

A quick guide of how to do data analysis on SPSS

Data analysis begins with a spreadsheet of data (Excel or SPSS format). Typically, most start with data from a publicly available source (e.g., electionstudies.org, gss.norc.org, cses.org, <http://projects.iq.harvard.edu/cces/data>, www.correlatesofwar.org). Most researchers form their arguments with data *already* in mind. If you are attempting to find data that proves your hypothesis, you might have a difficult time doing so.

What is the objective of data analysis? We are attempting to extract patterns from data, usually in the form of tables, graphs, and statistical tests, ultimately presenting this extracted information in a professional and clear way to an interested audience.

Argument

Your argument can be also thought of as a *hypothesis*. We can test hypotheses by quantitatively measuring our *independent* and *dependent variables*. In testing variables, the first step is to draw up descriptive statistics for each variable by determining the levels of measurement and appropriate measures.

Descriptive Statistics

Determining levels of measurement help us visualize your independent and dependent variables. At the very least, you should show descriptive statistics for your independent and dependent variables. You may also do this for the variables that help you understand your observations or cases better.

Level of Measurement	Central Tendency	Variability	Graph
Nominal (categorical, but not ranked or ordered)	Mode	Range	Bar graph
Ordinal (categorical, but able to rank or order)	Mode	Range	Bar graph
Interval-ratio (measured in a scale)	Mean (if no outliers) Median (if outliers)	Standard deviation Range	Histogram

Hypothesis Testing

To test the relationship between the independent and dependent variable, you would use the appropriate test detailed below.

Independent	Dependent	Test	SPSS Guide
Nominal (bivariate)	Interval-ratio	T-test	https://youtu.be/J3DvXnZ9fw0
Nominal/ordinal	Interval-ratio	ANOVA	https://youtu.be/3EehwOpfyfw
Nominal/ordinal	Nominal/ordinal	Chi-square with a crosstab	https://youtu.be/ODlpZPIfaLI
Interval-ratio	Nominal/ordinal	Recode independent to categorical	https://youtu.be/suUjRBGCqHg
Interval-Ratio	Interval-Ratio	Correlation or Regression	https://youtu.be/guU8uic6ybw https://youtu.be/soAoNtPjT1c