



SPSS Workshop

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on SPSS workshops

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Menu of SPSS

File

New: Open a new data window, a new output window, etc.

Open: Open existing data, output, etc.

Save: Save the data set in the window.

Save As: Save the data set, but with allowances to save it as other than an SPSS data set.

Print Preview: View a preview of what your page would look like if printed.

Print: Print the open page.

Edit

Undo: Undo the last action performed.

Redo: Redo the last action performed.

Cut: Cut the selected cells and save them to the clipboard in case you want to paste them.

Copy: Copy the selected cells and save them to the clipboard.

Paste: Paste the contents of the clipboard to selected cells.

View

Status Bar: at the bottom of the screen. Identifies what SPSS is currently running (Filter/weight/split)

Fonts: Change the fonts that are used.

Value Labels: If checked, value labels will appear in data rather than the recoded values. E.g., "Yes" and "No" rather than 1 and 2.

Variables: Switch to Variable View

Data

Tools to manage and work with your data

Sort cases: used to sort the data sorted on gender/age/etc

Split files: to split the file into two sections using a 2-level variable: e.g. Separate analysis for females and males

Select cases: To work on specific cases: e.g. Females only

Weight cases: Gives cases different weights for analysis. E.g. Under/over sampled data from a group; one weight for each case so that the groups would resemble the proportion that we had hoped for

Transform

Alter and adjust your data, or create new variables

Compute

Recode into same variable

Recode into different variable

Analysis

Compute descriptive and inferential statistics

Descriptive analysis

Compare means

Non-parametric test

Correlate

Regression

Survival analysis

Data Entry- Step by Step

Scenario:

A teacher wanted to see whether there was a difference in the amount of time boys and girls spent on their homework. He asked ten boys and ten girls aged 9 years to make a note of the number of minutes they spent studying over a one-week period.

1. Open up a new dataset

Open SPSS, select New Dataset.

2. Setting up variables

The first variable: Gender

Click on the Variable View tab in the data editor window.

Click in the Name column on row 1.

Enter the name 'Gender' and press the return key on your keyboard.

Type The default is numeric. Don't change it in this case. String should only be used to input information in the form of text.

Width The default is for eight characters to be displayed, no need to change it unless you will be using more than 8 characters.

Decimals allows you to specify the number of decimal places for your variable.

Label this is where you can give your variable a longer label with spaces, as this label will appear on output tables instead of the shortened variable name. Or you may see the full label assigned to that variable when the mouse pointer is held over the variable name in Data View.

Click within Values column along the row of gender and a small blue box on the right will become apparent.

Click on the blue box, the Value Labels window appears.

We decided to call 'male' number 1 and 'female' number 2.

Enter '1' into the Value box and enter 'male' into the Label box. Click on the Add button and you will see 1.00="male" appear in the box below. Then follow the same procedure, entering '2' in the Value box for females.

Measure column is where you identify which level of data for each variable is. Select 'Nominal' in this case.

Continue to set up the second variable: Time

3. Entering Data

In Data View, enter into the data on gender and time.

4. Saving your data

File- Save as- locate where you want to save your data

Save as type is called a .sav file.

Click on Save

Frequency Analysis

To perform frequency analysis:

1. Click the Open button on the Data Editor toolbar. The Open Data dialog box opens.
2. Navigate to the Data Files folder, select your file, and then click the Open button.
3. **Analyze > Descriptive Statistics > Frequencies**
The Frequencies dialog box opens.
4. Select the variable(s) you want to analyze, and then click the transfer arrow button. The selected variable is moved to the Variable(s) box.
5. Select the Display frequency tables check box if necessary.
6. Click the Statistics button. The Frequencies: Statistics dialog box opens
7. Select the Mean, Median and Mode check boxes in the Central Tendency section.
8. Select the Std. deviation check box in the Dispersion section.
9. Click the Continue button to return to the Frequencies dialog box.
10. Click the OK button. An Output Viewer window opens and displays the statistics and frequency table.

Building Histogram: Chart Builder

1. **Graphs > Chart Builder**
2. Under the Gallery Tab, select histogram, Drag-and-drop this icon into the Chart Preview Area.
3. You will be presented with the following dialog boxes: Chart Builder and Element Properties. The Chart Preview Area has been populated with a template of a simple bar chart.
4. Transfer the independent variable into the "X-Axis?" box and the dependent (outcome) variable, into the "Y-Axis?" box within the Preview Chart Area by drag-and-dropping the variables from the Variables: box.
5. Ideally, we want to be able to show a measure of the spread of the data. In this case, we wish to have error bars that represent ± 1 standard deviations. To do this, we tick the Display error bars checkbox

and then, under the -Error Bars Represent- area, we check the Standard deviation radio box, and in the Multiplier:, enter "1".

6. Click "Apply" button.

Building Histogram: Legacy Dialogs

1. **Graphs, >Legacy Dialogs>Histogram**
2. Pick one variable from the left dialog box and then click the center arrow to move your selection to the "Variable" box.
3. Step 3: Click "OK." SPSS may take a moment to run the graph utility. You may see a blank screen with the words "Running Graph" at the bottom right while SPSS performs the necessary calculations.
4. To edit scales, height, width and other features of the SPSS histogram, double-click on the graph in the Output Viewer (that's the window that pops up with the graph), and then double-click on the graph element you want to change.
5. If you expect your data to have a normal distribution, check the "Display Normal Curve" check box.

Building Histogram: Frequencies

1. **Analyze > Descriptive Statistics > Frequencies**
 2. Select the variable(s) that you want to analyze by clicking on it in the left hand pane of the frequencies dialog box. Then click on the arrow button to move the variable into the Variables pane.
 3. Be sure to select "Display frequency tables" if you want a frequency distribution. Specify which statistics you want to perform by clicking on the Statistics button. The Statistics dialog box will appear
 4. From the statistics dialog box, click on the desired statistics that you want to perform. To calculate a given percentile, click in the box to the left of percentile(s). Type in the desired percentile and click on the Add button. When you have selected all the desired statistics (e.g. mean, median, mode, standard deviation, variance, range, etc.), click on the Continue button.
 5. Click on Histogram and click on the Continue button.
- Click on OK in the frequencies dialog box. The SPSS Output Viewer will appear.

Measuring central tendency and dispersion

1. **Analyze > Descriptive Statistics > Frequencies**

.... Same as the process of building histogram.

One sample nonparametric test

1. **Analyze > Nonparametric Tests > One Sample**

2. Leave Objective as default

3. Click Field tab, move the variable you want to test to the "Test Fields".

4. Click "Run"

One Sample Chi-Square Test

1. **Analyze > Nonparametric Tests > Legacy Dialogs > Chi-Square**

2. Move the variable you want to the "Test Variable List"

3. "Expected Values" refers to the expected frequencies,

4. Click "OK"

One Sample T-Test

1. **Analyze > Compare Means > One-Sample T Test**

2. Transfer the dependent variable into the "Test Variables" by selecting it and then clicking on the arrow button. Enter the population mean you are comparing the sample against in the "Test Value" Box.

3. Click "options". You can change Confidence Interval Percentage.

4. Click "Continue" and "OK"

Demo & Exercise 1 –find a sample dataset and read it

Objectives:

- Get familiar with SPSS environment and know how to read it
- Understand the difference between Variable Name, Variable Label, and Variable Value
- Get a sense how the nominal, ordinal, and numerical scale variables are represented in SPSS
- Get a sense how the data entry is in tune with the research design

Operations

- Switch between Data View and Variable View
In Variable View, see the the difference between Variable Name, Variable Label, and Variable Label
- Click “Value Variables.” See the difference in the data view

Questions:

What kind of research design (experimental, cross-sectional/survey) does this data represent? Why?

What are the independent variable and dependent variables?

How many cases are there in this file?

3. What is the label of “smoker” ? How is it coded and what are the value labels?

Exercise 2 Data Entry

Objectives:

- Know how to enter data
- Understand the link between the grouping variable and research design.

Scenario 1: A driving simulator was used to investigate the number of errors made during daytime and night-time driving tasks. The number of driving errors was recorded for each person. Ten people was given a daytime task and ten other people were given a night-time task

Scores of people driving in daytime task: 7 5 6 5 4
5 6 6 5 7

Scores of people driving in night-time task: 9 10 8 9
9 7 8 9 11 6

Scenario 2: A driving simulator was used to investigate the number of errors made during daytime and night-time driving tasks. Ten people were given two tasks of driving in daytime and in night-time. The number of driving errors were as follows:

Participants: 1 2 3 4 5 6 7 8 9 10

Daytime task: 7 9 6 5 8 6 9 6 5 7

Night-time: 8 10 8 7 8 10 11 7 8 7

Exercise 3: Build a Histogram and run One sample Chi-Square test

Program Files-IBM-SPSS-Statistics-23-Samples-English-adl.sav

Before we run any statistical tests, we always first want to have a basic idea of what the data look like. A fast way for doing so it to look at the histogram for your variable.

Generate a histogram of “Labor force status”

Assume all requirements are met for One-Sample Chi-Square test

Run One Sample Chi-Square Test for “Labor force status”

SPSS

Nvivo

R Commander

Thesis Formatting

Citation Management

FIREtalks

...



Resources

SPSS Functionalities

I want to get tutorials on some general features

SPSS Statistics Essential Training
- Tutorial via Lynda.com. This is a subscription site, you should have access via VPL (Vancouver Public Library) if you have a library card.

SPSS On-Line Training Workshop - Central Michigan U
<http://calcnet.mth.cmich.edu/org/spss/toc.htm>

Statistics How to : <http://www.statisticshowto.com/spss-how->

Research Methods

I want to understand more statistical analyses and the links between analysis and types of variables

Bryman, Alan. Social research methods. Oxford university press, 2012. Chapter 15 Quantitative analysis

SPSS Exercise

Where I can find more exercises to master SPSS

www.pearsonhighered.com/george.

Statistics Help

What statistical tests should I run? What are the criteria?

<http://www.ats.ucla.edu/stat/spss/whatstat/whatstat.htm#1sampt> - UCLA

<http://www.cbgs.k12.va.us/cbgs-document/research/Stats%20For%20Dummies.pdf> -- Statistical testing basic guide)

<http://www.biostathandbook.com/testchoice.html>

<http://bamaui.edu/~jleeper/627/choosestat.html>--- Table of statistical test

UBC Statistical Consulting

Statistics Help

If you have questions about statistical analysis methodology, please visit the Department of Statistics' Statistical Consulting and Research Laboratory (SCARL) <http://www.stat.ubc.ca/SCARL/> website for information.

SPSS Consulting

One on One

<http://www.ats.ucla.edu/stat/spss/whatstat/whatstat.htm#1sampt>

SPSS-Help- Statistics Coach

SPSS Case Studies

Where I can find examples on statistical analysis and data interpretation examples?

SPSS-Help-Case Studies