**Application 2 Assignment**

Please complete the following tasks using Rstudio. Then answer questions on the corresponding Lab Quiz on Canvas. You are not required to upload your Rscript; just submit the quiz. You will have three attempts. **Assume checking multivariate assumptions, and for other NHSTs**.

1. Import the dataset “Adjusted Sherry (2006) Data” from Canvas.
   1. You may wish to change the data name to mvdata to match the rscripts from class.
   2. Like Sherry (2006) did, we will compare age groups across Big 5 personality scales.
2. Check assumptions for the multivariate data (including all 5 personality scales).
   1. Can multivariate normality be assumed?
   2. Can equality of variance-covariance matrices across groups be assumed?
3. Conduct a DDA using the techniques we covered in class and consider the following:
   1. Which, if any, discriminant functions should be retained and interpreted?
      1. Wilks’s Lambda and p-value
   2. What is each kept discriminant function made of/could be made of?
      1. Standardized coefficients
         1. Don’t forget to standardize the data!
      2. Structure coefficients
      3. Which variables contribute the most?
      4. Is there multicollinearity?
      5. Any evidence of suppression?
   3. Which groups differ for each discriminant function?
      1. Group centroids for each discriminant function
      2. Which groups follow the same-direction patterns of the discriminant functions, and which groups follow opposite-direction patterns of the discriminant functions?