COGITO's Cognitive Cubes

<table>
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<tr>
<th>Verbal</th>
<th>Numerical</th>
<th>Figural/Spatial</th>
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<tr>
<td>Perceptual Speed</td>
<td>Comparison tasks</td>
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<td>Choice reaction tasks</td>
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<tr>
<td>Episodic Memory</td>
<td>Word memory</td>
<td>Number memory</td>
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<td>Object position memory</td>
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<td>Working Memory</td>
<td>Alpha Span</td>
<td>Memory Updating</td>
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<td>N-Back</td>
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- Younger & older adults
- 12 cognitive tasks
- 100 daily sessions

Schmiedek, Lövdén, & Lindenberger (2013; Psychological Science)
COGITO’s Self-report Cubes

Before cognitive tasks:
Mood/Affect: PANAS & Happiness
Sleep: quality & quantity
Health: constraints of daily activities
Events: 8 event categories (DISE) + others
Stress: perceived stress & control
Coping: rumination, self-regulation, distraction, reappraisal, suppression, avoidance, planning
Task-related motivation

After cognitive tasks:
Evaluation of performance
Distraction
Enjoyment & effort

Brose, Schmiedek, Lövdén, Molenaar & Lindenberger (2010)
Brose, Schmiedek, Lövdén, & Lindenberger (2011, 2012)
COGITO's Cognitive Baseline Measures

101 Younger & 103 older adults

Cognitive pretest

Intensive assessment of 12 daily tasks:
→ Varying presentation times for working/episodic memory

Transfer tasks:
Reasoning (13)
Episodic memory (10)
Working memory updating (3)
Working memory complex span (3)
Processing speed (13)
Vocabulary (1)
COGITO’s Self-report Baseline Measures

**Personality:**
- Big Five
- Self efficacy
- Control beliefs
- Self regulation
- Emotion regulation
- Affect intensity

**Well-being/Health:**
- Life satisfaction
- Affective well-being
- Psychological well-being
- Depressive symptoms
- Physical symptoms
- Major illnesses
- Alcohol consumption
- Information on chronotype, seasonality

**Stress:**
- Major life events
- Perceived stress
- Chronic stress
- Coping
COGITO’s Posttest

Posttest: Repetition of cognitive pretest + different self-report scales:
- Physical activity
- Social and cultural engagement
- Personal interests
- Social support
- Goal pursuit & adjustment
- Screening of psychopathological symptoms
- Typical intellectual engagement
- Beliefs about memory

Study evaluation: enjoyment, motivation, strategy use
COGITO’s 2-year follow-up

Follow-up: Repetition of cognitive pretest + partly different self-report scales:
- Self-esteem
- Social support & integration
- Health behaviors

Wolff et al., 2013
COGITO‘s 2-year follow-up

Follow-up:
10 additional sessions with daily protocol + self-report questions on social support + assessment of subjective and objective physical fitness

Wolff et al., 2013
COGITO’s Control groups

Control groups:
Same pretest/posttest/follow-up with comparable time delays between occasions

44 Younger & 40 older adults
COGITO’s Neuroscience

EEG
- Resting state
- Two-choice tasks

(f)MRI
- Hand-traced regions
- Memory updating
- Paired associated
- Two-choice decision

Younger & older adults
N = 30
N = 24
N = 28
N = 25
N = 15
N = 13
N = 12
N = 10