

Adding Variables into SPSS

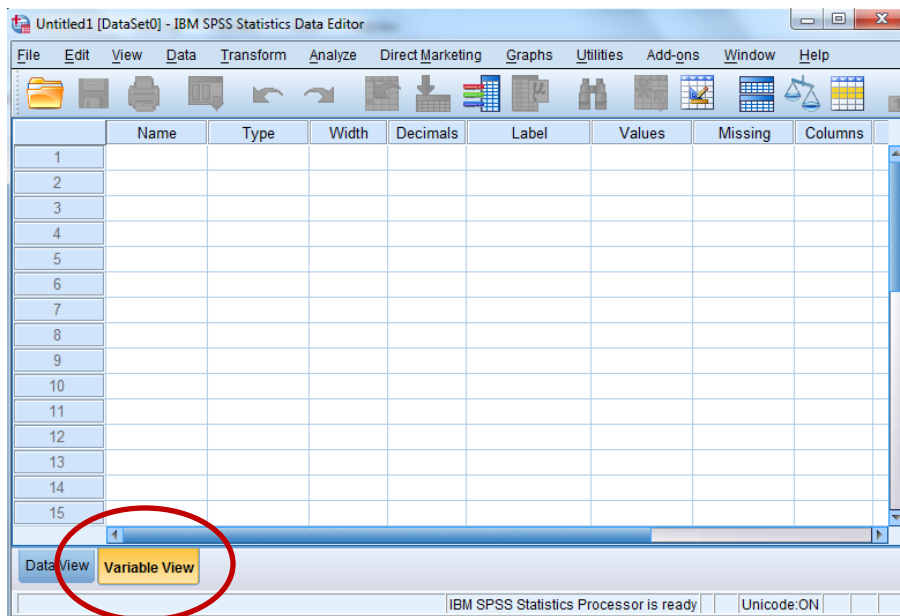
This tutorial will show you how to create variables and add data into SPSS.

Using a simple example, let's imagine that we want to investigate the phenomenon of 'social facilitation'. Our simple hypothesis might be that participants perform better on a simple task when in the presence of others.

Before we can test our hypotheses, we need to enter this information into SPSS. See *Tutorial 1: Getting Started* for how to open a blank data file.

To test this hypothesis we could create two experimental groups: one where participants perform a task while being watched by an audience and another where participants perform the same task alone. We could call this variable 'audience presence'.

We would then need to measure their performance in some way. For this example, let's consider a really simple task that involves participants being asked to write down as many words as possible that begin with the letter 'f' in 60 seconds. The number of words generated would therefore be the dependent variable. The two groups' performance could then be directly compared.



Before we add our data, we need to tell SPSS exactly what information we collected. That is, we need to define our variables.

To do this, you need to **CLICK** on the **Variable View** tab at the bottom of the screen.

We use the **Variable View** in SPSS to add and define the variables used in our research. Each row represents one of our variables. Here, we can give them suitable names and specify the type of data we are entering for each one.

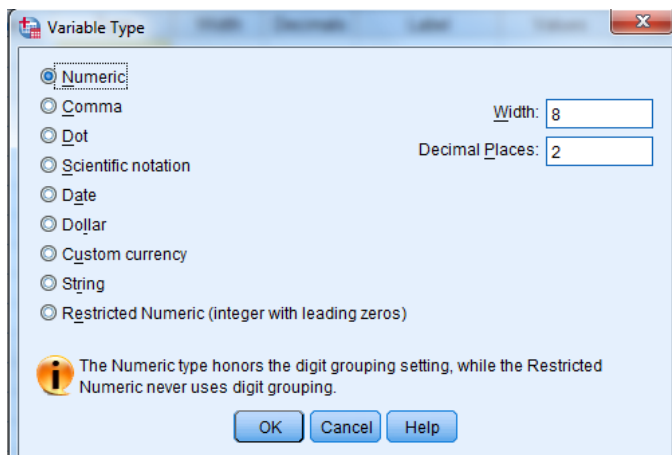
Name

We start by typing in the variable names in the **Name** column. You are only able to use certain characters in this column (e.g. letters and numbers). Spaces and most symbols (such as +, -, &, \$) **cannot** be included in the variable name.

This name will appear at the top of the corresponding data columns in the **Data View** sheet. As such, you don't want to give your variables long names, as this makes them difficult to read.

Type

By clicking on the cells in the **Type** column, you can change the type of data that is associated with the variable.



For most simple data sets in psychology you will be using **numeric** data. This just means the information associated with your variable contains numbers. It is the option you would use when directly entering participants' scores (like exam or questionnaire results, psychometric measurements, reaction times etc).

You would also use this option when entering **categorical** data, for variables such as gender or group membership.

You may also occasionally wish to use **string** variables, which consist of strings of letters. For example, if you wanted to type in answers to open ended questions or participants' names, you would choose this option. It's unlikely that you would use the other types of variables here.

Clicking on **OK** will accept any changes that you make here, while **Cancel** will go back to the variable view window.

Width

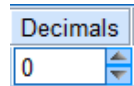
The **Width** option allows you to change the number of characters that SPSS will let you enter for that variable. You can change the width by clicking the arrows that appear at the edge of the cell or by typing in a new number.

For this example (and in most cases) a width of 8 characters is fine.

Decimals

The **Decimals** option allows you to change the number of decimal places SPSS will display. The default is two, however you may wish to change this to make your data more transparent and meaningful. For example, you may want more information when dealing with reaction times; or less when you are dealing with integers or category groupings.

You can change the decimal places by clicking the arrows that appear at the edge of the cell or by typing in a new number.



Label

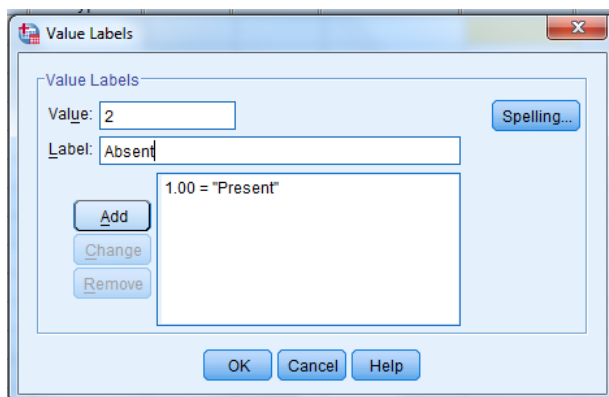
As you saw earlier, the characters SPSS allows you to enter into the **Name** column is restricted. This is where the **Label** column comes in handy. You can label your variables whatever you want here, allowing you to identify your variables in more detail. This label is also displayed in your analysis output.

While this may not seem particularly useful for a variable such as Audience Presence, it is actually a very good habit to get into - especially when you have large complicated datasets (...it's surprisingly easy to forget what all of your variables represent)!

Values

For nominal variables (also called categorical or grouping variables) where participants fall into different groups or conditions (in this, audience presence groups), you need to tell SPSS what these groups are.

To do this, you need to assign each group a name and number. The numerical code gets entered into the Data View sheet for each participant. We use the **Values** column here to indicate what these codes actually mean by telling SPSS how to map these numbers to the category names (such as '1' to Audience Present and '2' to Audience Absent).



To tell SPSS which category or group participants belong to we enter the code into the Value box and the condition name into the Label box. Use the **Add** button to add the labels. In this case we are using the following codes:

1 = Present
2 = Absent

Missing

Columns

Align

Measure

[illegible]

Once we have entered the information for our first variable, we can enter in the details for our other variables. In this case we are interested in the number of words each participant wrote down in 60 seconds - which is an interval (or scale) variable. This is because the difference between adjacent scores (e.g. 1 and 2; or 8 and 9) mean the same thing: a one word difference. Interval data is entered directly into the datasheet, so nothing needs to be coded in this case.

When carrying out research, it's also important to collect demographic information about your participants, namely age and gender. These variables also need to be entered into the data sheet.

Once entered correctly, this is what the Variable View sheet should look like:

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure
1	Audience	Numeric	8	0	Audience Presence	{1, Present}...	None	8	Right	Nominal
2	Words	Numeric	8	0	Number of Words Recalled	None	None	8	Right	Scale
3	Gender	Numeric	8	0	Gender of Participant	{1, Male}...	None	8	Right	Nominal
4	Age	Numeric	8	0	Age of Participant	None	None	8	Right	Scale

Once all of the relevant information about our variables has been entered, we can start entering in our actual data.

	Audience	Words	Gender	Age	var	var	var	var
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

To do this, you need to **CLICK** on the **Data View** tab in the bottom left corner of the window.

Notice how the headers of the columns have now changed to display the Variable Names. They should now read **Audience, Words, Gender & Age**.

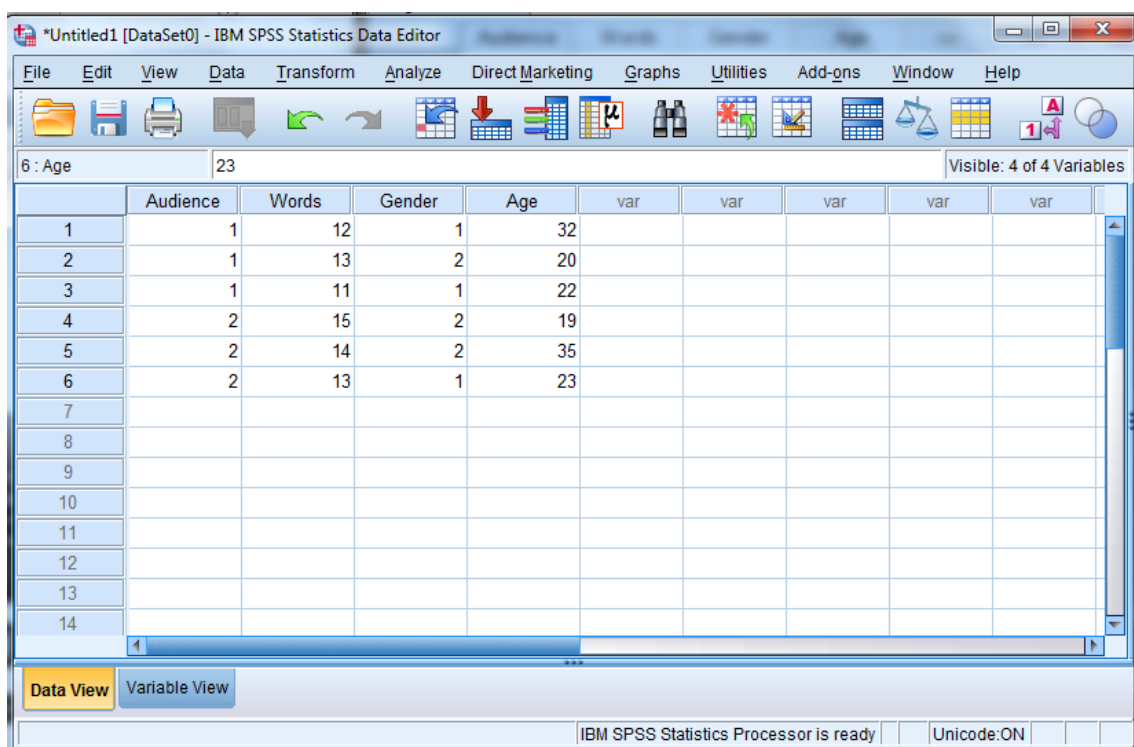
When entering data into SPSS, it is important to follow this simple rule of thumb:

Each row represents an individual participant, observation or case.

When you enter data, the number of rows should be the same as the number of participants you have. If you find yourself entering data from the same participant on more than one row; or entering data from many participants on only one row, the chances are you are entering it incorrectly.

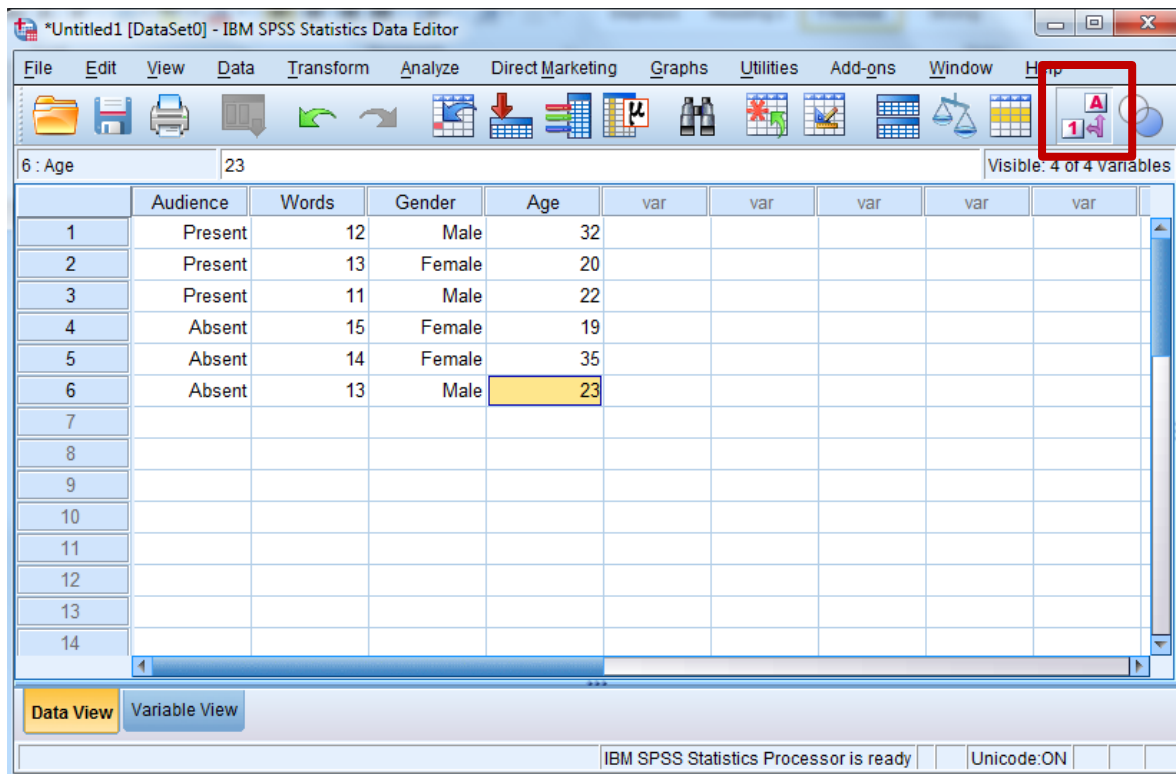
In this case, we need to enter the data in the following way:

- Enter in the numbers 1 or 2 into the **Audience** column because we told SPSS that the number 1 meant the participants had an audience and the number 2 meant they did not.
- The numbers entered into the **Words** column are the number of words participants wrote down.
- The numbers 1 or 2 are entered into the **Gender** column because we coded males as 1 and females as 2.
- The numbers entered into the **Age** column are the participants' age in years.



Notice how the data displayed in the Audience and Gender column are still shown as numbers. This can be confusing when you can't remember which numbers you assigned to which group. To make life easier, we can ask SPSS to display the labels we assigned to the numbers.

To switch between the labels and numeric codes **CLICK** on the **Value Labels** button



Notice how the numbers in the **Audience** and **Gender** column have changed to the labels we gave them.

We can still add more data by typing 1 and 2 in these columns and SPSS will automatically convert this to the relevant labels according to how we set this up in the **Variable View**.

You have now finished entering your first set of data. Once you have finished creating your data file, you need to save it. To do this, **CLICK** on the **File** menu, **SELECT** the **Save** option and name your file in the usual way.

