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Stanford-Binet 5 Nonverbal Subtests Item Fairness in a Latina/o Sample: No News is Good News

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A major concern in testing a variety of individuals from diverse ethnic and
cultural backgrounds is insuring that assessments of intellectual ability are free from the
influence of language and cultural biases. In technical terms this is referred to
as differential item function (DIF). An important development goal for the Nonverbal
sections of the Stanford-Binet Intelligence Scale, Fifth Edition (SB5; Roid, 2003) was to
construct items and scales that were limited in terms of language factors. The present
study examined the effects of acculturation (as measured by years in the U.S.) on
performance on the SB5 Nonverbal scales in three samples: Caucasian/White Non-
Hispanics, and two groups of Latinas/os who were at the time of testing enrolled in
English as a Second Language (ESL) or English Language Learner (ELL) programs: one
living in the U.S. for five or more years, and the second living in the U.S. for four years
or less. All participants were drawn from archival data for the SB5 normative sample. Participants were stratified on age, sex, parental education level, and race/ethnicity and matched to census percentages. DIF, or bias, would show up in these participants in the form of significant differences among groups in their scores on the SB5 Nonverbal items and scales (testlet, factor, and domain). In the absence of significant differences (evidence of DIF) the items would be considered fair.

Participants ranged in age from 4-17 years; they included 17 Latina/os living in the U.S. for four years or less and 20 Latinas/os living in the U.S. for five or more years, along with 100 Caucasian/White non-Hispanics matched for age, gender, and parental education level. Analyses of variance tested the null hypothesis that the means of the three groups would not differ. Normal distribution of responses was assumed. A total of 223 analyses of variance were performed. Two items were found to be significant at the $p < .01$ level and one at the $p < .05$ level. These are fewer than would be expected by chance for this many analyses, and furthermore were not all in the same direction. No significant differences were found for testlet, factor, or domain scores.

These data provide little evidence of item bias on the SB5 for the present participants. Language, ethnicity, and time in the U.S. were not modifying factors in terms of final score on the Nonverbal section of the SB5. Based on these findings, it appears that children and adolescents who are from a Latin country and living in the U.S. can be fairly evaluated on the SB5 Nonverbal items without concerns about how long they have resided in the U.S.