1:

Creating a Variable in SPSS

This tutorial shows you how to create a new variable in SPSS. This tutorial assumes that you have <u>started</u> <u>SPSS</u> and optionally <u>loaded a data set</u>.

The first step in creating an SPSS variable can be accomplished in several ways:

1. Click on the Variable View tab at the lower left of the SPSS window:



2. Or, double click on the gray column header above any column:



Ctrl+T

Eonts... ✓ Grid Lines ✓ Value Labels

Variables

4. Or, press Ctrl-T

The Variable view will appear:

| 🛅 Untitled - SPSS Data Editor | | | | | | | | | \mathbf{X} | | |
|-------------------------------|--|------|-------|----------|-------|--------|---------|---------|--------------|---------|--|
| File Edit | File Edit View Data Transform Analyze Graphs Utilities Add-ons Window Help | | | | | | | | | | |
| | | | | | | | | | | | |
| | Name | Туре | Width | Decimals | Label | Values | Missing | Columns | Align | Measure | |
| 1 | | | | | | | | | | | |
| 2 | | | | | | | | | | | |
| 3 | | | | | | | | | | | |

Click in the cell at the intersection of row 1 and the Name column. Type the name of the variable. The variable name should start with a letter, and contain only letters and numbers (no punctuation or spaces). In this example, I will name the variable Class:

| 🛅 Untitled - SPSS Data Editor | | | | | | | | | \mathbf{X} | | |
|-------------------------------|--|------|-------|----------|-------|--------|---------|---------|--------------|---------|--|
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| | Name | Туре | Width | Decimals | Label | Values | Missing | Columns | Align | Measure | |
| 1 | class | | | | | | | | | | |
| 2 | | | | | | | | | | | |

The variable has a default type of Numeric (a number). If this is not the correct type, specify the type of the variable by clicking in the cell at the intersection of the appropriate row and the Type column. An ellipsis will appear:

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|--------|--|-----------|-------|----------|-------|--------|---------|---------|-------|---------|--|
| File E | File Edit View Data Transform Analyze Graphs Utilities Add-ons Window Help | | | | | | | | | | |
| | | | | | | | | | | | |
| | Name | Туре | Width | Decimals | Label | Values | Missing | Columns | Align | Measure | |
| | 1 class | Numeric … | 8 | 2 | | None | None | 8 | Right | Scale | |
| | 2 | | | | | | | | | | |

Click on the ellipsis to specify the type of variable that you have. The Variable Type dialog box will appear:

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| Variable Type | | ? 🔀 |
|---|-------------------------------|----------------------|
| Numeric Comma Dot Scientific notation Date Dollar Custom currency String | Width: 8 Decimal Places: 2 | OK Cancel Help |

We will use primarily the Numeric option, which says that we are dealing with a number and the String option, which says that we have a word or other alphabetic characters. Many of the other options (Dollar, Custom currency) primarily affect how the output is displayed. In this example, we will use the Numeric type. You can specify the number of decimal places that SPSS displays by typing the desired number in the Decimal Places text box. We will leave it set at two. Click on OK.

It is often useful, but not required, to assign a descriptive label to the variable. This is useful because the variable name is limited to eight characters, while the label can be much longer. Click in the cell at the intersection of the desired row and the Label column and type in the variable's label. In this example, I will label the class variable as "Class Condition.":

| File Edit View Data Transform Analyze Graphs Utilities Add-ons Window Help | | | | | | | |
|--|--|--|--|--|--|--|--|
| | | | | | | | |
| Measure 📤 | | | | | | | |
| Scale | | | | | | | |
| | | | | | | | |
|] | | | | | | | |

It is also useful to assign labels to the values of nominally and ordinally scaled variables. Instead of having the number 1 represent the Distance Learning condition, we could assign the label "Distance" to the value 1, and SPSS will often (not always) use the label instead of the value in the output. This makes it easier to read the output, especially if it has been several months since you last looked at the data. To assign labels, click in the cell at the intersection of the appropriate row and the Values column. An ellipsis appears in the cell:

| i | 🛅 Untitled - SPSS Data Editor | | | | | | | | | | | |
|---|--|-------|---------|-------|----------|-----------------|--------|---------|---------|-------|---------|--|
| | File Edit View Data Transform Analyze Graphs Utilities Add-ons Window Help | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | Name | Туре | Width | Decimals | Label | Values | Missing | Columns | Align | Measure | |
| | 1 | class | Numeric | 8 | 2 | Class Condition | None … | None | 8 | Right | Scale | |
| | 2 | | | | | | | | | | | |

Click on the ellipsis and the Value Labels dialog box appears:

| Value Labels | ? 🔀 |
|--|----------------------|
| Value Labels Value: Value Label: Add Change Remove | OK Cancel Help |

Type the first value of the variable in the Value box and then click in the Value Label box and type the label for the first value of the variable. In this example, the value 1 has a label "Distance.":

| Value Labels | ? 🛛 |
|---|----------------------|
| Value Labels Value: 1 Value Label: Distance | OK Cancel Help |
| Add Change Remove | |

Click on the Add button and repeat as necessary for the other values and labels of the variable. This is what

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the dialog box looks like when we are done:

| Value Labels | ? 🔀 |
|--|----------------------|
| Value Labels Value Label: Value Label: Add Add Change Remove | OK Cancel Help |

Click on OK when done.

Frequently, someone will leave a question blank, or fail to make a response. But you would still like to use the rest of their data. In that case, you need to tell SPSS that you have a missing value. To specify the missing value, click in the cell at the intersection of the appropriate row and the Missing column. An ellipsis appears in the cell. Click on the ellipsis. The Missing Values dialog box will appear:

| Missing Values | ? 🔀 |
|---|--------|
| No missing values | ОК |
| C Discrete missing values | Cancel |
| | Help |
| C Range plus one optional discrete missing va | alue |
| Low: High: | |
| Discrete value: | |

SPSS has several ways of specifying missing values. You can give up to 3 discrete values that represent missing values. For numeric variables, I often use 9999 (or some other number that cannot occur in the data) as the missing value. For string variables, I often use NA (for No Answer.) You can give a range and one discrete missing value. In this example, we can only have values between 1 and 2, so I will use 9999 as a single discrete missing value. Click in the circle next to Discrete missing values:

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| Missing Values | ? 🗙 |
|---|--------|
| ○ <u>N</u> o missing values | ОК |
| Discrete missing values | Cancel |
| | Help |
| C Range plus one optional discrete missing va | alue |
| Low: High: | |
| Di <u>s</u> crete value: | |

The cursor should be blinking the left most text box under the Discrete missing values option. Type in the missing values (9999):

| Missing Values | ? 🗙 |
|---|----------|
| C No missing values | ОК |
| Discrete missing values | Cancel |
| 9999 | Help |
| C Range plus one optional discrete missin | ng value |
| Low: High: | Jersen |
| Di <u>s</u> crete value: | |

Click on the OK button.

The last task in defining a variable is to specify its level of measurement. Click in the cell at the intersection of the appropriate row and the Measure column. A down arrow button appears in the cell:

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|-----------|--------------|-----------------|-----------|------------------|-----------------|----------------|---------|---------|-------|-----------|----------|
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| | Name | Туре | Width | Decimals | Label | Values | Missing | Columns | Align | Measure 🖆 | - |
| 1 | class | Numeric | 8 | 2 | Class Condition | {1.00, Distanc | 9999.00 | 8 | Right | Scale 💌 | |
| 2 | | | | | | | | | | | |

Click on the down arrow and select the appropriate level of measure (sometimes you have to click on the down arrow twice to get the drop down menu to appear):



Scale is used for interval and ratio data. This variable is nominally scaled so click on Nominal.

Repeat the process for any remaining variables that you wish to define.

Click on the Data View tab at the lower left of the SPSS window to return to the data view (or press Ctrl-T or click on View | Data):

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|-------------------------|------------|-----------------|---|--|--|--|
| 15 | | | Γ | | | |
| Data View Variable View | | | | | | |
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