Introduction to SPSS
Module 5: Chi-Square

SLIDE 1, 2, 3
Modules 1, 2 , 3 and 4 covered preparing data for analysis, working with variables, summaries and descriptive statistics, and correlation and regression. Module 5 will cover Chi-Square. Attachments include instructions, sample data, and sample survey.

Note: Remember to save your file now and then.

SLIDE 4
Run a Chi-square
A Chi-Square analyzes the relationships in two ways; "Goodness of fit" (rarely used in research) which compares expected and observed frequencies of one nominal variable with several categories. A significant result would indicate that there is a significant deviation from the hypothesized values. The "test for independence" which analyzes the relationship between nominal variables (usually two, each with several categories). SPSS uses "Crosstabs" to perform the chi-square analysis. These instructions are for the test for independence.

SLIDE 5, 6
Open SPSS and your data file.

From the SPSS menu bar, click on Analyze –Descriptive Statistics–Crosstabs.

Move one variable to the "Row(s)" box, and the other variable to the "Column(s)" box.

Check Display clustered bar charts.

Click on Statistics button, check **Chi-square**. Click on Continue button.

Click on the Cells button, under "Counts", check **Observed** and **Expected** (reflects the null hypothesis that there is no difference between the groups); under "Residuals", check **Unstandardized** (value of the dependent variable minus its predicted value); under "Percentages", check **row, column, and total.** Click on Continue button.

Click on OK

Review Output: Counts shows frequency per cell, percentages within each variable, and totals. Analysis (value, degrees of freedom, significance) is below.

SLIDE 7
An example of written results: A 2 (gender) x 3 (school) chi-square analysis was used to examine whether gender was related to type of school they attended for their lower division undergraduate work. The analysis was significant, $X^2 (2, N=112) = 5.33$, $p < .05$. Can also include a table similar to the output table which shows both variables.

SLIDE 8, 9
Recap and Next Module