

Guatemalan groups. Further analysis is needed with bigger sample sizes across other Spanish-speaking countries (e.g., Costa Rica, Chile) to evaluate what variables, if any, are influencing CNT performance.

Categories: Cross Cultural Neuropsychology/
Clinical Cultural Neuroscience

Keyword 1: language

Keyword 2: multiculturalism

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31 Examining the Mechanisms of Verbal Working Memory Capacity Consumption in Monolingual Spanish-Speaking Individuals

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Objective: Converging evidence across languages suggests that the *word length effect* (WLE; rate of number of syllables, phonemes, or pronunciation times per word) significantly contributes to estimates of verbal working memory (WM) capacity limits in the storage phase, but not in the manipulation phase (i.e., *word length effect decay*), of WM. Direct examination of the WLE on verbal WM performance within monolingual Spanish-speakers has not been reported. We investigated the psychophysical mechanisms of capacity consumption in Spanish-speakers across three syllabic word length rates to clarify the relative contributions of the WLE to storage (digit span forward) versus manipulation (digit span backward) memory phases within one language of monolingual speakers.

Participants and Methods: Monolingual Spanish-speaking adults (N = 84) born in Latin American countries and age 18-65 completed testing over Zoom. Inclusion criteria required proficiency in the Spanish-language; exclusion criteria were bilingualism, multilingualism, TONI-4 IQ < 85, or history of head injury/LOC. A within-group design measured the WLE across

three cognitive load conditions in the forward and backward directions of the digit span test varying in Spanish syllabic word length: the Mexican WAIS-IV Digit Span Test ("Standard Load"), and two modified measures with either a ~20% decrease ("Low Load") or ~20% increase ("High Load") in total syllables/digit relative to the Standard Load.

Results: A reverse WLE was observed on syllable accuracy percentage task performance ($p < 0.01$), such that longer word length led to higher capacity limits during storage WM. A WLE, not decay, was found on both raw score ($p < .001$) and syllable accuracy percentage ($p < 0.01$) task performances during manipulation WM, where longer word length led to lower capacity limits.

Conclusions: The reverse WLE was attributed to higher-order, executive-function cognitive strategies (such as *chunking*) that superseded negative word length effects. A larger syllabic discrepancy during manipulation WM could have superseded executive-function strategies, rendering a traditional WLE. Our study contributed more precise capacity estimates and clearer understanding of successful WM performance within monolingual, Latin American-born Spanish-speakers, helping to reduce cultural disparities in neurocognitive and neuropsychological research. Future studies may extend these findings to examine how WM capacity resources can be harnessed to improve memory strategies in clinically-applied settings with Spanish-speaking populations.

Categories: Cross Cultural Neuropsychology/
Clinical Cultural Neuroscience

Keyword 1: working memory

Keyword 2: neurocognition

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32 A Comparison of Cut-Off Points for Invalid Cognitive Test Performance Established on Nonclinical Versus Clinical Samples for South African Educationally Disadvantaged Individuals

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Objective: In South Africa, most of the cognitive tests employed for neuropsychological evaluation are those developed in educationally advantaged settings such as the US, but the normative data accompanying the tests are unsuitable for use with South African examinees who have a disadvantaged quality of education, and/or whose primary language is other than English. A recently completed collation of Africa-based normative data (Shuttleworth-Edwards & Truter, 2022) includes a chapter on Performance Validity Tests (PVTs) with proposed cut-off points to assist in the identification of noncredible performance. The aim of this study was to compare the cut-off points established using educationally disadvantaged South African nonclinical normative samples for which only specificity percentages are available, with those established using clinical samples with designated valid and invalid performers for which both specificity and sensitivity data are available. A further aim was to compare the Africa-based cut-off points with age-equivalent cut-off points where available for US-based data on the targeted tests.

Participants and Methods: The collation of Africa-based studies delineates cut-off scores for invalid test performance based on both nonclinical as well as clinical populations for three stand-alone PVTs especially developed to identify invalid performance including the Dot Counting Test (DCT), the Rey Fifteen Item Test (FIT), and the Test of Memory Malingering (TOMM); and three commonly employed cognitive tests for which there are embedded validity indicators including the Digit Span Age-Corrected Scaled Score (ACSS) and Reliable Digit Span (RDS), the Rey Auditory Verbal Learning Test (RAVLT), and the Trail Making Test A and B (TMT A and B). For studies using nonclinical norming data alone, specificity percentages to derive the cut-off points were set at a minimum of 90%. For studies using clinical samples specificity was set at a minimum of 90%, and the associated sensitivity percentages were reported indicating each test's ability to correctly identify those with an invalid performance. The studies included participants stratified for both child and adult age groups (age 8 to 79 years) from South African educationally disadvantaged backgrounds. The data were tabled together for descriptive comparison purposes, including a column for the US-base cut-off points for equivalent age stages where available.

Results: There was a high level of compatibility between the proposed cut-off points established for the South African nonclinical normative samples compared with those using clinical samples of designated valid and invalid performers. There was a trend for more lenient cut-offs for younger children and older adults compared to older children and younger adults. Compared with US-based data where available, adjustments towards leniency were called-for on all indicators.

Conclusions: Cut-off scores for invalid cognitive test performance can be verified by perusing data derived from nonclinical norming samples as well as those from clinical samples, although the latter have the advantage of providing the sensitivity data to demonstrate the efficacy of a proposed cut-off score for identifying noncredible test performance. Adjustments towards leniency need to be made for cut-off scores for young children and older adults within an educationally disadvantaged population, and for disadvantaged adult populations compared with US-based educationally advantaged populations.

Categories: Cross Cultural Neuropsychology/
Clinical Cultural Neuroscience

Keyword 1: assessment

Keyword 2: performance validity

Keyword 3: normative data

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33 Title: Examining memory performances in a sample of cognitively healthy illiterate older adult population in India

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Objective: Objective: Despite the rise in literacy, 773 million of the global population is estimated to be illiterate. The rate of illiteracy is even higher among women and older adults (OA). Literacy has been well documented to impact cognitive skills, and most neuropsychological tests developed are for individuals with higher education. Moreover, there is sparse research on cognitive process and performance of illiterate individuals across cognitive domains.