

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/
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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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