

Categorical Data Analysis, with *some* Graphics

Supplementary Notes for SPSS Users

Prepared by: Mirka Ondrack
Institute for Social Research &
Statistical Consulting Service

These notes provide a few examples of how some of the analyses I have described can be carried out with SPSS. The note pages show the SPSS code that can be used directly, and is produced from the SPSS Analyze menu. Using the menus, you usually have to choose appropriate options.

Some of the graphs I illustrate in the main course notes (those based on standard line graphs, scatterplots and bar charts) can be done with a combination of an analysis procedure, saving some statistic (e.g., predicted values, case diagnostics), then using Graphs menu to produce the basic graph. Some examples are shown in the .pdf Output files linked below, but most of these have been customized using the SPSS Chart Editor.

For the novel graphics I'm suggesting, you will have to do the graphs separately (with SAS or [R](#)). You can easily convert your data from SPSS to SAS and vice-versa. See [spss-sas.pdf](#).

Topics

Part 1: Discrete distributions and randomization-based methods

<i>Example</i>	<i>SPSS Menu</i>	<i>SPSS syntax</i>	<i>Output</i>
<i>Fitting and testing a Poisson distribution</i>	Nonparametric Tests -> 1 sample K-S	.sps file	.pdf file
<i>Two-way table, Fisher's exact test</i>	Descriptive statistics -> Crosstabs	.sps file	.pdf file
<i>Ordinal and stratified tables</i>	Descriptive statistics -> Crosstabs	.sps file	.pdf file
<i>3-way table: homogeneity of association</i>	Loglinear -> Model Selection	.sps file	.pdf file

Part 2: Two-way and n-way tables

<i>Example</i>	<i>SPSS Menu</i>	<i>SPSS syntax</i>	<i>Output</i>
<i>Odds ratios for 2x2 tables</i>	Descriptive statistics -> Crosstabs	.sps file	.pdf file
<i>Observer agreement: Cohen's κ</i>	Descriptive statistics -> Crosstabs	.sps file	.pdf file
<i>Loglinear models</i>	Loglinear -> Generalsps file	.pdf file
<i>Correspondence analysis</i>	Data reduction -> Correspondence analysis	.sps file	.pdf file

Part 3: Model-based methods

<i>Example</i>	<i>SPSS Menu</i>	<i>SPSS syntax</i>	<i>Output</i>
<i>Logit models</i>	Regression -> Binary logistic	.sps file	.pdf file
<i>Logistic regression</i>	Regression -> Binary logistic	.sps file	.pdf file
<i>Ordinal regression</i>	Regression -> Ordinal	.sps file	.pdf file
<i>Polytomous: nested dichotomies</i>	Regression -> Ordinal	.sps file	.pdf file
<i>Polytomous: generalized logits</i>	Regression -> Multinomial logistic	.sps file	pdf file