

**Indiana University-Purdue University
Indianapolis**
Department of Mathematical Sciences

STATISTICS SEMINAR

12:15pm—1:15pm, Tuesday, November 06, 2018
LD 265

Speaker: Dr. Wei Wu (Associate Professor)
Department of Psychology, IUPUI

Title: Dealing with ordinal missing data in measurement invariance testing

Abstract:

Measurement equivalent/invariance (ME/I) is an important and desirable property for psychological tests. ME/I concerns whether the relationships among observable indicators and underlying latent constructs are identical across groups. ME/I is typically tested through a multi-step process using multiple group confirmatory factor analysis in the structural equation modeling framework. This process involves a series of chi-square difference tests (2) between nested models, through which the level of ME/I can be established. Given the predominant use of Likert-type scales in the social and behavioral sciences, the indicators are often ordinal in nature. In addition, missing data are also likely to occur. Both increase complexity in ME/I testing. Several methods may be used for ME/I testing with the presence of ordinal missing data, including full information maximum estimation methods and weighted least squared estimation methods. However, these methods all have their strengths and limitations, and have not been thoroughly examined. In this talk, I presented a simulation study evaluating the relative performances of these methods in producing accuracy 2 tests and parameter estimates for ME/I testing. Based on the simulation result, practical recommendations to researchers are provided.