

behavioral, and health data using online neuropsychological tests and self- and study-partner report surveys. BHR participants who opted to learning about additional research opportunities were sent automated email invitations to enroll in the MTB study. Those who indicated study interest were provided instructions within the BHR online portal for downloading the MTB app. All participants had the opportunity to complete a single baseline administration of MTB (Word Meaning, Sequences, Spelling, Arranging Pictures, Arrow Matching, Faces and Names, Shape-Color Sorting, Number Match). Those who completed the baseline assessment within three days were invited to continue into the longitudinal study, where they complete MTB assessments at a single, short-term timepoint (day 7, 14, or 21; study arms sequentially assigned), and then at 6-month intervals. Enrollment across demographic groups was monitored, and study invitations were sent to specific demographic groups, with the goal of enrolling a sample of 800 participants in the longitudinal study: equal distribution across eight, 10-year age bands (ages 18-80+); 60% with <16 years of education; 10% non-Latinx Black, 15% Latinx, and 5% non-White other ethnocultural identity.

**Results:** Between January-June 2022, 48,110 BHR participants were invited to the MTB study. Of those, 8294 (17%) expressed interest, 3401 (7%) completed the baseline assessment, 850 (1.8%) were assigned to the longitudinal study, and 782 (1.6%) completed a short-term longitudinal assessment. Study staff received 797 help tickets submitted by participants asking for email support to complete MTB. The baseline cohort had an average age of 64 years and an average of 16.6 years of education, 76.2% female, 2.1% non-Latinx Black, 7.1% Latinx, 86.8% non-Latinx White, and 4% from other ethnocultural groups. The longitudinal cohort had an average age of 62.3 years and an average of 16.1 years of education, 80% female, 2.8% non-Latinx Black, 8.5% Latinx, 83.5% non-Latinx White; and 5% other ethnocultural group. Compared to those invited to the study, those who enrolled in the longitudinal study were older, had higher educational attainment, and were more likely to be female and self-identify as non-Latinx White ( $p < 0.05$  for all).

**Conclusions:** Efficient enrollment and task completion of a large cohort in a novel, app-based mobile cognitive assessment is feasible in a completely remote setting. Most participants

were able to complete MTB without individual support, indicating good usability. This approach can be scaled up to efficiently assess cognition in many research and healthcare settings. A remaining challenge is achieving robust ethnocultural and educational diversity.

**Categories:**

Assessment/Psychometrics/Methods (Adult)

**Keyword 1:** diversity

**Keyword 2:** normative data

**Keyword 3:** neuropsychological assessment

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#### 4 Continuum of Measurement: Reviewing the Advantages and Disadvantages of Self-Administered Remote Cognitive Tests and Their Examiner Administered Alternatives

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**Objective:** To describe advantages and disadvantages of using digital assessments remotely and in-person to inform clinical and research practice.

**Participants and Methods:** As part of a larger study, 1120 adults completed a battery of remotely administered tests (Mobile Toolbox) and a subset of this sample completed examiner administered in-person testing (NIH Toolbox® Cognition Battery). Attention was given to making the sample reflective of the US 2020 Census during participant recruitment. Of the 1120 participants, the majority of the sample were female (57%) and Caucasian (72%) and had a mean age of 45 (SD = 21). In terms of education, equal percentages had high school (34%) or some college (34%).

**Results:** NIH Toolbox cognitive tests of processing speed, language, executive function, attention, and episodic memory were administered via a trained examiner and correlates of these tests were self-administered remotely via a smartphone. Using examples, we will show which aspects of cognitive assessment had the best correlations between remote self-administration and face-to-face examination and which had lower correlations.

**Conclusions:** Digital remote assessments can help overcome barriers by enabling repeated testing in naturalistic conditions, reducing participant burden and expense, and increasing research accessibility for populations currently under-represented. Moreover, the ubiquity of internet-connected devices vastly increases opportunities to remotely monitor other dimensions relevant to cognition using smartphone apps and wearable sensors. In addition to improving access to testing, digitally administered assessments dramatically improve some individual's tolerance to testing with shorter tests that can be administered via computer adaptive testing (CAT). Despite these benefits, some aspects of the cognitive assessment cannot be adequately replicated remotely and thus yield lower correlations to their examiner-administered alternatives. Clinical and research implications are discussed.

**Categories:**

Assessment/Psychometrics/Methods (Adult)

**Keyword 1:** cognitive functioning

**Keyword 2:** assessment

**Keyword 3:** teleneuropsychology

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**Paper Session 17: Aging topics: section 3**

9:00 - 10:30am

Saturday, 4th February, 2023

Town & Country Ballroom D

Moderated by: Sarah Banks

**1 Associations between social determinants of health and 10-year change in everyday functioning within Black and White older adults from the ACTIVE study**

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**Objective:** Social determinants of health (SDoH) are structural elements of our living and working environments that fundamentally shape health risks and outcomes. The Healthy People 2030 campaign delineated SDoH into five distinct categories that include: economic stability, education access/quality, healthcare access, neighborhood and built environment, and social and community contexts. Recent research has demonstrated that minoritized individuals have greater disadvantage across SDoH domains, which has been linked to poorer cognitive performance in older adulthood. However, the independent effects of SDoH on everyday functioning across and within racial groups remains less clear. The current project explored the association between SDoH factors and 10-year change in everyday functioning in a large sample of community-dwelling Black and White older adults.

**Participants and Methods:** Data from 2,505 participants without dementia enrolled in the Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE) study (age M=73.5; 76% women; 28% Black/African American). Sociodemographic, census, and industry classification data were reduced into five SDoH factors: economic stability, education access and quality, healthcare access and quality, neighborhood and built environment, and social and community contexts. The Observed Tasks of Daily Living, a performance-based measure of everyday functioning with tasks involving medication management, finances, and telephone use, was administered at baseline, 1-, 2-, 3-, 5, and 10-year follow up visits. Mixed-effects models with age as the timescale tested (1) racial group differences in OTDL trajectories, (2) race x SDOH interactions on OTDL trajectories, and (3) associations between SDoH and OTDL trajectories stratified within Black and White older adults. Covariates included sex/gender, vocabulary score, Mini-Mental Status Examination, depressive symptoms, visual acuity, general health, training group