

Inferring Measurement Equivalence between Likert-type Questionnaires under Effects of Sampling Weights

Chih-Chien Yang and Liang-Ting Tsai

Cognitive NeuroMetrics Laboratory, Graduate School of Educational Measurement and Statistics,
National Taichung University

This study is aimed to examine the weighting effects introduced by stratified sampling procedures on the accuracy of measurement equivalence (ME) between Likert-type questionnaires. To achieve the population-wise generalizability successfully, proper weights have to be engaged in all levels of statistical analyses. In identifying measurement inequivalence between Likert-type questionnaires of large scale surveys, the influences of weights are as critical as any other studies yet they are often neglected. A numerical simulation study is conducted to examine the accuracy of analyzing ME when using MIMIC model approaches under experimental designs of various weights and population sizes. The results demonstrate the weighting effects on accuracy of ME identification are considerable and practical guidelines are provided for research communities.

Keywords: *Large Scale Survey, Likert Questionnaire, Measurement Equivalence, MIMIC model, Sampling Weights*

