Psychology 105, Second Homework Assignment

Available 2/25/2021; due 3/7/2021

In this assignment, you will continue to work with the same personal *N*=50 Statlab data set that you created for Homework #1.

1. Use the methods demonstrated in class on 2/18/2021 to compare the distributions of the boys' and girls' Raven scores. Be sure to cite relevant descriptive statistics for the various important aspects of shape, and include (and comment on) relevant graphics showing the conditional distribution.

2. Perform a *t* test to test the null hypothesis that $\mu_{boys} - \mu_{girls} = 0$. Report the value of the test statistic, its degrees of freedom, and the associated *p* value. What do you conclude about the null hypothesis, using a two-tailed alpha level of .05? What does this say about the conditional mean of boys' and girls' Raven scores?

3. State the assumptions of the test you have just conducted. Two of these relate to independence, and cannot be assessed by examining your data. Discuss whether you find those assumptions plausible. For the other two assumptions, investigate how reasonable they are using techniques demonstrated in class on 2/25/2021.

When you submit your work, you should paste your R code (and its results) into your document. That way, we can help you figure out what went wrong if something didn't work right. Remember to submit one document that includes all of the required work in an organized way that makes it easy for us to see what is what. (Organizing your results using the same outline structure in which the tasks are presented is ideal.)