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.

Categories: Cross Cultural Neuropsychology/ Clinical Cultural Neuroscience
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Correspondence: Gabrielle Hromas, University of Texas Health Science Center at San Antonio, hromasg@uthscsa.edu

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

Hana Kuwabara[1], Grace Goodwin[1], Christine Salva[1], Jessica Woodyatt[1], Julia Maietta[2], Staci Ross[3], Thomas Kinsora[3], Daniel Allen[1]
[1]University of Nevada Las Vegas, Las Vegas, NV, USA. [2]University of Oklahoma Health Sciences Center, Oklahoma City, OK, USA. [3]Center 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,

psychiatric disorders, or substance/alcohol use. The final sample included 7,948 monolingual English-speaking athletes and 7,938 bilingual English- and Spanish-speaking athletes with valid baseline assessments. Language variables were based on self-report. As the number of monolingual athletes was substantially larger than the number of bilingual athletes, monolingual athletes were randomly selected from a larger sample to match the bilingual athletes on age, sex, and sport. Confirmatory factor analysis (CFA) was used to test competing models, including one-factor, two-factor, and three-factor models to determine if a recently identified four-factor model (Visual Memory, Visual Reaction Time, Verbal Memory, Working Memory) provided the best fit of the data. Eighteen subtest scores from ImPACT were used in the CFAs. Through increasingly restrictive multigroup CFAs (MGCFA), configural, metric, scalar, and residual levels of invariance were assessed by language group.
Results: CFA indicated that the four-factor model provided the best fit in the monolingual and bilingual samples compared to competing models. However, some goodness-of-fit-statistics were below recommended cutoffs, and thus, post-hoc model modifications were made on a theoretical basis and by examination of modification indices. The modified four-factor model had adequate to superior fit and met criteria for all goodness-of-fit indices and was retained as the configural model to test measurement invariance across language groups. MGCFA revealed that residual invariance, the strictest level of invariance, was achieved across groups.
Conclusions: This study provides support for a modified four-factor model as estimating the latent structure of ImPACT cognitive scores in monolingual English-speaking and bilingual English- and Spanish-speaking high school athletes at baseline assessment. Results further suggest that differences between monolingual English-speaking and bilingual English- and Spanish-speaking athletes reported in prior ImPACT studies are not caused by measurement error. The reason for these differences remains unclear but are consistent with other studies suggesting monolingual advantages. Given the increase in bilingual individuals in the United States, and among high school athletics, future research should investigate other sources of error such as item bias and predictive validity to further understand

if group differences reflect real differences between these athletes.

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19 The Relationship Between Apathy and Cognitive Impairment Among Hispanic/Latin Americans: A Systematic Review

Joshua M Garcia, Jai Sehgal, Luis D Medina
University of Houston, Houston, Texas, USA

Objective: Evaluate measures used to operationalize apathy in relation to cognitive impairment among Hispanic/Latin Americans and synthesize associations of apathy with cognitive impairment.
Participants and Methods: A systematic review of the available literature following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines was conducted. This review covered studies on the relationship between apathy and cognitive impairment among Hispanic/Latin Americans across normal aging and neurocognitive disorders. The first stage of the review consisted of collecting all publications that contained (1) English or Spanish-speaking participants, (2) with measures for reported apathy, (3) assessment of cognitive functioning or diagnosis of neurocognitive disorder, (4) with Hispanic/Latin Americans represented in the sample. There was no limit regarding publication date. The required minimum of H/L participants in selected studies was determined based on a standard of representation in the United States general population, which is around 18.5%. In the second stage of the review, studies were screened excluding all studies that did not meet the criteria.
Results: Thirteen, 37, and 17 studies were identified by APA PsychInfo, EMBASE, and PubMed, respectively. After removing 19 duplicate records, 48 reports were then