Lab #1

Multiple Regression/Logistic Regression R Replication

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.

Multiple Regression

1. In R, use matrix functions to find the regression coefficients of qdicomp predicted by ciccomp and oocomp in “social2.sav” file.
2. Using forclass.sav conduct a:
   1. Standard multiple regression of soitot predicted by a, e, and sos. Include a model summary, r squared, descriptives, part and partial correlations, collinearity diagnostics, a plot of the prediction and mahalanobis distances.
   2. User-defined sequential analysis predicting soitot by a, e and sos in that order. Include r-square change and interpret results.
   3. Stepwise regression including sos, ego, n, e, o, a and c predicting soitot.
   4. Mediation analysis using both the Baron and Kenny style mediational analysis, using oocomp as the predictor, ciccomp as the mediator and qdicomp as the outcome, as well as a Sobel test for the significance of the indirect effect.

Logistic Regression

1. Using the “dispss.sav” dataset conduct a bivariate logistic regression predicting disoi by everything else in a direct analysis (make sure to declare gender and ethn as categorical). Print the probabilities, group membership and standardized residuals. Include classification plots and the Hosmer-Lemeshow Goddness-of-fit test.