Research Methods II

Due: 3/1/2017

General Guideline: For this homework, your answers must be type in 12 pt font and should not be longer than one page single-spaced (for all answers together).

1. Describe the difference between a moderating and a mediating variable. Which type of variable is more closely related to an interaction effect in regression or ANOVA? Why?
2. Briefly (in one or two sentences) explain the idea of moderated mediation.
3. Explain the following statements.
   1. A mediator must be related to the predictor variable.
   2. A moderator can create problems with multicollinearity.

1. Treatment A cures disease B more effectively in males than in females. Furthermore, treatment A cures disease B by lowering overall blood volume. What is the moderating variable in this scenario? What is the mediating variable in this scenario? Justify your answers briefly.
2. A researcher wants to know if the self-reported anxiety and happiness of Research Methods II students predicts how much coffee they drink a day. Using the Homework 3 dataset regress coffee consumption on happiness and anxiety scores. Discuss statistical significance and interpret what the constant and each regression coefficient means in relation to coffee consumption.

1. Reconduct the analysis in problem 5 using grand-mean centered variables. Discuss statistical significance and interpret what the constant and each regression coefficient means in relation to coffee consumption.
2. Are your interpretations different in problems 5 and 6? Explain why each interpretation is different or the same.

1. Was it appropriate or inappropriate to center the variables? Justify your decision.