Lab #4 - Path Analysis

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 forclass.sav, social\_centered.sav, and path\_model\_example.sav in R.
3. Simple Path Analysis using forclass data in Lavaan
   1. Reproduce the model from lab #1-2a with a, e, and sos predicting soitot.
   2. Compare the output from Lavaan to the output from #2a in Lab #1.
4. Centering and Moderation (Interactions). Using “social\_centered.sav” in Lavaan.
   1. Gender is coded males = 0 and females = 1.
   2. Predict oocent with gender and ciccent and interpret results.
   3. Cross multiply gender (0 and 1) and ciccent to make a new variable gen\_cic.
   4. Predict oocent by gender (0 and 1), ciccent and gen\_cic and interpret results.
5. Mediation in Lavaan
   1. Still using “social\_centered.sav” in Lavaan replicate #2d from Lab #1 using oocomp as the predictor, ciccomp as the mediator and qdicomp as the outcome.
   2. Use effect decomposition and interpret the indirect effects. CPAI. Compare to the sobel test you ran in Lab #1.
6. Assessing Model Fit using path\_model\_example.sav data in Lavaan
   1. Specify the following model:



* 1. Does the model fit? How do you know?
  2. Use the Lagrange Multiplier test to modify the model until it fits. Include a Chi-Square change table.

1. Multi-group path analysis in Lavaan
   1. Split the social\_centered.sav data set into separate data sets by gender.
   2. Fit the mediation model from #5 above to each group separately.
   3. Add constraints and test a multi-group model to see if the model coefficients are equivalent across the gender groups.