Pearson chi-square test

- If you want to test the relationship between two categorical variables you can do this with *Pearson's chi-square test* or the *likelihood ratio statistic*.

- Look at the table labelled *Chi-Square Tests*; if the *Exact Sig.* value is less than .05 for the row labelled *Pearson Chi-Square* then there is a significant relationship between your two variables.

- Check underneath this table to make sure that no expected frequencies are less than 5.

- Look at the contingency table to work out what the relationship between the variables is: look out for significant standardized residuals (values outside of ±1.96), and columns that have different letters as subscripts (this indicates a significant difference).

- Calculate the *odds ratio*.

- Report the χ^2 statistic, the degrees of freedom, the significance value and odds ratio. Also report the contingency table.

Loglinear analysis

- If you want to test the relationship between more than two categorical variables you can do this with *loglinear analysis*.

- Loglinear analysis is hierarchical: the initial model contains all main effects and interactions. Starting with the highest-order interaction, terms are removed to see whether their removal significantly affects the fit of the model. If it does then this term is not removed and all lower-order effects are ignored.

- Look at the table labelled *K-Way and Higher-Order Effects* to see which effects have been retained in the final model. Then look at the table labelled *Partial Associations* to see the individual significance of the retained effects (look at the column labelled *Sig.* – values less than .05 indicate significance).

- Look at the *Goodness-of-Fit Tests* for the final model: if this model is a good fit of the data then this statistic should be non-significant (*Sig.* should be bigger than .05).

- Look at the contingency table to interpret any significant effects (percentage of total for cells is the best thing to look at).