**PSY308B DA2: One Way ANOVA**

**Instructions:**

Download *308B.Data.DA2.csv* from Canvas to complete the analysis required for the research context provided.

Submit to Canvas your responses to the questions below and your knitted R Studio file. This can be a single file or two separate files.

**Research Context:**

You are conducting a slightly different replication of the classic Darley and Batson (1973) social psychology experiment on helping behavior. Your version of this study is going to look at Princeton seminary students’ likelihood of helping a person in distress depending on their level of haste (whether they were running early, on time, or late for an appointment) when they encountered the person.

DV = HELPING (ranges from 0 to 6, with higher scores indicating greater helping)

IV = HASTE (1 = early; 2 = on time, 3 = late)

**Question 1:** **What analysis will you conduct to answer whether haste impacts helping behavior? Test the necessary assumptions for this test. Report whether each assumption is violated or not and present the evidence to support.**

**Question 2: Create a bar graph of your data. (After you knit to word, copy and paste the visual from the output here.)**

**Question 3: Perform the necessary analyses to determine whether or not there is a difference in helping behavior based on haste. If yes, determine where that difference lies. Report your results to a journal.**

**Question 4: Now interpret the results of your analyses for an awareness campaign trying to increase the amount strangers help each other (they do not understand statistics that well). What would you conclude?**

**Question 5: Using a t test this time, re-analyze whether or not there is a difference between group 1 and group 2 on helping behavior. Report and interpret all statistics, including effect size. Briefly discuss why you used a different effect size than in #3 and what each are telling us.**

**Question 6: Discuss how your post-hoc analyses in #3 and the corresponding pairwise comparison in #5 differ. Why would you do the analyses in #3 instead of the pairwise comparison in #5 for the overall problem we started with?**

**Question 7: What is the difference between Tukey’s and Bonferroni’s procedure? Why would you choose one over the other?**

**Question 8: What is “Sum of Squares” and “Mean Squares”? How are they used in the ANOVA?**

**Extra Practice (not required, not graded):**

1. **Suppose in an independent t-test the results are significant (p < .001) but the effect size is very small. Provide two possible explanations for these findings.**
2. **You are conducting a dependent t-test, should you run a Levene's test? Why or why not?**