

Introduction: Hispanics are the largest minority group in the U.S., projected to grow from 59 to 119 million by 2060. With 43.4 million Spanish-speakers (double since 1990), Spanish is the second most spoken language in the U.S. The incidence of Mild Cognitive Impairment (MCI) and related conditions is expected to rise in this population. However, cognitive testing of U.S. Hispanics faces challenges due to limited Spanish-language materials, lack of regional representation, biased test standardization, and a shortage of Spanish-fluent examiners. We present preliminary results from CCAB–Español, an automated battery tailored for Spanish-speakers.

Methods: California Cognitive Assessment Battery (CCAB) is a computerized, standardized cognitive assessment for at-home use, featuring automated real-time scoring and longitudinal data from over 1,000 participants. CCAB-Español, in its preliminary norming phase with ~100 participants, mirrors the English version for reliability. Standardized scoring accommodates dialectal and regional variations, incorporating Spanish linguistic nuances into stimuli. Translators carefully adapted proper nouns, image responses, and polysemous words. Test materials were presented with text-to-speech voices in a Mexican dialect. Participants (n=108; age 18-79; 62% women, 22% Central American, 3% Caribbean, 5% Spanish, 31% Mexican, 28% South American, 10% other) completed 27 tests, within the major domains of cognitive assessment, plus comprehensive questionnaires. Tests were administered in participants' homes and remotely monitored by Spanish-speaking examiners. Verbal tasks were scored using Consensus Automatic Speech Recognition (CASR). Selected tests were repeated to assess test-retest reliability.

Results: Reaction times, response accuracy, error types, and speech metrics were analyzed. Participant satisfaction was high, with 100% completing all tasks. Tests demonstrated excellent test-retest reliability (e.g., delayed story recall showed $r = .83$). Test-retest scores for CCAB-Español strongly aligned with the English version.

Conclusion: Preliminary normative data show CCAB-Español as an efficient, scalable platform for cognitive assessments of U.S. Spanish-speakers.