Survey Analysis Workshop

Detailed guide to SPSS tutorials

[last update: 11 May 2011]

Links on this page are to **blocks** on the site, links to block **contents** are on pages 2 - 5

The tutorials and exercises are arranged in four main blocks, following the usual research sequence of data capture, data processing and data analysis, with occasional (cynical, wise and experienced) comments thrown in from time to time on problem formulation, research design and survey practice as well as on how SPSS works (or sometimes not!).

All exercises and examples relate to SPSS/PASW 18 or SPSS 19, but they all work with SPSS 15 (and probably also SPSS 11). Only the screenshots are different. There's a pencil and paper exercise for you to complete at the beginning, but after that, all tutorials and exercises use actual data from real (including major) surveys.

Files in *.doc format are set in 11-point Arial and optimised for printing on European A4 sheet size (297 x 210 mm). They are legible even if printed two pages to a sheet.

Block 1: From questionnaire to SPSS saved file

1.1: The language of survey analysis
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Block 2: Analysing one variable

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Block 3: Analysing two variables (and sometimes three)

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3.2: Three variables
3.3: Multiple response
3.4: Comparing means
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[Still in preparation: provisional contents]

4.1 Hypothesis testing
4.2a t-test and one way anova
4.2b Testing differences between three or more means
4.3 Chi-square
4.4 Regression and correlation
4.5 Association, structure and cause

Data sets and files used in tutorials and exercises

This a collection of raw data, SPSS syntax and SPSS saved files for you to download as and when needed and store on your own computer or on a CD. Facsimile questionnaires are not included here, but extracts and links are provided in tutorials as and when necessary.

Statistics notes to accompany course

These notes were originally written by Jim Ring, expressly for students (mainly, but not exclusively, in the social sciences) who found computers and statistics daunting: they will also be helpful for those teaching or advising such students. They are not intended to replace recommended textbooks, and should be used in conjuction with the explanations included in SPSS **help**. They were written long before the appearance of the original and much sought-after **SPSS Guide to Data Analysis** (Norusis, 1987 -1990, for SPSS-X 3 and 4) Later editions relating to SPSS13 onwards for Windows are less helpful for beginners using syntax.

Block 1: From questionnaire to SPSS saved file

[Page last updated 30 November 2010]

All raw data, SPSS saved files and key syntax files can be found on data sets and documents, but you'll learn a lot more if you do all the exercises yourself instead of copying them.

[Last update, *.doc, size] Tested, safe to print

1.1: The language of survey analysis

1.1.1 Pre-course questionnaire on interests and skills [23 Aug 2010: *.doc, 35 kb]
(Print up and complete, with up to 9 of your fellow students and/or colleagues)
1.1.2 Introduction to survey data [24 Aug 2010: *.doc, 203 kb]
(Essential reading)
1.1.3 Introduction to the use of computers in survey analysis [24 Aug 2010: *.doc, 93 kb]
(Highly recommended reading)

1.2: How do data relate to questionnaires?

1.2.1 Data transfer sheet [24 Aug 2010: *.doc, 74 kb]
(Print up, then write in the coded data from your completed questionnaire(s))
1.2.2 Preliminary data exercise [23 Aug 2010: *.doc, 200 kb]
(Type data from your transfer sheet into a *.txt file and save it)
1.2.3 First look at real data from a major survey [20 Sep 2010: *.doc, 779 kb]
(British Social Attitudes 1986)
1.2.4 Second look at data from a major survey [1 Sep 2010: *.doc, 1.95 mb]
(British Social Attitudes 1989)

1.3: Reading raw data into SPSS

1.3.1 Conventions for Naming Variables in SPSS [2 Sep 2010: *.doc, 77 kb]
1.3.2 Cumulative data from pre-course questionnaire [undated, txt, 7 kb]
1.3.3.1 Preparing the ground [1 Sep 2010: *.doc, 148 kb]
1.3.3.2 Introduction to SPSS syntax [3 Sep 2010: *.doc, 655 kb]
1.3.3.3.First shot at writing SPSS syntax [7 Sep 2010: *.doc, 163 kb]
1.3.3.4 First shot at running SPSS [23 Nov 2010: *.doc, 1400 kb]
1.3.3.5 Checking your data [23 Nov 2010: *.doc, 451 kb]
1.3.3.6 SPSS for real - my first saved file [Tutorial] [23 Nov 2010: *.doc, 365 kb]
1.3.3.7 SPSS for real - my first saved file [Exercise] [23 Nov 2010: *.doc, 947 kb]
1.3.3.8 Checking your data (again) [23 Nov 2010: *.doc, 410 kb]
1.3.3.9 Some general advice on file building in SPSS [23 Nov 2010: *.doc, 41 kb]

1.4: Completing your data dictionary

1.4.1 Labelling your variables in SPSS [23 Nov 2010: doc, 815 kb]
1.4.2 Labelling your values in SPSS [30 Nov 2010: doc, 683 kb]
1.4.3 Missing values - a note [23 Nov 2010: doc, 7 kb]

Block 2: Analysing one variable

2.1 Nominal and ordinal variables

These tutorials and exercises use data from the pre-course questionnaire on interest and skills.

2.1.1 myclass3.sav (SPSS saved file for pre-course self-completion questionnaires)
2.1.2.1 Tutorial - Frequencies for nominal and ordinal variables
2.1.2.2 Exercise - Frequencies for nominal and ordinal variables

These tutorials and exercises use data from the British Social Attitudes surveys

2.1.2.3 Questions and data for nominal and ordinal variables
2.1.2.4 Reading in data for nominal and ordinal variables
2.1.2.5 Extending your data dictionary
2.1.2.6 Checking your file contents
2.1.2.7 Frequencies for nominal and ordinal variables
2.1.2.8 Housekeeping [necessary to avoid clutter on your desktop]
2.1.2.9 Homework exerciise for nominal and ordinal variables
2.1.2.10 Specimen answer for homework exercise 1
2.1.2.11 Checking the contents of mybsa89_1.sav
2.1.2.12 Specimen answer for homework exercise 2

2.2 Interval scale variables

This tutorial and exercise uses data from the precourse questionnaire

2.2.1.1 [myclass] Frequencies for interval variables

The following tutorials and exercises use data from the British Social Attitudes surveys

2.2.1.2 [bsa86] Exercise - Reading in data for interval variables
2.2.1.3 [bsa86] Extending your data dictionary
2.2.1.4 [bsa86] Exercise - Frequencies for interval variables
2.2.1.5 [bsa86] Specimen answer for frequencies exercise
2.2.1.6 [bsa89] Homework exercises
2.2.1.7 [bsa89] Specimen answer for homework exercises

2.3 Data transformations

Selecting **variables** for analysis, changing the **names** of variables, changing the **values** of variables. Creating **new variables** from existing ones. Selecting **cases** for analysis as a transition from analysing one variable to analysing two or more variables. All links below are to files which are still drafts.

2.3.1.1 Data transformations (Tutorial)

Temporarily withdrawn for major revision and re-sequencing:

2.3.1.2 Exercise for data transformations
2.3.1.3 Specimen answer for data transformation exercise
2.3.1.4 Conditional frequencies tutorial
2.3.1.6 Specimen answer for conditional frequencies exercise

Block 3: Analysing two variables (and sometimes three)

A number of files for Block 3 are still in their original 1990 or 1991 format (ie WordStar 4, VMS, EDT and with syntax for interactive SPSS-X 8 on a Vax cluster: all the output is in line-printer format) It's interesting to see how the syntax and output formats have changed. Some sample output is from SPSS -X 4 on the Vax mainframe and all jobs need re-running with SPSS 19. This is very time-consuming, but I'll get them converted and uploaded as quickly as I can. The numbering system for the files below is subject to change, but the numbers in the downloaded document titles may be different. Don't worry: the links are to the correct files.

3.1: Two variables

Joint frequency distributions of two variables displayed in contingency tables. Dependent and independent variables: rules for percentaging. (**CROSSTABS** var1 **BY** var2)

3.1.1 Introduction to tabulation (Recommended reading)
3.1.2 Analysing two variables (Preliminary reading: progression from frequency counts via conditional frequency counts to joint frequency counts [contingency tables])
3.1.3 Tutorial - Contingency tables from SPSS

The following materials are in preparation.

3.1.4 Exercise for contingency tables
3.1.5 Specimen answer for contingency tables exercise

3.2 Three variables

Introducing a third variable. Controlling for test variables. Elaboration.
(**CROSSTABS** var1 **BY** var2 **BY** var3)

The following materials are in preparation.

3.2.1 Tutorial - Elaboration
3.2.2 Exercise for elaboration
3.2.3 Specimen answer for elaboration exercise

3.3: Multiple response [not available in student version]

Explanation of multiple response questions, examples from real surveys, and exercises in analysis using SPSS.

3.3 Multiple response [Header page]
3.3.1 Multiple response and SPSS: an introduction
3.3.2 Multiple response: British Social Attitudes 1986
3.3.3 First exercise in multiple response

3.4: Conditional data transformations (**IF** and **DO IF**)

3.4.1 Tutorial - Conditional transformations [doc: 0.05 mb]
[No exercises yet]

3.5: Derived variables (COUNT and COMPUTE)

Set of tutorials with fully worked examples on the use of COUNT and COMPUTE to construct scores on simple attitude scales using data from a real survey of 15 year-olds. [NB: Numbering system within the documents is retained from previous tutorials for SPSS 15 until I get time to change them and re-upload]

Block 4: Hypothesis testing

[Provisional contents, not necessarily in this order]