# SPSS24 HELP SHEET: One-Way Chi-Square (using legacy dialogs)

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#### 1. How to enter data to do a One-way Chi-square.

For general advice on data entry see the "**How to enter data into SPSS**" help sheet. The way you enter data into SPSS depends on whether it is raw observations or frequencies.

# 1a. For data as raw observations

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# 1a. For data as frequencies

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When data are entered as frequencies the following additional step is needed before starting the analyses.

Select: Data - Weight Cases . . .

In the **Weight Cases** dialogue window select the **Weight cases by** option. Then, select the variable from the list on the left, which contains the frequencies, and send it to the **Frequency Variable** box. Click **OK**.



## 2. How to do a One-way Chi-square test with equal expected values.

To get SPSS to conduct a one-way chi-square test on your data when expected values are equal (Test of Homogeneity):

Open your data file.

Select: Analyze – Nonparametric Tests – Legacy Dialogs - Chi-Square... This will bring up the **Chi-Square Test** window:



Select the variable that you want to analyse, and send it to the **Test Variable List** box (in the example above this is *SeedType*).

Under **Expected Range** check that the option **Get from data** is selected. Under **Expected Values** the **All categories equal** is the option that should be selected for a test of homogeneity. Click **OK**.

# This will produce the following in the Output window.







In summary the key information from the test is one-way classification chi-square:  $X^{2}_{3} = 0.618$ , N = 110, P = 0.892

> Page 3 of 4 Dawn Hawkins: Anglia Ruskin University, February 2019

# 3. How to do a One-Way Chi-square test with unequal expected values.

To get SPSS to conduct a one-way chi-square test on your data when expected values are unequal:

Open your data file.

Select: Analyze – Nonparametric Tests – Legacy Dialogs - Chi-Square... This will bring up the **Chi-Square Test** window:



Select the variable that you want to analyse, and send it to the **Test Variable List** box (in the example above this is *SeedType*).

Under **Expected Range** check that the option **Get from data** is selected. Under **Expected Values** you have to tell SPSS what the expected ratio. To do this, for example, for a 9:3:3:1 type 9 in the adjacent box then click **Add**. Repeat this procedure for the numbers 3, 3, and 1. The order of the values is important: you have to add the ratio values in ascending order of the category-number codes, with the first value in the list corresponding to the category with the lowest-number code. Click **OK**.

This will produce the following in the **Output** window.



In summary the key information from the test is one-way classification chi-square:  $X^{2}_{3} = 71.980$ , N = 110, P = 0.000