## CONTENTS

- 1. How to enter data to do a One-way Chi-square.
  - 1a. For data as raw observations
  - 1b. For data as frequencies (including weighting cases procedure)
- 3. How to do a One-way Chi-square test with equal expected values.
- 4. How to do a One-Way Chi-square test with unequal expected values.

### 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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# 1b. For data as frequencies (including weighting cases procedure)

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

Select: Data - Weight Cases . . .

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



Page 2 of 6 Dawn Hawkins: Anglia Ruskin University, January 2019

## 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 – One Sample...

This will bring up the **One-Sample Nonparametric Tests** window which has three tabs. On this **Objectives** tab select **Customize analysis**. On the **Field tab** make sure your variable, in this example *SeedType*, is in the **Test Fields** box. On the **Settings** tab, select **Customize tests** and **Compare observed probabilities to hypothesized (Chi-Square** 

test) and click the **Options** . . . button underneath. Choose **All categories have equal** probabilities. Click **OK**.

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Click **Run** on the main **One-Sample Nonparametric Test** window. Double-click on the **Hypothesis Test Summary** in your **SPSS Output** window and bring up the **Model Viewer**.

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

### 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 – One Sample...

This will bring up the **One-Sample Nonparametric Tests** window which has three tabs. On this **Objectives** tab select **Customize analysis**. On the **Field tab** make sure your variable, in this example *Seedtype*, is in the **Test Fields** box. On the **Settings** tab, select **Customize tests** and **Compare observed probabilities to hypothesized (Chi-Square test)** and click the **Options**... button underneath. Put the number codes used for your different categories in the left column and the expected ratio in the right column. Click **OK**.

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Click **Run** on the main **One-Sample Nonparametric Test** window. Double-click on the **Hypothesis Test Summary** in your **SPSS Output** window and bring up the **Model Viewer**.

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