lower score = Higher level of Daily Living functioning

3. Memory Complaint Questionnaire (MCQ) Specifications

MCQ includes a six-item set of questions that subjectively assess age-related memory decline.

Scale Outcome	Scoring	Interpretation
Total	Sum of items 1 through 6	Lower score = less subjective memory decline

References

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Stark SM, Yassa MA, Stark CE. Individual differences in spatial pattern separation performance associated with healthy aging in humans. *Learn Mem*. 2010;17(6):284-288.