Correlations between Neuropsychological Performance and Functional Measures: Preliminary Findings from the Novel Cognitive and Functional Measure for Alzheimer's Disease Prevention Trials (NoMAD)

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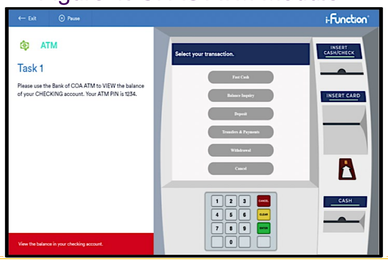
A set of novel cognitive measures yields three main cognitive domains, all of which correlate strongly with a set of new, computerized functional measures. Thus, these neuropsychological measures may accurately detect functional difficulties.

INTRODUCTION

Accurately detecting cognitive and functional decline in preclinical adults is critical in clinical trials assessing potential treatment of Alzheimer's disease (AD).

Aims: The No Practice Effects (NPE) cognitive battery and the Miami Computerized Functional Assessment Scale (CFAS) were developed to have robust psychometric properties and resistance to practice and ceiling effects. We aim to examine cognitive domains within the NPE and evaluate their relationships with CFAS functional measures.

Figure 1. CFAS ATM Module



METHODS

Sample: Fifty-one cognitively normal or early mild cognitive impairment (eMCI) older adults (mean age 69.44 ± 6.29, 65.30% female)

Setting: NYSPI/CUIMC, USC Keck, University of Miami, Feinstein Institutes for Medical Research

Measures: NPE: N-Back Task, Simple and Executive Letter Number Span, Brown-Peterson paradigm, Digit Symbol Coding, Verbal Fluency, Word Recognition Memory Test (RMT)

CFAS: ATM, Online Banking, Metro/Bus Ticket Kiosk, and Medication Management modules

Statistical Analysis: Exploratory factor analysis to identify different cognitive domains within the NPE; Computed a composite score for each domain and conducted partial Spearman correlations with CFAS functional measures

RESULTS & CONCLUSIONS

Figure 2. Factor Analysis of NPE

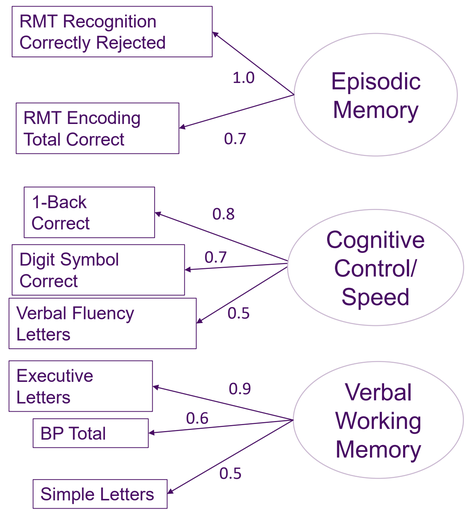
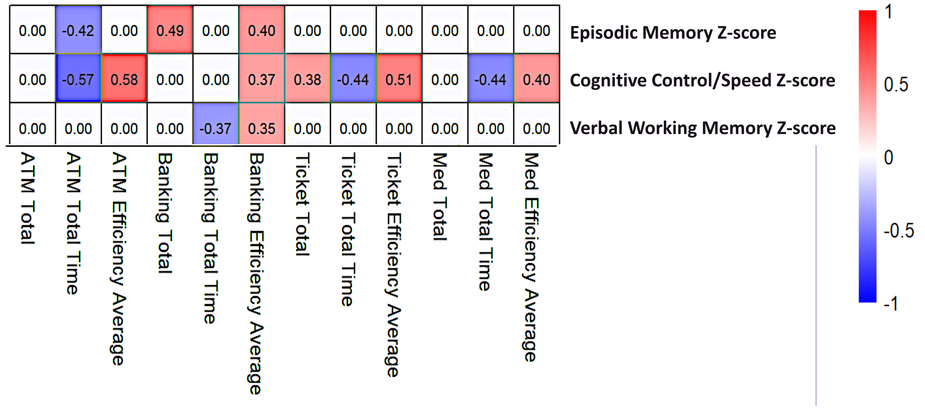


Figure 3. Correlation between NPE composites and CFAS



- The factor analysis yielded 3 cognitive domains within the NPE
- Cognitive domains were associated with faster completion time and efficiency on most CFAS functional measures
- Neuropsychological measures in the NPE may identify functional decline in the preclinical stages of dementia

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