

Intro to SPSS 11.5

The Basics: Data Editor, Syntax Editor, and Output Viewer

SPSS consists of three parts: The Data Editor, the Syntax Editor, and the Output Viewer: When you start SPSS, the Data Editor window opens by default.

- 1) The **Data Editor** allows you to create your data set and perform statistical operations interactively, using pull-down menus. The Data Editor window has two sheets:
 - By default the **Data View sheet** opens whenever you open the Data Editor. It contains your actual data set. Here, the variable names are displayed in the grey row right above line 1. Each white row represents a case, and each column represents a variable.
 - The **Variable View Sheet** allows you to name your variables, to identify missing values, assign variable and value labels etc.

Defining Variables using the Variable View Sheet:

Below find short description of the most important variable specifications. For others, such as **Width**, **Column** and **Align**, you may simply stick with the default:

Name: In this cell you enter the name of your variable. The name is limited to eight characters and can be any combination of letters and numbers as long as it does not start with a number.

Type: Define your variable as numeric or string variable. If a variable is defined as string, it will read text, but string variables cannot be used for most statistical procedures. Therefore always define variables as numeric, if you can. If you are using categorical variables such as sex: Male/female, define the variable “sex” as numeric, and define the category “male” as 1 and “female” as 2, using the **values** cell function (see below).

Label: In this cell you can define a descriptive variable label.

Value: In this cell, you define value labels, which can be up to 60 characters in length. Value labels useful when you are dealing with categorical variables, e.g. the variable “sex” with the categories “male” and “female.” Assign the value label “male” to the value “1” and the label “female” to the value “2.”

- 2) The **Syntax Editor** fulfills the same function as the Data Editor. However, here you write the procedures you want to perform in the SPSS programming. The Syntax Editor is most commonly used to import partial datasets. Ask a staff member for help in importing partial datasets.
- 3) The **Output Viewer** displays the results of statistical operations you perform on your data. It pops up automatically once you run a statistical procedure

1 Important Menu Commands

Take a look at the menu bar. There are several pull-down menus. The most important ones are the following:

Data: The Data menu provides techniques for defining variables, inserting variables or cases, sorting files, splitting files, merging data sets, aggregating data, or using a select command to look at a subgroup within the data file.

Transform: The Transform menu allows you to transform your data set on the basis of existing variables. Among other things, you can recode your variables and compute new variables from existing ones..

Analyze: With the Analyze menu you perform statistical operations on your data set, the output of which will be displayed in the Output Viewer.

Graphs: The Graphs menu contains a number of graph options that allow you to visually display descriptive statistics in the Output Viewer.

2 Opening a Dataset and Creating a Dataset from scratch

If you have an SPSS dataset, you can open it the following way:

1. Select the **File** pull-down menu > **Open** > **Data**. A dialog box pops up.
2. Browse for your dataset and open it.

If you have a dataset in Excel, it is easy to open it in SPSS:

3. Select the **File** pull-down menu > **Open** > **Data**. A dialog box pops up. In the line that specifies “Files of Type,” change the file type from SPSS to Excel.
4. Browse for your dataset and open it.

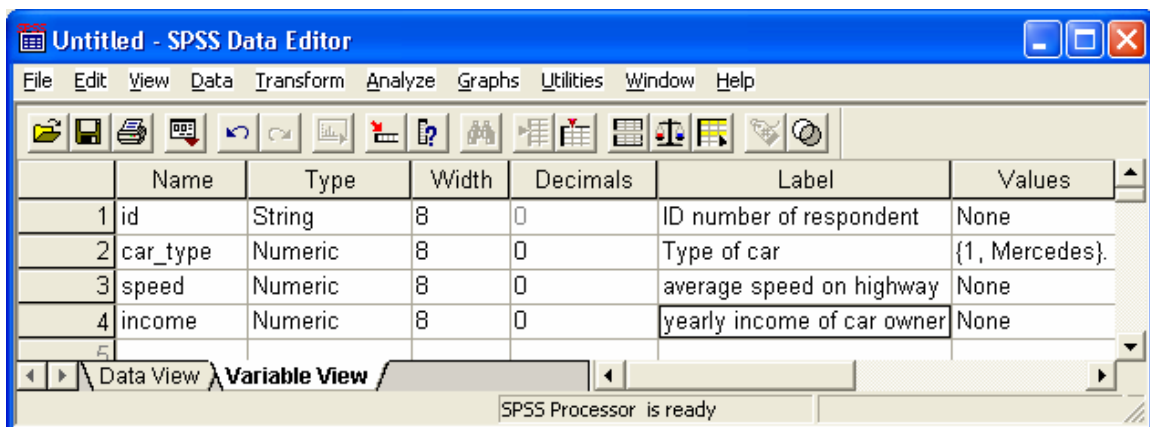
You can also create a dataset from scratch in the Data Editor:

1. Go to the Variable View sheet and specify your variables.
2. Return to the Data View sheet and enter your data, one case per line.
3. Save your data by selecting the **File** pull-down menu and using the **Save** option.

Example:

You conduct a survey of car owners. You ask the respondents what type of car they own, what their yearly income is, what their average speed on the highway is. You also give each questionnaire an i.d. tag, so that in the future you can match up your questionnaires with the spreadsheet to correct mistakes.

First, you define your variables in the Data Editor/Variable View. For your categorical variable “car_type,” you assign the following labels: 1=Mercedes; 2=Toyota; 3=Ford; 4=Hyundai.



Then, you enter your data in the Data Editor/Data View:

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	id	car_type	speed	income	var
1	A001	Mercedes	65	300000	
2	A002	Mercedes	67	520000	
3	A003	Toyota	50	80000	
4	A-004	Hyundai	46	39000	
5	A-005	Toyota	55	50000	
6	A-006	Toyota	57	60000	
7	B-001	Ford	75	77000	
8	B-002	Mercedes	66	140000	
9	B-003	Hyundai	50	30000	
10	B-004	Ford	77	79000	

Data View Variable View

SPSS Processor is ready

For exercise, you may reproduce this dataset by entering the information above into the Data Editor/Variable View, and the Data Editor/Data View.

3 Running descriptive statistics and frequencies

Descriptives

To run descriptive statistics, go to **Analyze > Descriptive Statistics > Descriptives**. Select the variables for which you want the descriptives. To specify the kind of descriptives you want, click on the **Options** button. Then click **OK**. The results will be displayed in the Output Editor.

Frequencies

To run frequencies, go to **Analyze > Descriptive Statistics > Frequencies**. Select the variables for which you want the frequencies. To specify more options, click on the **Options** button. Then click **OK**. The results will be displayed in the Output Editor.

Example:

Go back to our previous example and run descriptive statistics for the variables “speed” and “income.” Under “Options,” select only “mean” and “standard deviation.” Then click Continue. Then, run frequencies for the variable car_type.

Is your mean average speed 60.80?

4 Transforming variables

There are two basic ways of transforming variables:

- 1) The **Compute** option allows you to arithmetically combine or alter variables and place the resulting value under a new variable name: Using the menu system select **Transform>Compute**, enter a new target variable name, and in the numeric expression box type an equation based on your existing variables. Then click **OK**.

Example: Convert the “income” variable of our example into the new variable “inc_new”, and label it “income in thousand U.S. dollars.” To do that, select **Transform>Compute**. For target variable, type inc_new, then click the button that says **type & label** and enter the variable label I just mentioned. Click **Continue**. In the numeric expression box, type “income/1000,” and click **OK**.

2) The **Recode** option allows you to create discrete categories from continuous variables.

Example: You want to transform the variable “inc_new” into a variable that contains only two categories: High income and low income. Select **Transform > Recode > into different variables**. Drag the variable “inc_new” on the “Input Variable -> Output Variable” list. Name the output variable “Inc_cat,” and label it “Inc_new recoded into high and low.” Click the **Change** button. Click the “Old and new values” button. For old value, select “Range: lowest through 70.” For “new value” enter “1” and click the **Add** button. Then, for old value, select “Range: 71 through highest.” For “new value” enter “2” and click the **Add** button. Click **Continue**. Then click **OK**. Since this new variable is categorical, you may go into the Data Editor/Variable View and specify value labels, if you like..

5 Regression and graphs

To run a regression, go to **Analyze > Regression > Linear**. Select your dependent variable and your independent variables from the list on the left, then click **OK**.

To create a graph, go to **Graphs**, and from the pull-down menu select the graph type you want: Bar graph, pie chart, scatter plot etc.

Example:

You want to create a pie chart that shows the percentages of the various car types in our sample. Go to **Graphs > Pie**. Select “summaries for groups of cases.” Click **Define**. Drag car_type into the line that says “Define slices by,” then select the option “Slices represent % of cases.” Click **OK**. Your Output Viewer will display a pie chart with labels for the different car types. However, you want the percentages displayed as well. If you double-click on the pie, the Chart Editor opens. Go to **Chart > Options**. Under “labels,” check “percents” and click **OK**. Does your pie chart look like this?

