

a clinical setting. This study investigated the degree to which processing speed explains the relationship between immediate/delayed memory and adaptive functioning in patients diagnosed with mild and major neurocognitive disorders using an objective measure of adaptive functioning.

**Participants and Methods:** Participants (N = 115) were selected from a clinical database of neuropsychological evaluations. Included participants were ages 65+ (M = 74.7, SD = 5.15), completed all relevant study measures, and were diagnosed with Mild Neurocognitive Disorder (NCD; N = 69) or Major NCD (N = 46). They were majority white (87.8%) women (53.0%). The Texas Functional Living Scale was used as a performance-based measure of adaptive functioning. The Coding subtest from the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS-CD) was used to measure information processing speed. Composite memory measures for Immediate Recall and Delayed Recall were created from subtests of the RBANS (List Learning, Story Memory, and Figure Recall) and the Wechsler Memory Scale-IV (Logical Memory and Visual Reproduction). Multiple regressions were conducted to evaluate the importance of memory and information processing speed in understanding adaptive functioning. Age and years of education were added as covariates in regression analyses.

**Results:** Significant correlations ( $p < .001$ ) were found between adaptive functioning and processing speed (PS;  $r = .52$ ), immediate memory (IM;  $r = .43$ ), and delayed memory (DM;  $r = .32$ ). In a regression model with IM and DM predicting daily functioning, only IM significantly explained daily functioning ( $r_{sp} = .24$ ,  $p = .009$ ). A multiple regression revealed daily functioning was significantly and uniquely associated with IM ( $r_{sp} = .28$ ,  $p < .001$ ) and PS ( $r_{sp} = .41$ ,  $p < .001$ ). This was qualified by a significant interaction effect ( $r_{sp} = -.29$ ,  $p = .001$ ), revealing that IM was only associated with adaptive functioning at PS scores lower than the RBANS normative 20th percentile.

**Conclusions:** Results suggest that processing speed may be a more sensitive predictor of functional decline than memory among older adults with cognitive disorders. These findings support further investigation into the clinical utility of processing speed tests for predicting functional decline in older adults.

**Categories:** Neurodegenerative Disorders

**Keyword 1:** adaptive functioning

**Keyword 2:** information processing speed

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## 50 Effects of Cerebrovascular Risk Factors and Alzheimer's Disease Pathology on Executive Function and Memory Changes: Analysis of the National Alzheimer's Coordinating Center Cohort

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**Objective:** A common assumption in clinical neuropsychology is that cerebrovascular risk is adversely associated with executive function, while Alzheimer's disease (AD) primarily targets episodic memory. The goal of the present study was to determine the cross-sectional and longitudinal validity of these assumptions using validated markers of cerebrovascular and AD burden.

**Participants and Methods:** 19271 longitudinally-followed participants from the National Alzheimer Coordinating Center (NACC) database (Mean age= 72.25; SD age= 10.42; 58% women; 51.6% CDR= 0, 33.7% CDR= 0.5, 14.7% CDR $\geq$  1) were included. Cognitive outcomes were a composite memory score and an executive function composite score (UDS3-EF; Staffaroni et al., 2020). Baseline presence of cerebrovascular disease was indexed by the presence of moderate to severe white matter hyperintensities or lacunar infarct on brain MRI (yes/no), while baseline AD pathology was indexed by the presence of a positive amyloid PET scan or elevated CSF AD biomarkers (yes/no). We used linear mixed effect models to assess the effects of baseline cerebrovascular disease, baseline AD pathology, and their interactions with time in study (years post baseline) controlling for baseline age, sex, education, and baseline MoCA score.

**Results:** Baseline cerebrovascular disease was significantly associated with a lower intercept on

executive functioning (between-person effect) ( $p < -0.001$ , 95% CI -0.37, -0.14) but not memory, while presence of AD biomarkers was associated with a lower memory intercept ( $p < -0.001$ , 95% CI -0.52, -0.39) but not executive function. However, only presence of AD pathology at baseline was associated with faster longitudinal decline on both memory and executive functioning over time. Baseline cerebrovascular disease did not independently relate to rate of cognitive decline.

**Conclusions:** Consistent with widely held assumptions, our between-person analyses showed that MRI evidence of cerebrovascular disease was associated with worse executive functioning but not memory, while biomarker evidence of AD pathology was associated with worse memory but not executive function. Longitudinally, however, AD is the primary driver of decline in both executive and memory function. These results extend our understanding of how pathology impacts cognition in aging cohorts and highlight the importance of using longitudinal models.

**Categories:** Neurodegenerative Disorders

**Keyword 1:** cerebrovascular disease

**Keyword 2:** cognitive functioning

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## 51 Feasibility of Remote Administration of a Modified UDsv3 Cognitive Battery

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**Objective:** Face-to-face administration is the “gold standard” for both research and clinical cognitive assessments. However, many factors may impede or prevent face-to-face assessments, including distance to clinic, limited mobility, eyesight, or transportation. The COVID-

19 pandemic further widened gaps in access to care and clinical research participation. Alternatives to face-to-face assessments may provide an opportunity to alleviate the burden caused by both the COVID-19 pandemic and longer standing social inequities. The objectives of this study were to develop and assess the feasibility of a telephone- and video-administered version of the Uniform Data Set (UDS) v3 cognitive batteries for use by NIH-funded Alzheimer’s Disease Research Centers (ADRCs) and other research programs.

**Participants and Methods:** Ninety-three individuals ( $M$  age: 72.8 years; education: 15.6 years; 72% female; 84% White) enrolled in our ADRC were included. Their most recent adjudicated cognitive status was normal cognition ( $N=44$ ), MCI ( $N=35$ ), mild dementia ( $N=11$ ) or other ( $N=3$ ). They completed portions of the UDsv3 cognitive battery, plus the RAVLT, either by telephone or video-format within approximately 6 months ( $M$ :151 days) of their annual in-person visit, where they completed the same in-person cognitive assessments. Some measures were substituted (Oral Trails for TMT; Blind MoCA for MoCA) to allow for phone administration. Participants also answered questions about the pleasantness, difficulty level, and preference for administration mode. Cognitive testers provided ratings of perceived validity of the assessment. Participants’ cognitive status was adjudicated by a group of cognitive experts blinded to most recent in-person cognitive status.

**Results:** When results from video and phone modalities were combined, the remote assessments were rated as pleasant as the in-person assessment by 74% of participants. 75% rated the level of difficulty completing the remote cognitive assessment the same as the in-person testing. Overall perceived validity of the testing session, determined by cognitive assessors (video = 92%; phone = 87.5%), was good. There was generally good concordance between test scores obtained remotely and in-person ( $r = .3 - .8$ ;  $p < .05$ ), regardless of whether they were administered by phone or video, though individual test correlations differed slightly by mode. Substituted measures also generally correlated well, with the exception of TMT-A and OTMT-A ( $p > .05$ ). Agreement between adjudicated cognitive status obtained remotely and cognitive status based on in-person data was generally high (78%), with slightly better concordance between video/in-person (82%) vs phone/in-person (76%).