AS3 (Assignment 3, Unit 5): Independent and Dependent t-tests on SPSS

Please write your answers in red ☺️

Jones and Smith's advertising company wish to know if cartoons on cereal boxes cause children to attribute higher taste ratings to the cereal. The advertising company hires a psychologist to conduct a study before developing a sales plan for the cereal. The psychologist randomly selects 24 participants for a pilot study. She randomly assigns the sample so that 12 participants eat the cereal with the cartoon on the box while the other 12 participants eat the cereal without a cartoon on the box. All participants then rated the taste of the cereal. Here are the ratings:

Without Cartoon	With Cartoon
3	3
4	4
7	8
5	7
8	8
8	8
4	9
7	4
5	7
6	6
6	8
7	4

1. What is the researcher's hypothesis?

_____Cereals with cartoons on the box are associated with higher taste ratings compared to cereals without cartoons on the box for children._____

_____

2. What is the null hypothesis?

__There is no significant difference in taste ratings between cereals with cartoons on the box and cereals without cartoons on the box for children.

_____

3. Exactly what mean differences are you comparing here?

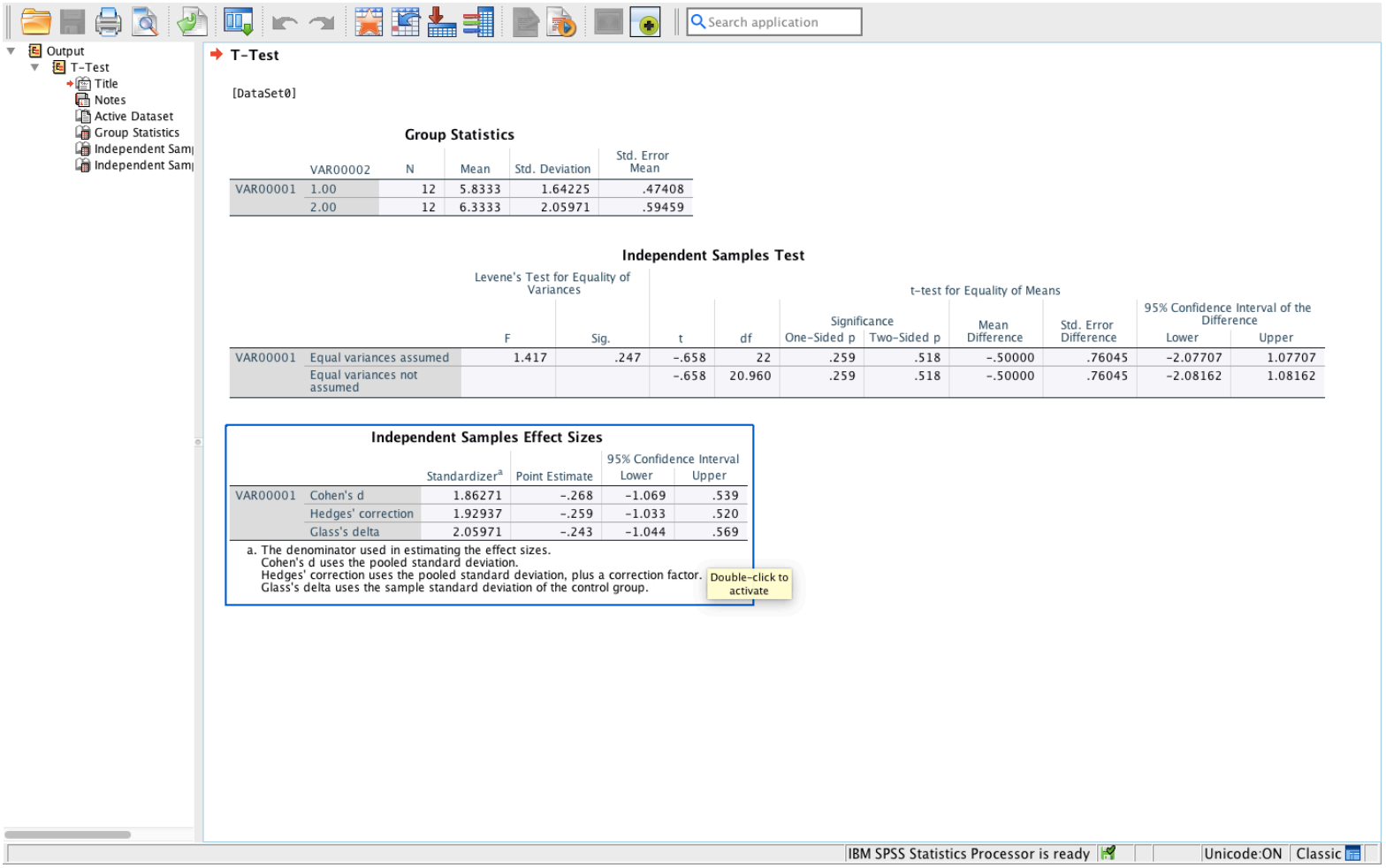
_____The mean differences being compared in this study are the taste ratings of cereals between two groups: one group where the cereal boxes have cartoons on them (With Cartoon) and the other group where the cereal boxes do not have cartoons on them (Without Cartoon)._____

_____

4. What is the dependent variable? ____the taste ratings of the cereal given by the participants._____

5. What is the independent variable? ____ the presence or absence of cartoons on cereal boxes._____

6. Please analyze the data with the appropriate hypothesis test on SPSS and cut and paste your SPSS results here:



Based on your SPSS results that you pasted above, please answer the following questions:

7. Please write your "statistical statement": __t(22)= -.658, p>.05_____

8. Did you reject or fail to reject the null hypothesis? ____fail to reject the null hypothesis _____

9. Please write your results in a "literature" or "research study" format:

___The mean for cereal boxes without cartoons on it was M= 5.8 with a SD of 1.64. The mean for the cereal boxes with cartoons was M=6.3 with a SD=2.05. The data failed to reach significance.

A researcher hypothesizes that arousal levels will be affected by meditation. The sample participates in formal meditation classes for 3 weeks, before and after which arousal is measured.

Subject	BEFORE MEDITATION	AFTER MEDITATION
1	72	91
2	162	155
3	145	152
4	183	190
5	123	134
6	167	157
7	76	99
8	112	104
9	124	143
10	137	156

l. What is the researcher's hypothesis?

____Arousal levels are significantly affected by formal meditation classes, leading to a difference in arousal levels before and after the meditation program._____

2. What is the null hypothesis?

____There is no significant difference in arousal levels before and after formal meditation classes._____

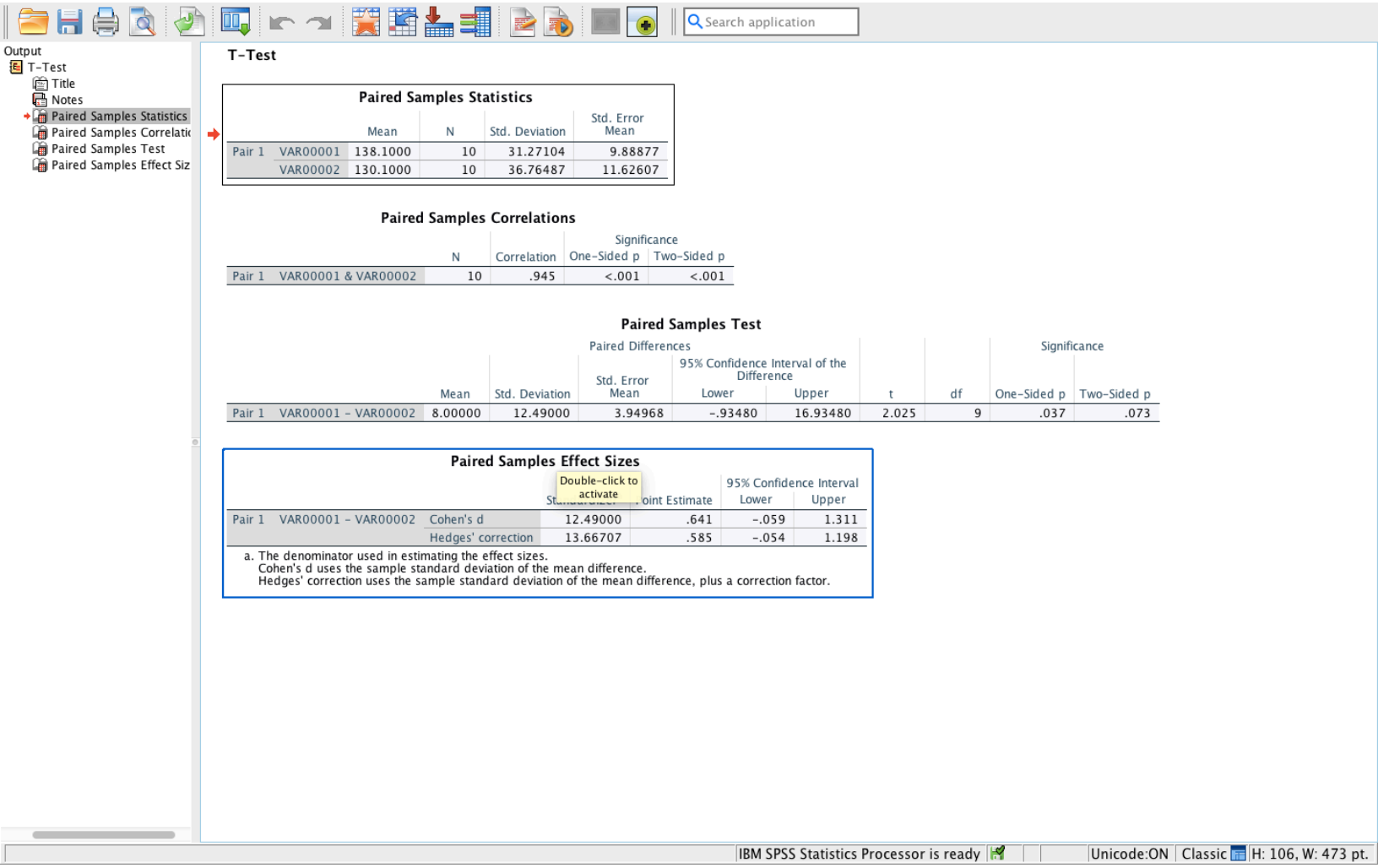
3. What is the dependent variable? _____arousal levels,_____

4. What is the independent variable? ___meditation treatment, specifically the formal meditation classes that the participants undergo for 3 weeks. _____

5. What is the appropriate hypothesis test?

paired samples t-test _____

6. Please analyze the data using the appropriate hypothesis test on SPSS and cut and paste your SPSS results here:



7. Based on your SPSS results, do you reject or fail to reject the null?

__Fail to reject the null _____

8. Please write the “statistical statement” for your SPSS results:

_t(9)=2.025, p>.05_____

9. Please write your results in a “literature” or “research study” format:

The mean arousal level before meditation was M=130 with a SD =36.76. The mean arousal level after meditation was M=138 with a SD = 31.27. Our data was not significant. Our data does not support that meditation had an effect on arousal levels, t(9)=2.025, p>.05