

SPSS 13.0 HELP SHEET: Wilcoxon signed-rank test

CONTENTS

1. How to enter data to do a Wilcoxon signed-rank test.
2. How to do a Wilcoxon signed-rank test.

1. How to enter data to do a Wilcoxon signed-rank test.

For general advice on data entry see the “How to enter data into SPSS” help sheet.

Wilcoxon signed-rank tests are used on related data: Data from one sample goes in one column and data for the other sample in another column: Related data points in the two samples must be in the same case (i.e., row). The samples/columns are identified by which category of the independent variable they are from. In this example, the dependent variable is *Time spent grazing* and the independent variable is *Reproductive status of the ewe*. *Time spent grazing* is given as a percentage and is a scale level of measurement. *Reproductive status of the ewe* is measured at the nominal level: percgr_wo (variable label = Without lamb) or percgr_w (variable label = With lamb). *ID* indicates the identity of the ewe and is not involved directly in the analysis.

Variable View:

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure
1	id	Numeric	8	2		None	None	8	Right	Nominal
2	percgr_wo	Numeric	8	2	Without lamb	None	None	8	Right	Scale
3	percgr_w	Numeric	8	2	With lamb	None	None	8	Right	Scale

Data View

	id	percgr_wo	percgr_w
1	10.00	72.00	55.50
2	168.00	62.35	43.80
3	227.00	55.78	66.80
4	801.00	59.98	68.00
5	805.00	51.60	57.88
6	820.00	61.48	61.90
7	823.00	52.57	45.40
8	837.00	52.50	56.67

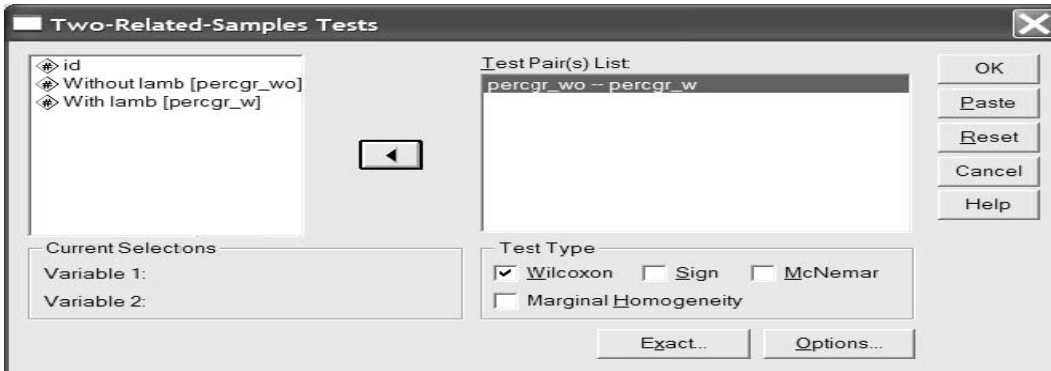
2. How to do a Wilcoxon signed-rank test.

To get SPSS to conduct a Wilcoxon signed-rank test:

Open your data file.

Select: Analyze – Nonparametric Tests – 2 Related Samples...

This will bring up the Two-Related-Samples Tests window:



Select the variables that you want to analyse, and send them to the **Test Pair(s) List** box (in the example above this is *With Lamb* and *Without Lamb*). Click OK.

The key elements of the output are:

	N	Mean Rank	Sum of Ranks
With lamb - Without lamb			
Negative Ranks	3 ^a	9.67	29.00
Positive Ranks	13 ^b	8.23	107.00
Ties	0 ^c		
Total	16		

a. With lamb < Without lamb **NUMBER OF PAIRS**

b. With lamb > Without lamb (where D is zero)

c. With lamb = Without lamb

NUMBER OF PAIRS (total)

	With lamb - Without lamb
Z	-2.017 ^a
Asymp. Sig. (2-tailed)	.044

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test