Lab #5 – CFA and Structural Regression Models

NOTE: Each question should be a separate chunk in **R-studio’s Rmarkdown or R notebook** and using Knitr, knit your work and the output into a word document that you will upload into Canvas.

1. Start with packages “foreign” and “lavaan”
2. Load datasets social\_fact.sav, and atdp\_sd.sav in R.
3. Using “social\_fact.sav”:
   1. CIC
      1. Run a CFA on the CIC items (CICI102 to CICI111) separating correlated factors by letter (I, A, E, N). Include modification indices and fit measures. Explain the first model (i.e., fit, coefficients).
      2. Modify the model to increase fit if necessary, only include added paths that “make sense” in the model. Include a Chi-Square change table and the complete fit from the last model.
   2. Outgroups
      1. Run a CFA on the outgroup items (QDI104r to MEIMO119) separating correlated factors by letter (QDI, MEIMM and MEIMO). Include modification indices and fit measures. Explain the first model (i.e., fit, coefficients).
      2. Modify the model to increase fit if necessary, only include added paths that “make sense” in the model. Include a Chi-Square change table and the fit from the last model.
4. Using “atdp\_sd.sav” do one of the following (A or B):
5. ATDP – As we saw in lecture a unimensional model does not fit the data well (even though it is supposed to fit). Re-specify a different model that explains the data better. Use the item content, google, the library website (etc…) to find a better fitting model. Use the LM test and CPAI the final model. Include information about how you specified the new model and where you got the new structure.
6. SD – As we saw in lecture a unimensional model does not fit the data well (even though it is supposed to fit). Re-specify a different model that explains the data better. Use the item content, google, the library website (etc…) to find a better fitting model. Use the LM test and CPAI the final model. Include information about how you specified the new model and where you got the new structure.
7. Using the Whitehead, Ainsworth, Wittig and Ainsworth (2009) paper and the <http://www.csun.edu/~ata20315/JRAEIE.htm> link:
8. Enter the covariance matrices from the link into R.
9. Perform a multi-group factor analysis testing for weak factorial invariance of the Exploration and Affirmation/Belonging factors between the Euro-American and Asian American samples. Explain the coefficients and fit indices.
10. Fit the complete model 1 for Asian Americans to the Asian American correlation matrix. Include steps to test for indirect effect and explain the equations, indirect effects and fit indices.