**Assignment 1: Multiple Linear Regression**

The purpose of this assignment is to re-familiarize you with linear regression and to review descriptive statistics.

1. I would like you to identify a research hypothesis from the assignment SPSS file (don’t data snoop!).
   1. Identify one continuous outcome variable and two predictor variables.
2. Create three models from the variables
   1. Model 1 should be a simple linear regression between one predictor variable and the outcome variable
   2. Model 2 should also be a simple linear regression between the other predictor variable and the outcome variable
   3. Model 3 should be a multiple regression with both predictor variables and the outcome variable

***Note***: if a predictor is nominal with 3+ levels, you will either need to dummy code before fitting a regression or conduct the analysis with an ANOVA model

1. Evaluate the three models and pick one to write about. You will need to justify the model selected in the writing.

The submitted assignment should consist of:

1. A three page max (not including table) APA formatted paper that includes:
   1. Brief introduction paragraph with identification of the research hypothesis and justification for the study (explain why you think these variables should be related)
   2. A paragraph on the basic descriptive statistics for the three variables (best measure of central tendency and variability and also the skewness statistic with standard error). Note that you do not need to do any transforms for this assignment. If the data violates the normality assumption then state the violation and how you know. We will address model violations in a later assignment.
   3. A paragraph on the results of the model that best fits the data. You should indicate why you think it best fits the data and include the relevant inferential statistics. Report *and* interpret the regression coefficients, test statistic between the variables, *p*-value, *R*2, confidence intervals, and the SEE in relation to the variables used in the model.
   4. A brief concluding paragraph. Give a brief restatement of your findings (one sentence; no stats) and then interpret your findings. The interpretation is the “why” part of the assignment. Why do you think there is a relationship or lack of a relationship? Briefly explain.
2. A table with all three of your models (similar to what we did in class last semester). Remember that tables follow the text in APA format and should not be imbedded in the text. Make sure to refer to the table in text.
3. SPSS output file with only the relevant output (do not include mis-steps, errors, unnecessary tables, etc.)