**Project SCMA643** R.L. Andrews

**E-mail an Excel file to scma.stat@gmail.com with “Project” in the subject line and copy your partner if you are doing this with a classmate.**

**You may do the project alone or with one other person as a partner and submit one report, with the understanding that the credit for the project will be the same for both people. You may also change from what you submitted for Assignment 3, but I ask that you let me know if you make a change.**

**1.** **Give an overview of the problem**, phenomenon or situation you want to investigate using multivariate methods. **You do not need to give a review of literature on the subject**, just a clear description for someone who is not an expert in the field.

**2.** **Describe the data set you analyze**. Tell how you obtained the data. **At least 6 truly quantitative variables are required with at least 100 observations/cases/rows and at least 1,000 total quantitative measurements.**  To use anything less, you need to get prior permission from me. **List the variables and precisely describe how each is measured giving the units for quantitative variables and the list of possible values or range of values. Include your data set on a tab or at least 100 rows as an example if you data set is very large.**

**3. Give the results from a factor analysis of at least 6 truly quantitative variables**

1. **Did you analyze the correlation or covariance matrix? Why?**
2. **Describe how you arrived at the number of factors to retain, providing appropriate output to support your conclusion.**
3. **Give the loadings for your final factor solution and assign names to each factor.**

**4..Describe the other multivariate procedures covered in SCMA 643 that you used to analyze your data. For each method/procedure provide appropriate output along with conclusions you reached based on your analysis.**

Acceptable other Multivariate Methods from SCMA 643 include:

* MANOVA
* Discriminant Analysis
* Bivariate Logistic Regression
* Cluster Analysis
* Canonical Correlation