

Keyword 1: ethnicity

Keyword 2: demographic effects on test performance

Correspondence: Jennifer J. Manly Ph.D.,
Columbia University Irving Medical Center,
jjm71@cumc.columbia.edu

16 The Multicultural Neuropsychological Scale (MUNS): The New Attention Subtest, Preliminary Cross-Cultural Data

Gabriel Jáuregui¹, Saleena Wilson², Autumn Wild², Kara Eversole³, Bernice Marcopulos², Alberto Fernández^{1,4}

¹Universidad Católica de Córdoba, Córdoba, Argentina. ²James Madison University, Harrisonburg, VA, USA. ³University of Florida, Gainesville, FL, USA. ⁴Universidad Nacional de Córdoba, Córdoba, Argentina

Objective: The MUNS is a screening scale developed in Córdoba, Argentina (2018). It is devised with multicultural stimuli that are easily translated into different languages. The scale consists of seven subtests evaluating five cognitive domains: attention, memory, executive functioning, constructional praxis, and language. Previous cross-cultural studies with this scale found significant differences in performance on the attention subtest. The authors have developed a new attention subtest called “Arrows Cancellation”, a short cancellation test designed to overcome its predecessor's shortcomings. The minimum score of this subtest is 0, and the maximum score is 160. It takes between 3 to 5 minutes to administer. A pilot study of this subtest was performed in Argentina in 2021 (n=62, M=105.61 ± 15.06). The aim of this study is to present the first cross-cultural comparison for the Arrows Cancellation subtest of the MUNS.

Participants and Methods: Argentinian (n=25, 84% female) and U.S.A. (n=39, 87% female) samples were administered the Arrows Cancellation subtest. In both cases, individuals gave their consent to participate voluntarily in this study. Participants' health backgrounds, explored through a set of questions, determined their inclusion in the study. Participants with any of the following diagnoses were excluded from this sample: stroke, loss of consciousness (at least 20 minutes), traumatic head injury, central nervous system disease, chronic renal

insufficiency, hepatic encephalopathy, non-treated thyroid disease, epilepsy, non-treated high blood pressure, severe cardiac failure, severe sleep disorders, coma, diagnosed psychiatric disease, or illegal drug consumption. Argentinians were given the instructions in Spanish whilst Americans were instructed in English. The mean age for the Argentinian sample was 21.24 ± 2.44, and for the American sample it was 20.18 ± 1.89. The mean years of education was 13.44 ± 0.96 for the Argentinian group and 13.6 ± 1.55 for the American group. A t-test showed that there were no significant differences in age (p=.06), years of schooling (p=.67) between both samples.

Results: The mean score of the Arrows Cancellation subtest for the Argentinian sample was 107.30 ± 14.51 and 108.95 ± 14.12 for the American sample. A t-test did not show significant differences in the Arrows Cancellation subtest score between samples (p=.65). In addition, there were no significant differences between males and females (p=.43).

Conclusions: The results of this study show that the new attention subtest of the MUNS did not show significant differences between two different cultural samples. Further studies are needed to confirm its utility in other cultural settings. Among the limitations of this study are the sample sizes and the restricted ranges of age and years of schooling.

Categories: Cross Cultural Neuropsychology/
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Correspondence: Gabriel Jáuregui,
Universidad Católica de Córdoba,
gabriel.jaur@gmail.com

17 Performance Validity and Ethnicity

Gabrielle A. Hromas, Emma Majors, Jeremy J. Davis

University of Texas Health Science Center at San Antonio, San Antonio, Texas, USA

Objective: This study examined false positive rates of performance validity test (PVT) failure in a group of monolingual (English-speaking) White non-Hispanic/Latinx (non-HL), monolingual (English-speaking) Hispanic/Latinx (HL), and

bilingual (English- and Spanish-speaking) HL patients evaluated at an academic medical center. Research on classification accuracy of embedded performance validity tests (PVTs) is limited in HL and bilingual populations. Cultural test biases or language differences could inaccurately cause scores below PVT cutoff levels.

Participants and Methods: The project involved secondary analysis of a deidentified dataset (N=391). Participants were included if they were between the ages of 18 and 64, had data from the initial visit, had an IQ greater than or equal to 70, were not diagnosed with dementia or major or mild cognitive impairment, and identified as either White non-HL or HL. Participants were required to have completed at least two PVTs. Participants who were not administered the Test of Memory Malingering (TOMM; n=95) or who scored below a highly sensitive Trial 1 cutoff (<46; n=86) were excluded. The final sample included 210 participants, which included monolingual non-HL participants (n=114), monolingual HL participants (n=44), and bilingual HL participants (n=52). Failure rates on eight PVTs were examined by participant group: Reliable Digit Span (RDS), Auditory Verbal Learning Test Recognition (AVLT), Logical Memory Recognition (LM), Visual Reproduction Recognition (VR), Trail Making Test Ratio (TMT rat), Rey Complex Figure Test Recognition (RCFT), Semantic Word Generation (animals; SWG), and Finger Tapping (TAP).

Results: Groups were not significantly different in age. Monolingual non-HL participants had completed more years of education than monolingual and bilingual HL groups (13.7, 12.7, and 12.8 years respectively). In the whole sample, 8.6% (n=18) failed two or more PVTs. In the monolingual non-HL group, 8.8% (n=10) failed two or more PVTs, while 9.1% (n=4) of the monolingual HL group and 7.7% (n=4) of the bilingual HL group failed two or more PVTs (n.s.). Within the monolingual non-HL test set, failure rates were above 10% on SWG (12.73%) and TAP (17.7%). Failure rates above 10% in the monolingual HL set were found on SWG (11.6%). Failure rates above 10% in bilingual HL measures were observed on SWG (13.5%) and TAP (10.8%).

Conclusions: Total PVT failure rates did not significantly differ between groups. Across groups, performance was above a common false positive threshold of 10% on SWG.

Monolingual non-HL and bilingual participants also had elevated failure rates on TAP.

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Correspondence: Gabrielle Hromas, University of Texas Health Science Center at San Antonio, hromasg@uthscsa.edu

18 Measurement Invariance of ImPACT in Bilingual and Monolingual High School Athletes

Hana Kuwabara¹, Grace Goodwin¹, Christine Salva¹, Jessica Woodyatt¹, Julia Maietta², Staci Ross³, Thomas Kinsora³, Daniel Allen¹

¹University of Nevada Las Vegas, Las Vegas, NV, USA.

²University of Oklahoma Health Sciences Center, Oklahoma City, OK, USA.

³Center for Applied Neuroscience, Las Vegas, NV, USA

Objective: Previous studies have found differences between monolingual and bilingual athletes on ImPACT, the most widely used sport-related concussion (SRC) assessment measure. Most recently, results suggest that monolingual English-Speaking athletes outperformed bilingual English- and Spanish-speaking athletes on Visual Motor Speed and Reaction Time composites. Before further investigation of these differences can occur, measurement invariance of ImPACT must be established to ensure that differences are not attributable to measurement error. The current study aimed to 1) replicate a recently identified four-factor model using cognitive subtest scores of ImPACT on baseline assessments in monolingual English-Speaking athletes and bilingual English- and Spanish-speaking athletes and 2) to establish measurement invariance across groups.

Participants and Methods: Participants included high school athletes who were administered the ImPACT as part of their standard pre-season athletic training protocol in English. Participants were excluded if they had a self-reported history of concussion, Autism, ADHD, learning disability or treatment history of epilepsy/seizures, brain surgery, meningitis,