Notice of the Final Oral Examination for the Degree of Doctor of Philosophy of

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“Diversifying Psychometric Tools for Intelligence Assessment and Screening in Latin America”

Department of Psychology

Tuesday, June 25, 2019
9:00 A.M.
Clearihue Building
Room B007

Supervisory Committee:
Dr. Mauricio Garcia-Barrera, Department of Psychology, University of Victoria (Supervisor)
Dr. Scott Hofer, Department of Psychology, UVic (Member)
Dr. Alfredo Ardila, Nicole Wertheim College of Nursing & Health Sciences, Florida International University

External Examiner:
Dr. Monica Rivera Mindt, Department of Psychology, Fordham University

Chair of Oral Examination:
Dr. Wanda Boyer, Department of Educational Psychology and Leadership Studies, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies
Abstract

Objective: Cultural neuropsychologists face barriers such as access to culturally appropriate psychometric instruments and norms. Further, three commonly encountered dilemmas in cultural neuropsychology include the following questions: (1) How do psychologists determine the best normative data to use for a given assessment scenario? (2) Do measures and models developed with North American samples also work in adaptations of instruments used with cross-cultural samples? (3) How can alternative and cost-effective measures be developed to meet the need for additional assessment tools? In response to these dilemmas, this dissertation consists of three papers aimed at developing Hispanic and cultural neuropsychology psychometric resources for one of the most common cultural assessment scenarios: intelligence assessment amongst Spanish-speaking individuals using the Wechsler Adult Intelligence Scale – Fourth Edition (WAIS-IV). Chapter 1. A sample of 305 highly educated Colombian corporate executives completed the WAIS-IV. Data were scored using norms from Colombia, Chile, Mexico, Spain, United States, and Canada and scores were compared using ANOVA. Additionally, a comparative sociodemographic framework was established to contextualize our sample to the standardization samples and populations of the six countries. Chapter 2. Accumulating evidence indicates the original factor structures published in the Wechsler Intelligence Scales may not best describe the data captured by these tests, and instead supports a five factor Cattell-Horn-Carroll (CHC) model over a four factor Wechsler model, and a bifactor model over a higher-order model. Confirmatory factor analysis and structural equation modeling was used to evaluate factor structure of the Chilean WAIS-IV (Wechsler, 2013) normative sample (ages 18-60; N=672) to better understand its psychometrics and to contribute to much needed cross-cultural study of alternative WAIS-IV factor models. Results marginally favored CHC and bifactor models but provided strong support for higher-order and Wechsler model variants as well, pointing to the need of further theoretical, methodological, clinical, and cross-cultural research. Chapter 3. The recent publication of the Chilean adaptation of the WAIS-IV has contributed to ongoing efforts to provide more psychometric instruments culturally appropriate for regions in South America. While not all assessment situations necessitate administration of the full WAIS and calculation of a full-scale intelligence quotient (FSIQ), there is virtually no published research on WAIS-IV short forms for estimating IQ in Latin America. This study used a rigorous series of methods (adapted from Smith et al., 2000) to develop robust estimated IQ short forms, aligned with Wechsler and CHC models, using the Chilean WAIS-IV standardization data (ages 18-90; N=887). Linear scaling was used to produce normative tables for the 28 best two-, three-, four-, and five subtest short forms of the Chilean WAIS-IV. Discussion. Together, the three papers of this dissertation provide psychometric guidance and resources not only for Latin American neuropsychologists in the area of intelligence assessment, but also more broadly for all cultural neuropsychology researchers and clinicians.