**PSYC 6327**

*Methods in Human Measurement*

Mid-term Exam

**For the following questions please provide me with your answer to each question. You may not work with anyone else on this portion of the exam. Each question is worth 25 points.**

1. The data for this question can be found in the file *PSYC 6327 Mid-term Exam Question 1 Data.xlxs*. For this study *n* = 248 participants completed a 8-item measure of work stress on two separate occasions approximately 1 month apart (i.e., Time 1 and Time 2). Please answer the following questions relating to this data:
   1. Did the measure of work stress demonstrate internal consistency at:
      1. Time 1?
      2. Time 2?
   2. What item-level improvements could be made to the measure? (Do not engender these changes in the data for further analyses.)
   3. What is the test-retest reliability of the measure?
   4. What is the 95% confidence interval for any score X obtained at Time 1?
   5. What is the 95% confidence interval for any score X obtained at Time 2?
2. The data for this question can be found in the file *PSYC 6327 Mid-term Exam Question 2 Data.xlsx*. For this study *n* = 700 participants completed a 100-item personality measure. You are to conduct an exploratory factor analysis on this data and provide me with answers to the questions below.

Using the following methods, how many factors should be extracted via a:

* 1. MAP Test
  2. Parallel Analysis
  3. Scree Plot
  4. Kaiser Criterion

Conduct an EFA and extract the number of factors suggested by **Bowler’s Least Accurate Mid-term Exam Factor Determination Method** that says that there are 5 factors.

1. Provide me with the relevant loadings from an oblique rotation. Specifically, interpret the results from the first analysis (i.e., don’t do the analysis, remove items, do it again, remove items, etc.). Based on the criteria that we discussed in class, which items should be removed and which should be kept? For those that are kept, which factors should they load on (i.e., 1, 2, 3, 4, 5)?
2. The data for this question can be found in the file *PSYC 6327 Mid-term Exam Question 3 Data.xlsx.* For this study *n* = 4 supervisors were rated by *n = 10* subordinates on two items of leadership (initiating structure & consideration) using a 5-point scale. Please answer the following questions relating to this data:
   1. Using *r*wg with a uniform distribution, what is the level of agreement between the raters on each of the 2 dimensions for:
      1. Initiating Structure?
      2. Consideration?
   2. Using *AD*m, what is the level of agreement between the raters on each of the 2 dimensions for:
      1. Initiating Structure?
      2. Consideration?
   3. What is the ICC(1) and ICC(k) for each of the following and what does it tell you?
      1. Initiating Structure?
      2. Consideration?
   4. Should the scores of any of the supervisors be aggregated? If so, which ones?
   5. Which supervisor has the highest aggregated level of:
      1. Initiating Structure?
      2. Consideration?