

SPSS for R x C Contingency Table Analysis

I. Data File Format

- need two columns; one for row factor group designation and one for column factor group designations. Each row in the data set is thus the response for a single observation with respect to its placement in the contingency table row and column category. See the data file example below, where the first data column = "Row Group" and the second data Column = "Column Group". The program will automatically tally these frequencies up and put them in tabular form.

```

1      1
1      1
2      1
4      1
1      2
2      2
2      2
2      2
1      3
2      3
3      3
4      3
etc....

```

II. The Analysis

- (1) From the pull-down menu:

Analyze → *Descriptive Statistics* → *Crosstabs* <click on this>

- (2) Specify the appropriate Row and Column variables:

Simply highlight the appropriate column name from the list on the left and click on the arrow button to include it as a row or column variable. For example, data column 1 above is our ROW GROUP designator and data column 2 is our COLUMN GROUP designator.

- (3) Specify the appropriate test statistic:

- click on the "Statistics" button at the bottom, then click on the "Chi-square statistic" box to include it. Exit this dialog box and then click on "OK" in the main dialog box to run the analysis.

III. The Output

The output consists of three elements:

- (1) Case Processing summary – this is a good way to check if the computer included variables the way you wanted them.
- (2) Crosstabulation Table – this shows the data summarized in standard contingency table format.
- (3) Chi-Square Test Results (see below) – this table gives the test statistic values, degrees of freedom, & P-value for various test statistics. The first two are most useful to us: chi-square statistic and the G-statistic (likelihood ratio).

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	109.104 ^a	12	.000
Likelihood Ratio	105.926	12	.000
Linear-by-Linear Association	4.261	1	.039
N of Valid Cases	756		

a. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 2.70.