

## 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 has an effect on the number of dresses tried on in a department store for a wedding.

2. What is the null hypothesis?

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 measures 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
	VAR00002	5.8000	5	3.11448	1.39284

Paired Samples Test											
		Paired Differences						Significance			
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p	
Pair 1	VAR00001 - VAR00002	-1.20000	2.94958	1.31909	Lower	Upper					
					-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 hypothesis.**

(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 measured before was M=5.8 with a SD=3.11. The mean measured after was M=4.6 with a SD=1.64. There is no difference between before and after scores. This means that the number of dresses tried on in a department store for a wedding will not be affected by viewing a fashion magazine, t(4)=-.910, p>.05.**

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

(e) Is there a probability of Type II error? **Yes**