

AS1(Assignment 1, Unit 5) Independent Measures t-test

Please write your responses in red 😊

A pharmaceutical company wishes to test the effects of a herbal supplement on anxiety levels. The researcher randomly selects a sample of $n=16$ adults from Essex County. The sample is randomly assigned to either the herbal supplement, Group B or a placebo, Group A.

Here are the data:

GROUP "A"

12, 16, 18, 21,

17, 18, 18, 19

GROUP " B "

13, 18, 20, 16

19, 21, 19, 22

1. What is the researcher's hypothesis?

2. What is the null hypothesis?

3. What is the independent variable?

4. What is the dependent variable?

5. What is the name of the research design in this study?

6. What is the appropriate hypothesis test to analyze the data from this study?

7. What are the two mean “differences” you are analyzing in these data?

8. What is the definition of a random assignment?

9. Why is using a random sample important in this study?

10. If a researcher failed to use random assignment, how would this affect the research conclusion?

11. If a researcher failed to use a random sample, how would this affect the research results?

12. Run the appropriate SPSS analysis on the data and cut and paste your SPSS results here:

13. Based on your SPSS results, please answer the following questions:

(a) What is the appropriate decision, reject the null or fail to reject the null? _____

(b) Write the “statistical statement” of your SPSS analysis: _____

(c) Please write your results as they might be written in a research study (refer to the “In the Literature” section of chapter 10 of your textbook).

(d) Is there a probability of Type I error? Yes _____ No _____

(e) Is there a probability of Type II error? Yes _____ No _____

