

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? The research's hypothesis is that viewing a fashion magazine has an effect on the number of dresses tried on in a department store for a wedding.
2. What is the null hypothesis? The NULL hypothesis is that viewing a fashion magazine has no effect on the number of dresses tried on in a department store for a wedding.
3. What is the independent variable? Fashion Magazine
4. What is the dependent variable? Number of dresses tried on in a department store for a wedding.
5. What is the name of the *research design*? Within-Subjects Research design.
6. What is the appropriate *hypothesis test* to analyze these data? Dependent Measure t-test

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

Paired Samples Statistics

	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 Samples Test

	Paired Differences Significance		t	df					
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	One-Sided p	Two-Sided p	Lower	Upper	
Pair 1	VAR00001 - VAR00002	-1.200002	.94958	1.31909	-4.862382	.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_____

(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 number of dresses tried on before viewing a magazine was $M=5.8$ with a $SD = 3.11$. The mean of dresses tried on after viewing a magazine was $M=4.6$ with a SD of 2.07 . Our data were significant. Our data support that the magazine did not have an effect on the number of dresses tried on.

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

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