SPSS24 HELP SHEET: Wilcoxon signed-rank test

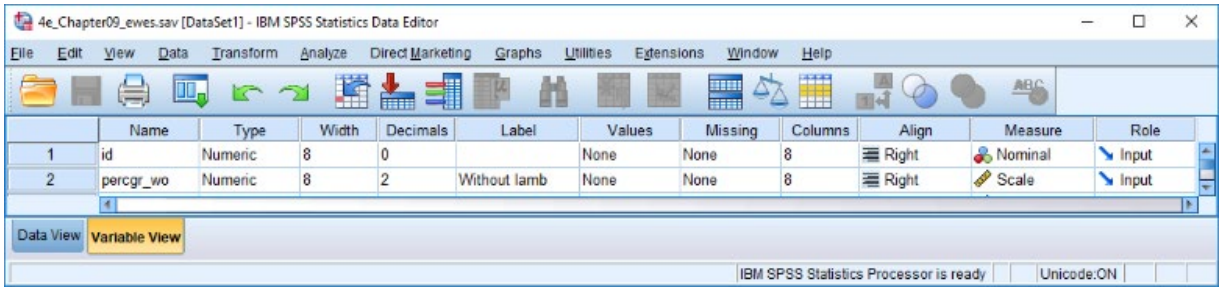
CONTENTS

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

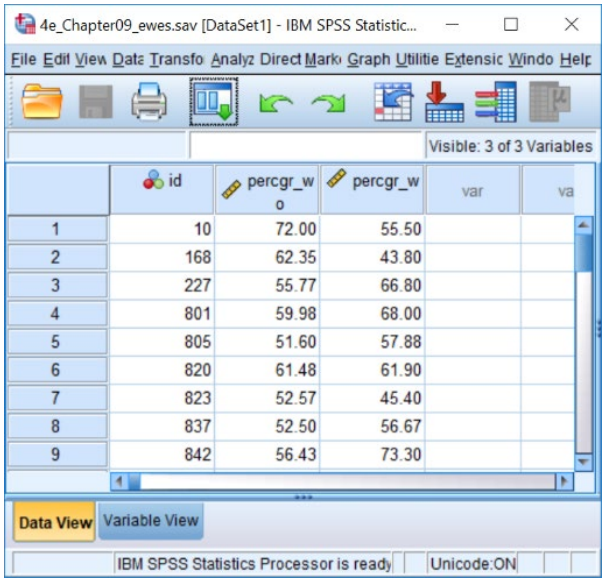
For general advice on data entry see the "**How to enter data into SPSS"** help sheet.

Wilcoxon signed-rank tests are used on related data: Data from one sample go in one column and 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* 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:



Data View (Value Labels off or on)



2 How to do a Wilcoxon signed-rank test

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

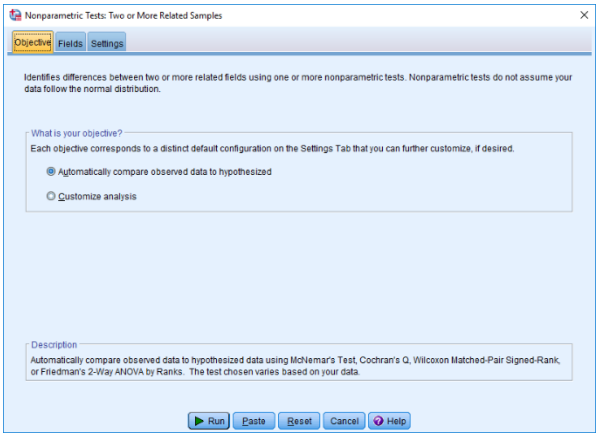
Open your data file.

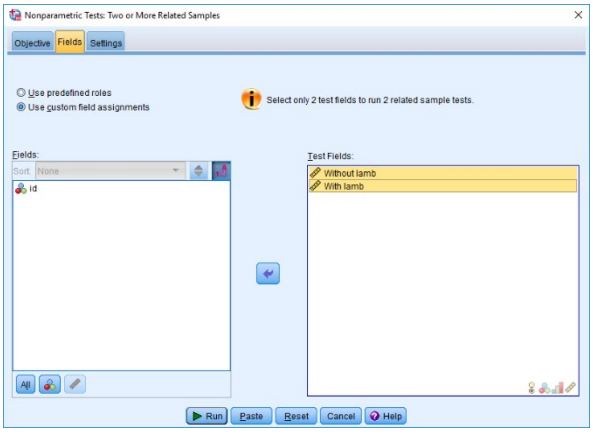
Select: Analyze - Nonparametric Tests – Related Samples...

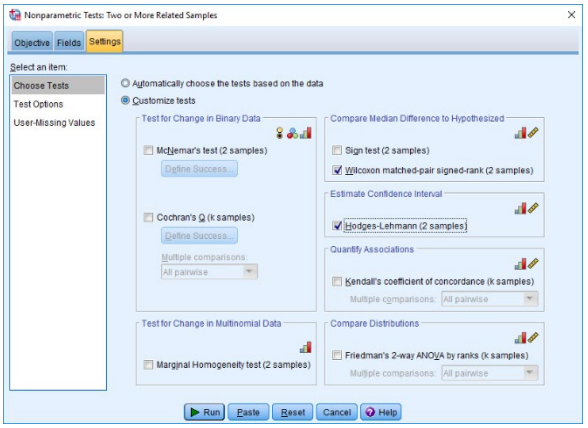
Dawn Hawkins: Anglia Ruskin University, January 2019

This will bring up the **Nonparametric Tests Two or More Related Samples Tests** window which has three tabs:

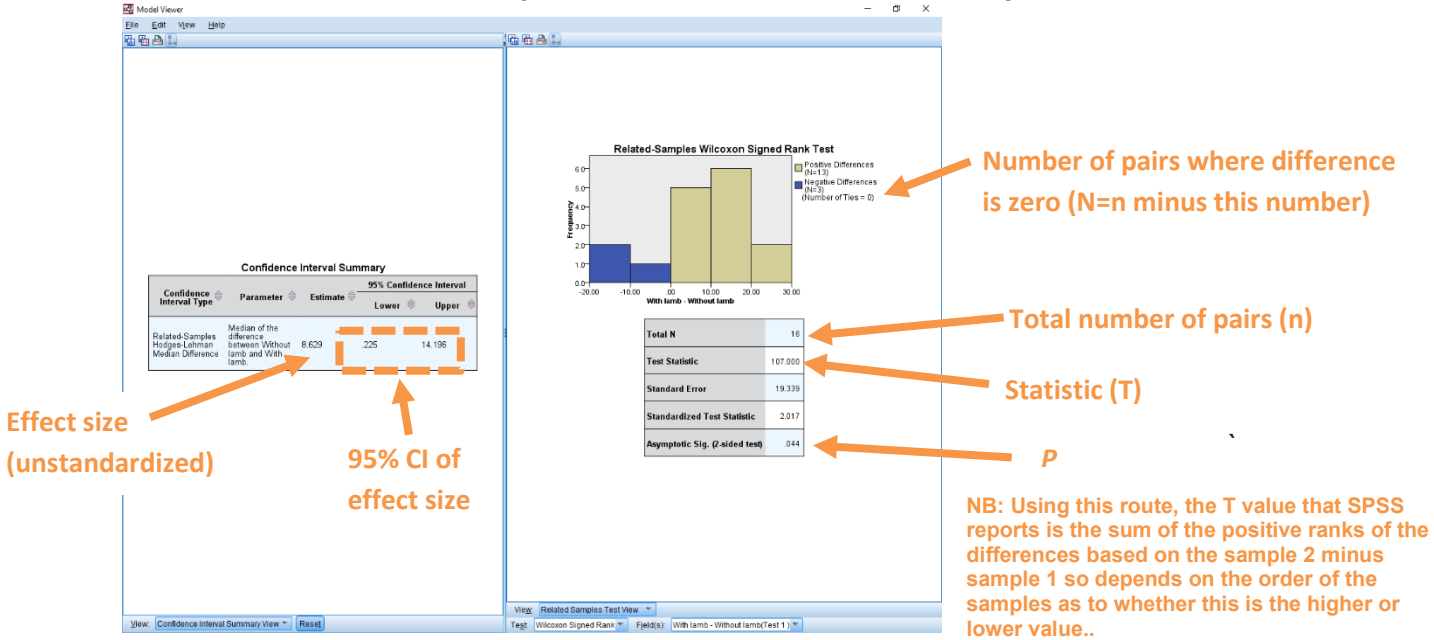
1. **Objective.** Select **Customize analysis**.
2. **Fields**. Either use the default **Use predefined roles** or select **Use custom field assignments** and send *Without lamb and With lamb* to the **Test Field** box.
3. **Settings.** Select **Customize tests**, then **Wilcoxon Matched-pair signed-rank (2 samples)** in the **Compare Median Difference to Hypothesized** area and **Hodges-Lehman estimates (2 samples)** under in the **Estimate Confidence Interval** area.







Press **Run** on any and then double click on the **Hypothesis Test Summary** table in the **Output** window to bring up the **Model Viewer** window. From the **View** drop-down menu (bottom left), select **Confidence Interval Summary View**. This will produce the following in the **Output** window.



In summary the key information is:

T = 107, n = 16, N = 16, P = 0.044

And the unstandardized effect size (estimated difference between the medians of the populations) is

difference (female–male)=8.63, 95% CI [0.23,14.20]