**Basic Statistics Assignment:**

Use the basic data set file posted for this assignment to answer the following questions. This data file contains a set of “personality” characteristics, and 369 people’s ratings of those personality characteristics. Use *p* < .05 for all of these tests.

**For the following, paste the *R* output. Be sure to fill in the answers to the questions, so it’s clear you also can read the output. You will also upload your script to Blackboard.**

*Descriptive Statistics*

Pick three variables (any three!) and calculate the following: mean, variance, standard deviation, and standard error. Include the *R* output.

*Single Sample t*

All of these characteristics are expected to have an average score of around 4.5 points, which is the middle of the scale. Pick any ONE characteristic and tell if this college sample is different from the predicted average score.

* List your chosen characteristic:
* Calculate the mean and standard deviation (include output):
* Include the single sample *t*-test output:
* List your mean and standard deviation in APA/AMA style:
* List your *t*-test information and *p*-value in APA/AMA style:
* Is your characteristic different from average (i.e. is the *p*-value significant)?

*Dependent t*

Is there a difference in rating between the variables of “loves children” (lovchil) and “uses foul language” (foullang)?

* Before you melt the data, create yourself a temporary dataset of just those two columns by running something like this:
  + temp = datasetname[ , c(“lovchil”, “foullang”)]
  + Then melt the temp dataset into the long version.
* Calculate the mean and standard deviation for each measurement (include output):
* Include the dependent *t*-test output:
* Why would this test be a dependent test?
* Is there a significant difference in the ratings?

*Independent t*

Many researchers argue that there is a difference between students who take research studies at the beginning of the semester and students who rush to take research studies at the end of the semester. Using the semestertime variable as your groups, is there a difference in how students rate the helpful variable?

* Calculate the mean and standard deviation for each group (include output):
* Include the independent *t*-test output:
* List your mean and standard deviation in APA/AMA style:
* List your *t*-test information and *p*-value in APA/AMA style:
* Is there a significant difference in the ratings?

*Correlation*

Is there a significant correlation between the femininity (feminine) and masculinity (masculin) variables?

* Calculate the correlation by either creating a temporary dataset of just those two columns OR using:
  + rcorr(column 1, column 2)
  + Otherwise, you will get a gigantic scary correlation table.
* Include the correlation table:
* List the correlation:
* List the *p*-value:
* Is there a significant correlation?

*Bonus*:

Include effect size values for your *t*-tests.

* Single sample *t*:
* Dependent *t*:
* Independent *t*: