

AS2 (Assignment 2, Unit 5): Dependent Measures t-test

Please write your answers in red 😊

An investigator is interested in whether the number of dresses tried on in a department store for a wedding will be affected by viewing a fashion magazine. A sample of 5 women was measured on how many dresses each tried on before and after viewing a fashion magazine. The before-and-after scores are as follows:

| Subject | Before | After |
|---------|--------|-------|
| 1 | 6 | 2 |
| 2 | 5 | 7 |
| 3 | 9 | 6 |
| 4 | 1 | 3 |
| 5 | 8 | 5 |

1. What is the research's hypothesis?

Viewing a fashion magazine WILL affect the number of wedding dresses tried on in a department store.

2. What is the null hypothesis?

Viewing a fashion magazine will NOT affect the number of wedding dresses tried on in a department store.

3. What is the independent variable? Fashion magazine.

4. What is the dependent variable? Wedding dresses.

5. What is the name of the *research design*? Within-Subject Design

6. What is the appropriate *hypothesis test* to analyze these data? Dependent-Measures t-test

7. Please run the appropriate SPSS analysis and cut and paste your results here:

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|----------|--------|---|----------------|-----------------|
| Pair 1 | VAR00001 | 4.6000 | 5 | 2.07364 | .92736 |
| | VAR00002 | 5.8000 | 5 | 3.11448 | 1.39284 |

| | | Paired Differences | | | | | | Significance | | |
|--------|---------------------|--------------------|----------------|-----------------|---|---------|-------|--------------|-------------|-------------|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | t | df | One-Sided p | Two-Sided p |
| | | | | | Lower | Upper | | | | |
| Pair 1 | VAR00001 - VAR00002 | -1.20000 | 2.94958 | 1.31909 | -4.86238 | 2.46238 | -.910 | 4 | .207 | .414 |

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

(a) What decision did you make? Reject or fail to reject the null? **Fail to reject the null.**

(b) Please write your “statistical statement”: **t(4)=-.910,p>.05**

(c) Please interpret the results of your analysis “in words” and relating DIRECTLY back to the research question.

The mean of trying on wedding dresses **before** viewing fashion magazines was $M=5.8$ with an $SD=3.11$. The mean of trying on wedding dresses **after** viewing fashion magazines was $M=4.6$ with an $SD=2.07$. Our data was not significant. Our data support that viewing a fashion magazine did **NOT** affect the number of wedding dresses tried on in a department store $t(4)=-.910,p>.05$.

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

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