SPSS Command Cheat Sheet

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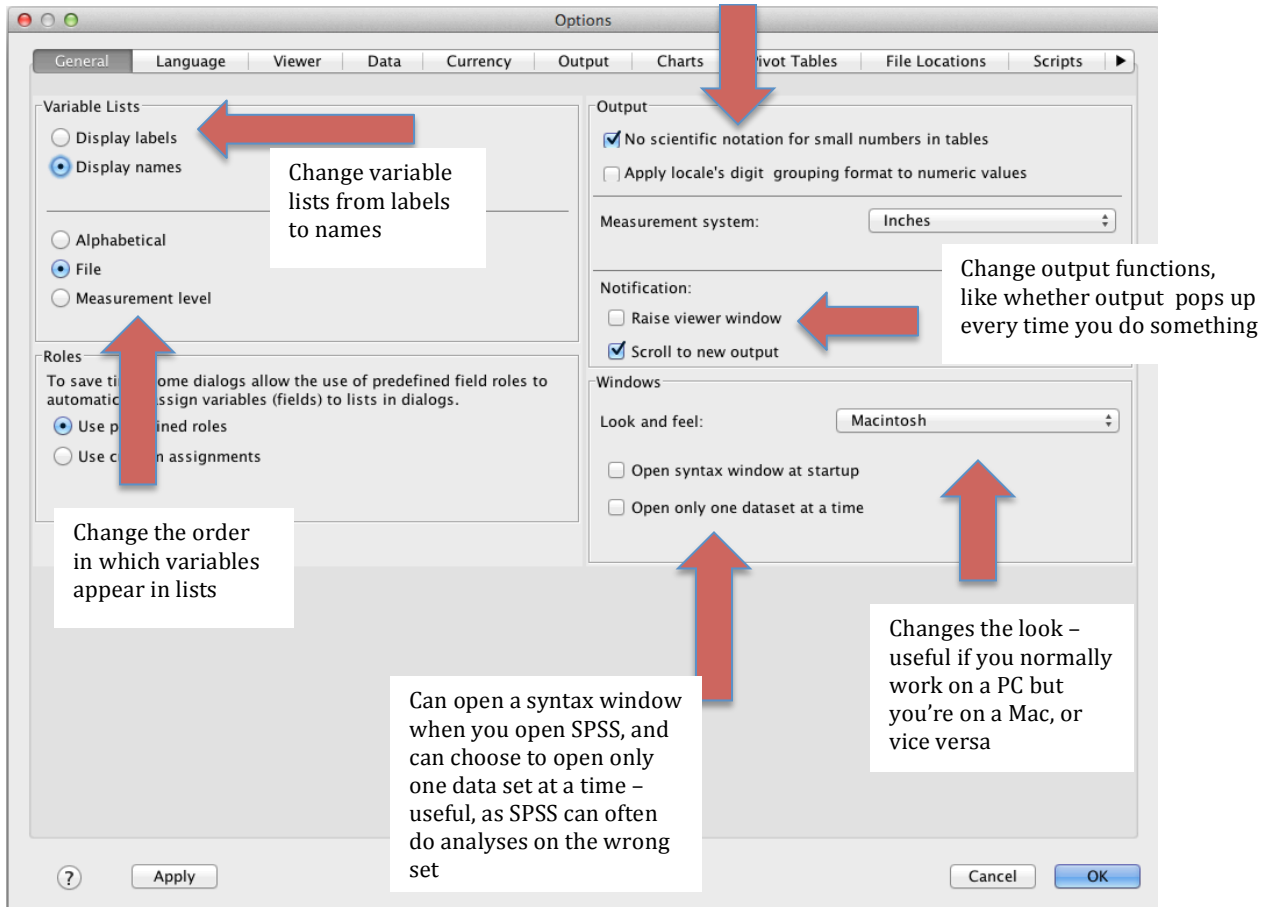# Data Manipulation/Working in the SPSS Environment

Switching between data view and variable view: Click the buttons at the bottom of the SPSS window. Or, use the menus: View → Data, or View → Variable.
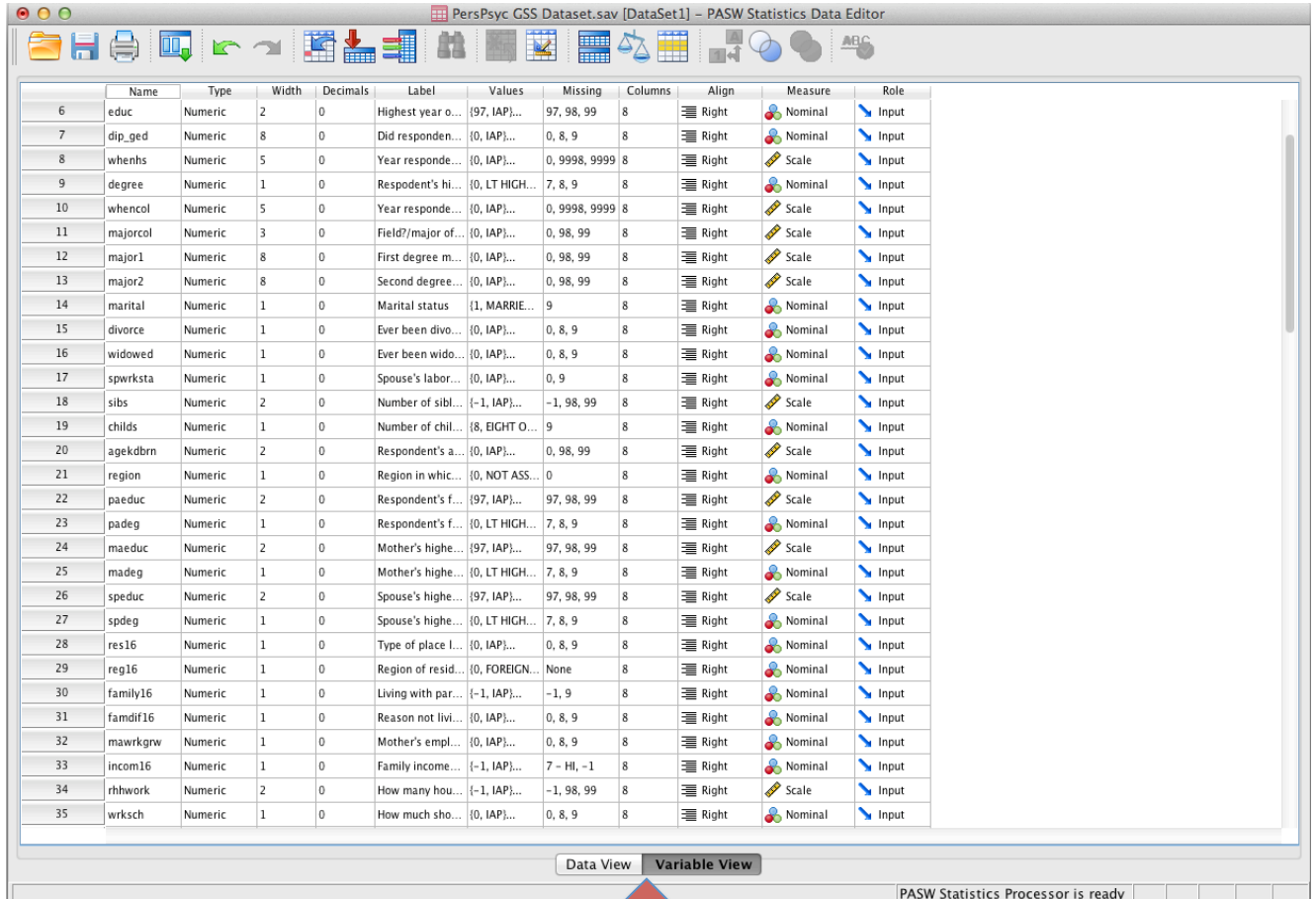
Unless otherwise specified, all commands can be executed from either Data view or Variable view. You can also execute menu commands from other windows within the SPSS environment, including the Output window.

Changing options in SPSS. Go to Edit → Options

By default SPSS uses scientific notation for very small numbers in output; this suppresses that

Change variable lists from labels to names

Change the order in which variables appear in lists

Change output functions, like whether output pops up every time you do something

Changes the look – useful if you normally work on a PC but you're on a Mac, or vice versa

Can open a syntax window when you open SPSS, and can choose to open only one data set at a time – useful, as SPSS can often do analyses on the wrong set

Options window:

General | Language | Viewer | Data | Currency | Output | Charts | Pivot Tables | File Locations | Scripts

Variable Lists
- Display labels
- Display names

- Alphabetical
- File
- Measurement level

Roles
To save ti... ome dialogs allow the use of predefined field roles to automatic... ssign variables (fields) to lists in dialogs.
- Use p...ined roles
- Use c...n assignments

Output
- ☑ No scientific notation for small numbers in tables
- ☐ Apply locale's digit grouping format to numeric values

Measurement system: Inches

Notification:
- ☐ Raise viewer window
- ☑ Scroll to new output

Windows
Look and feel: Macintosh
- ☐ Open syntax window at startup
- ☐ Open only one dataset at a time

Apply   Cancel   OK

Creating a new data set or output file: Go to File → New → Data, or File → New → Output. (SPSS automatically creates a new output file when you open the program.)

Inserting a new variable: There are FOUR ways to do this:

1. In Variable view, right-click the number of the variable *beneath* where you want to create the new one, then click Insert Variable.

	Name	Type	Width	Decimals	Label	Values
2	age	Numeric	2	0	Age of respon...	{89, 89 OR...
3	sex	Numeric	1	0	Respondent's s...	{1, MALE}...
4	race	Numeric	1	0	Respondent's r...	{0, IAP}...
5	income	Numeric	2	0	Respondent's t...	{0, IAP}...
6	educ	Numeric	2	0	Highest year o...	{97, IAP}...
7	dip_ged	Numeric	8	0	Did responden...	{0, IAP}...
8	whenhs	Numeric	5	0	Year responde...	{0, IAP}...
9		Numeric	1	0	Respodent's hi...	{0, LT HIGH...
10	Copy	Numeric	5	0	Year responde...	{0, IAP}...
11	Paste	Numeric	3	0	Field?/major of...	{0, IAP}...
12	Clear		8	0	First degree m...	{0, IAP}...
13	Insert Variable		8	0	Second degree...	{0, IAP}...
14	Paste Variables...		1	0	Marital status	{1, MARRIE...
15	divorce	Numeric	1	0	Ever been divo...	{0, IAP}...
16	widowed	Numeric	1	0	Ever been wido...	{0, IAP}...
17	spwrksta	Numeric	1	0	Spouse's labor...	{0, IAP}...
18	sibs	Numeric	2	0	Number of sibl...	{-1, IAP}...
19	childs	Numeric	1	0	Number of chil...	{8, EIGHT O...
20	agekdbrn	Numeric	2	0	Respondent's a...	{0, IAP}...

2. In Data view, right click the number of the variable *to the right* of where you want to create the new one, then click insert variable. (It looks very similar to the above screen shot.)
3. In Variable view, select the variable beneath where you want to create the new one, then click the Insert Variable button on the toolbar. You can also do this in Data view by selecting the variable to the right of where you want to create the new one, then clicking the Insert Variable button on the toolbar.
4. In Variable view, select the variable beneath where you want to insert the new one, then go to Edit -> Insert Variable. You can also do this in Data view.

Deleting Variables: To delete a variable, right-click/Command-click the variable name in Data view, or the variable's number in Variable view, and select Clear from the menu. *Please be careful when deleting variables, as this is one of the commands that SPSS cannot undo.*

Sorting Variables:
1. In Data View, right click the name of the variable by which you wish to sort, then select either "Sort Ascending" or "Sort Descending."
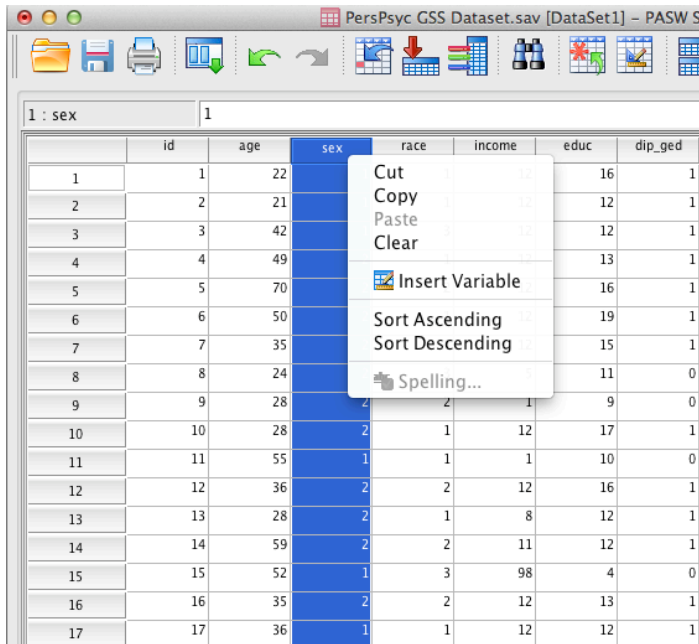

2. You can also do this from the menus, by going to Data → Sort Cases. This also gives you the option to sort by several variables at once (e.g., to sort first by race and then by age if you want.

Selecting Cases: You can select cases based on certain case criteria.

1. Go to Data → Select Cases, OR hit the Select Cases button in the toolbar. The box you get is presented below.
2. Select the radio button "If condition is satisfied". Then click the button "If…"
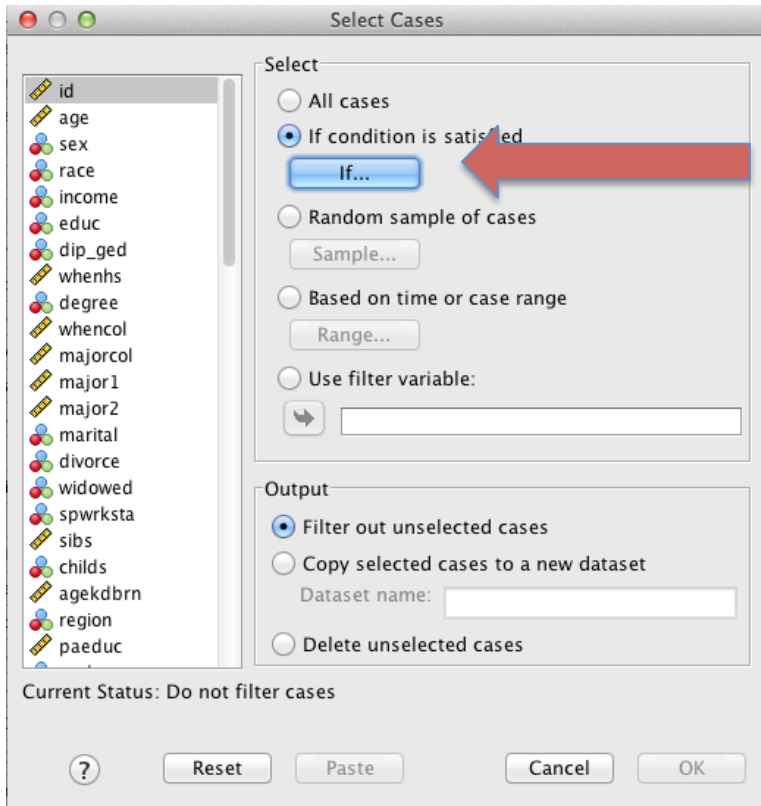
3. Create your selection rule here. For example, if you wanted to select only the cases for which the variable `race` was 1, you would move the variable `race` over into the box, enter an = sign, and then enter 1. Hit Continue.
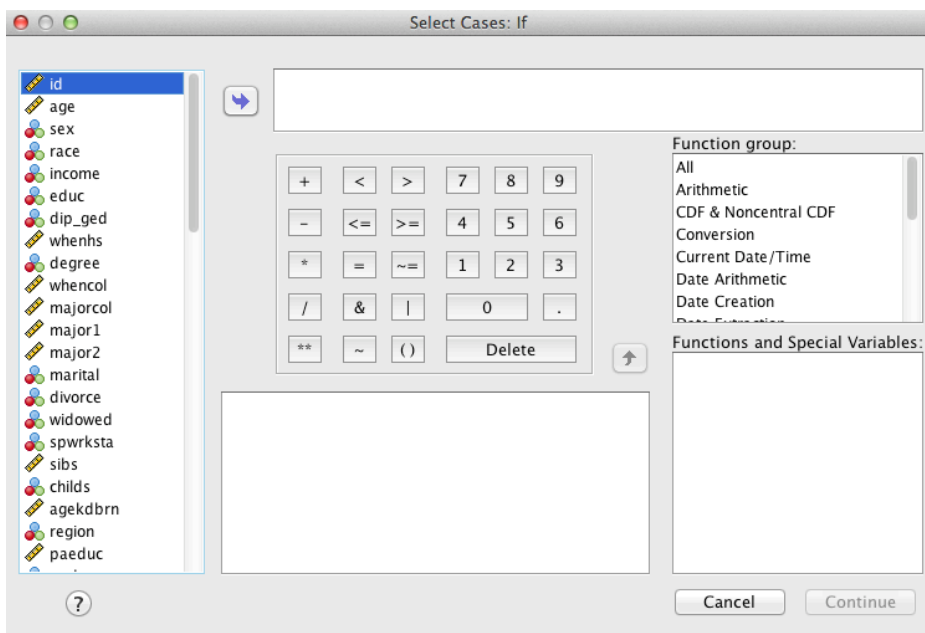
4. Select what you want SPSS to do from there. You can ask it to simply filter out the unselected cases, which leave them in the same data set but only performs further actions on the selected cases (*recommended in 90% of situations*). You can copy the selected cases to a new dataset (*recommended only if you do not plan on running any analyses on the unselected cases at all*). Or you can ask it to delete the unselected cases (*NEVER recommended*!). After you decide, hit OK.
5. **REMEMBER** that if you choose to simply filter out the unselected cases, you have to turn off Select Cases in order to run analyses on the entire data set again! To turn it off, go to Data → Select Cases (or hit the toolbar button), and then just select the "All cases" radio button.

Go to a specific case or variable
1. Go to Edit -> Go to Variable or Edit → Go to Case in the menu, or you can click on the Go To Variable button [icon] or the Go To Case button [icon] in the toolbar. (Note that you can switch between them within the Go To box.)
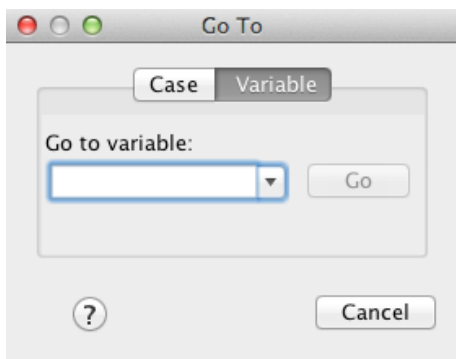
2. Start typing in the name of your variable. SPSS will give you a list in that drop-down box once you have typed in a few letters. Select one, or finish typing, and then hit Go. Or, if you are trying to go to a specific case, just type in the case number, then hit Go. (Note that SPSS only takes you to specific case numbers that are assigned by the file, NOT to ID numbers that you or whoever created the data set have generated.)

Switch to viewing the value labels in the Data view, instead of the variable codes:
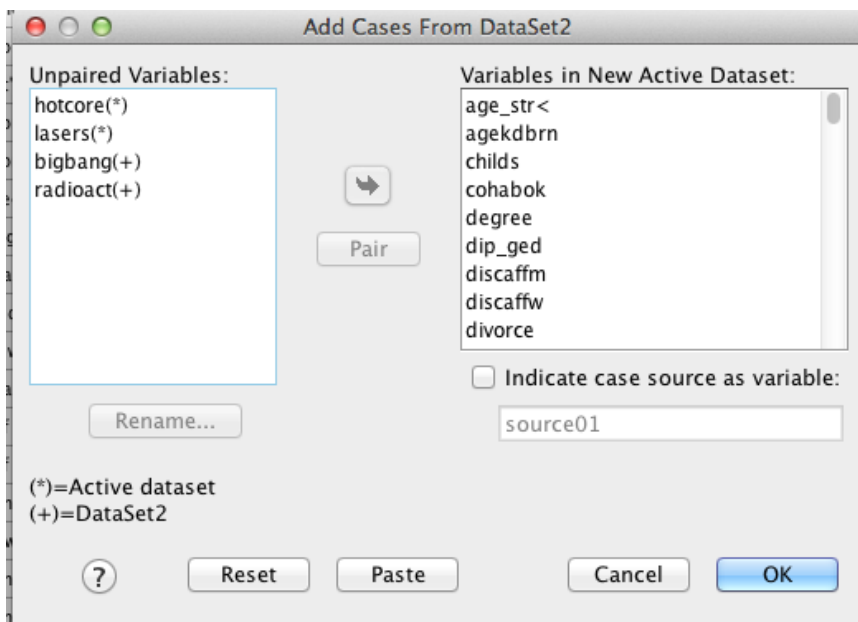Let's say for the race variable, you want to see "Black" and "White" instead of "2" and "1". In Data View, click the Variable Labels button [icon] on the toolbar.

Merging Data

1. Open both data sets that you want to merge. Make sure that the one you want on top (e.g., Condition 1) is active.
2. Go to Data → Merge Files → Add Cases…
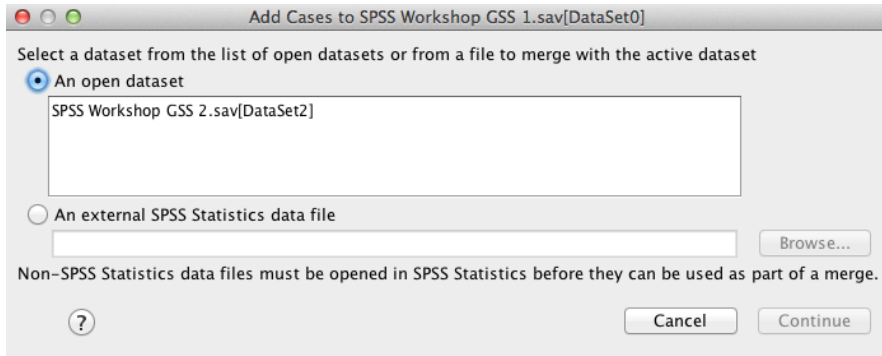
3. Select the other data set that you want to merge (e.g., Condition 2).

4. Ensure that your data is properly formatted for the merge.
   a. All of the variables that you want in the new dataset should be in the right column, "Variables in New Active Dataset."
   b. If there are any variables in the left column, "Unpaired Variables," it is because they are variables SPSS has not paired up. Ones with an asterisk (*) are from Condition 1, and ones with a + are from Condition 2. You have two options:
      i. Move over one variable from Condition 1, and then click both that variable and its sister variable from Condition 2, and then click "Pair." For example, if you have a self-esteem scale and the first

question is labeled "Self-Esteem 1" in Condition 1 and "SE 1" in Condition 2, move "Self-Esteem 1" to the "Variables in the New Active Dataset" box, use the Command or CTRL keys to click both "Self-Esteem 1" and "SE 1", and then click "Pair.

    ii. Close the Merge file command box, and rename your variables in each data set until they match.

5. Once you have ensured all of your variables are correctly paired, press OK.
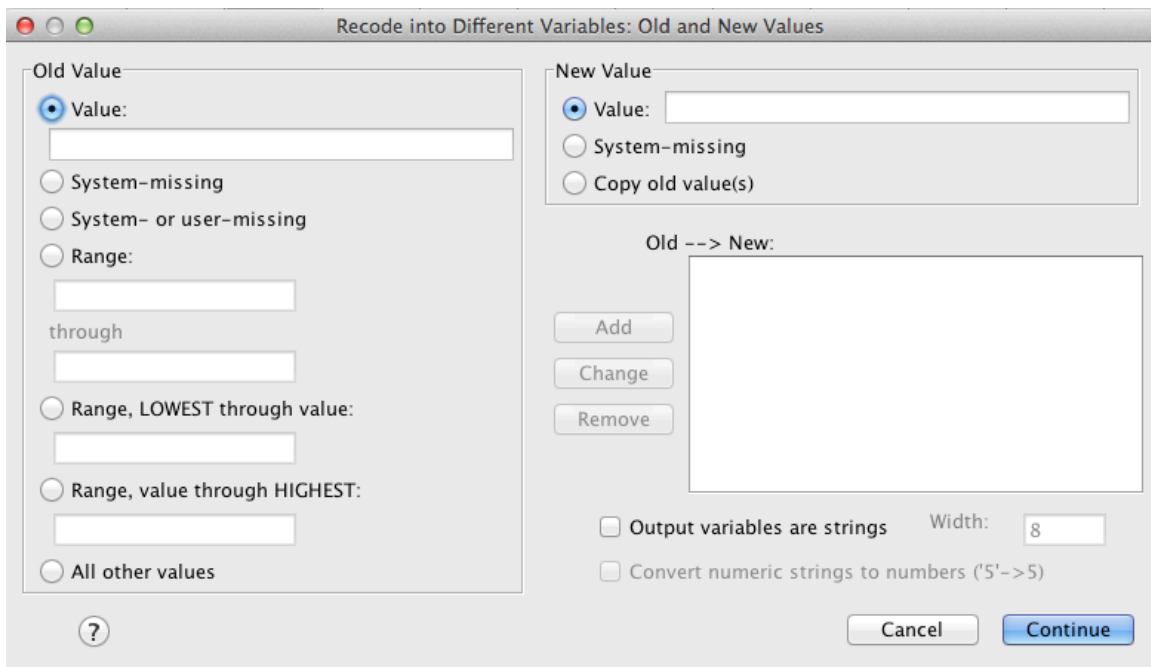
Recoding and Computing New Variables from Already Existing Variables

These are the operations you will use to 1) fix errors from a Qualtrics download, 2) to reverse code questions on those scales or 3) create total scores for your personality scales,

Reverse coding questions: Remember, you always want to create a new variable to do this – you do not want to reverse code in the same variable, just in case you make a mistake or you need the original variable later.

1. Insert the new variable where you want it, then give it a name.
2. Go to Transform → Recode into Different Variables…
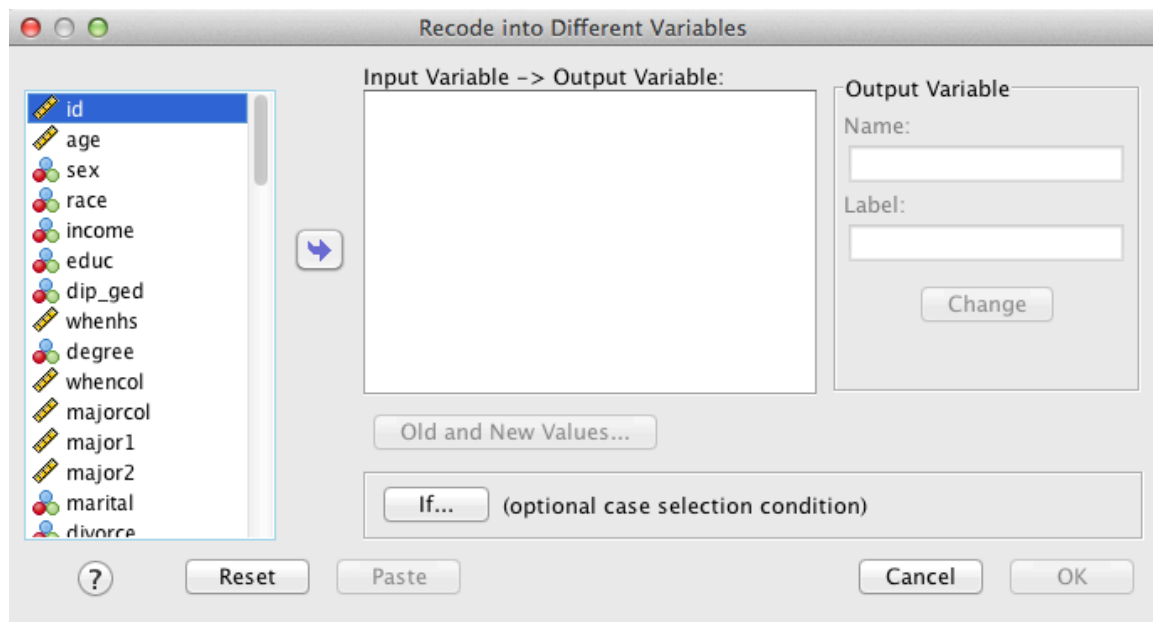
3. From the box on the left, move the original variable into the box in the middle by selecting it and hitting the arrow.
4. Under Output Variable, enter the name of the variable you just created. Make sure that you spell it exactly the same as you spelled it when you created it, otherwise SPSS will just create a new variable. It would also be a good idea to enter a variable label here. Then hit Change. SPSS will generate a warning to tell you that you are about to overwrite an existing variable (the blank one that you just created).
5. Press "Old and New Values…" underneath the box.

6. Under Old Value, enter the value in the original variable that you want to convert. You can also elect to convert System-missing variables into new values, or a range of values into new ones (e.g., let's say you want to categorize everyone under 25 into an "under 25" category, you can select the "Range, LOWEST through value" radio button and then enter "24" into the box).

7. In the New Value box, you enter the new value you want. Then press Add.

8. If you made a mistake, select the Old → New in the box, then make your changes and hit the Change button. If you accidentally added one that you want to remove altogether, just select it and hit Remove.

9. Click Continue. Then, in the original box, Click OK.

Computing total scores
1. Insert the new variable where you want it.
2. Go to Transform → Compute Variable…
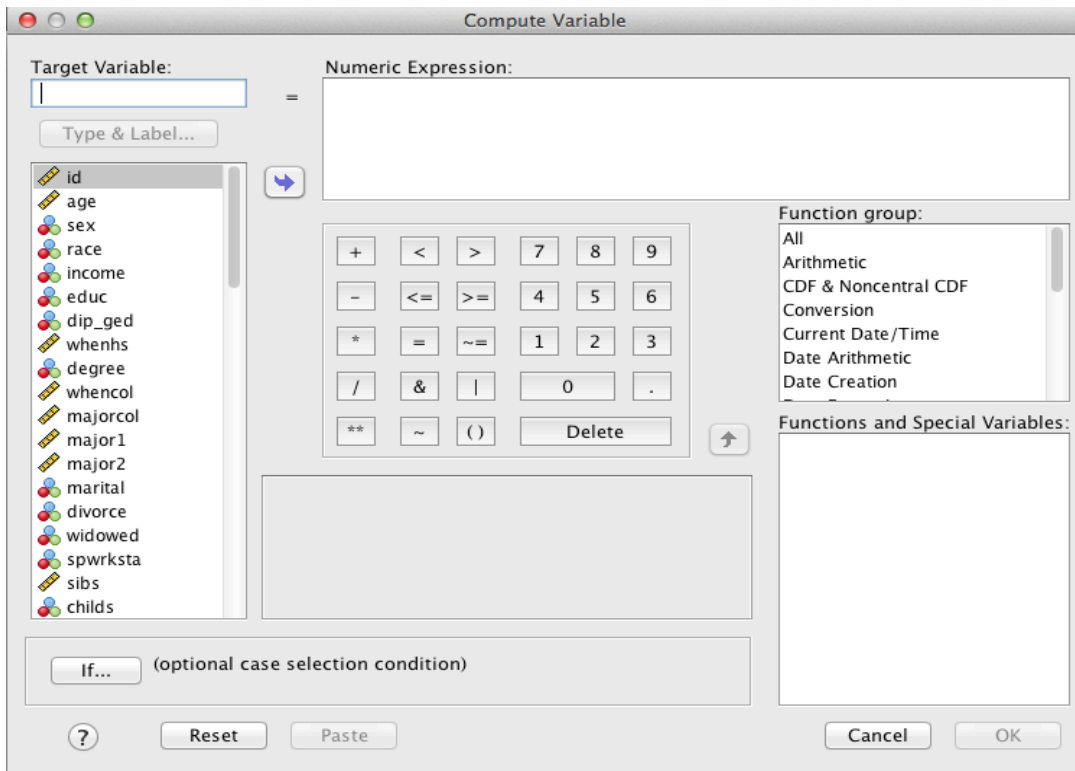
3. Type in the name of the variable that you just created.
4. Use the commands within this box to do what you want. For example, if you are creating a total score, then bring over the first item in the scale, hit the + button, then bring over the second item, hit +, and so on and so forth.
5. Hit OK.

<u>**Analyzing Data!**</u>

Generating descriptive statistics, also known as "frequencies" There are two ways to do this, and they give you slightly different information.

More information/exactly what you want:

1. Go to Analyze → Descriptive Statistics → Frequencies.
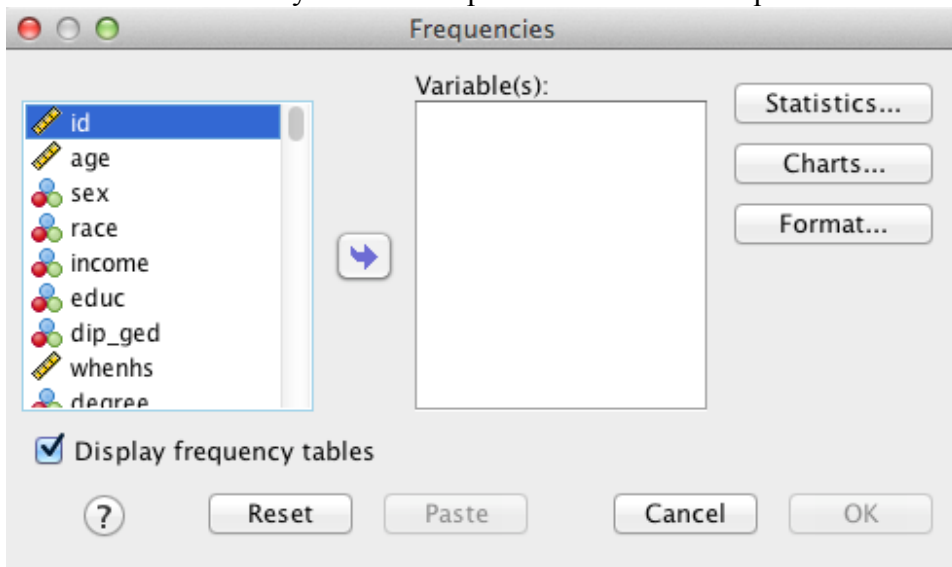
2. Move over the variables that you want into the Variables list.
3. If you are adding over continuous variables, hit the Statistics… button.
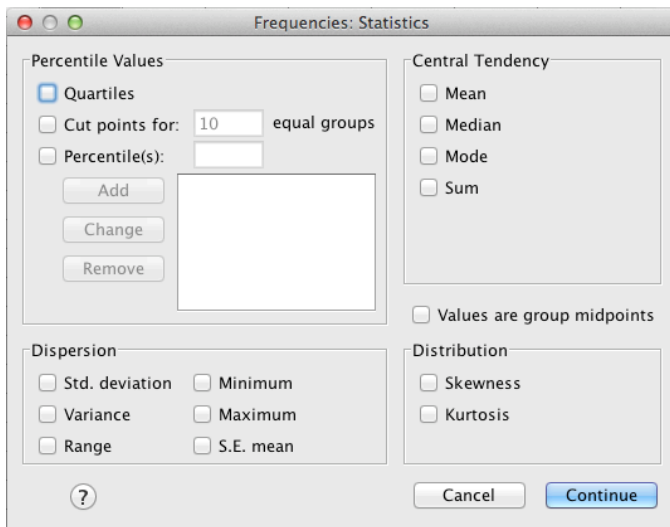
4. Select the statistics that you want. (None of these statistics makes sense for categorical variables, except maybe the mode, but you can easily figure that out from the frequency tables. So you don't need to do this for categorical

variables. For ordinal variables, you may want to know the median and the max and min, if you have a lot of ordinal categories. BUT if you are doing frequencies for categorical and continuous variables at the same time, you will need to select these, and SPSS will generate these statistics for all of your variables. You need to ignore them for the categorical ones).

5. If you want any charts, like bar charts or pie charts, hit "Charts…" and select the one you want.
6. Back in the original box, IF you are performing frequencies on ONLY continuous variables, uncheck the box that says "Display frequency tables." (IF you are performing it on a mix of categorical and continuous variables, leave it checked. You will unfortunately get a frequency table for all of your continuous variables as well.)
7. Hit OK.

As stated, this doesn't make a distinction between categorical and continuous variables – it gives you frequency tables for all of them and all of the statistics you asked for for all of them.

Generating crosstabulations and chi-square analyses:
A chi-square analysis (more formally known as the *chi-square test of independence*) is used to see if two categorical variables are related to each other.

1. Go to Analyze → Descriptive Statistics → Crosstabs.
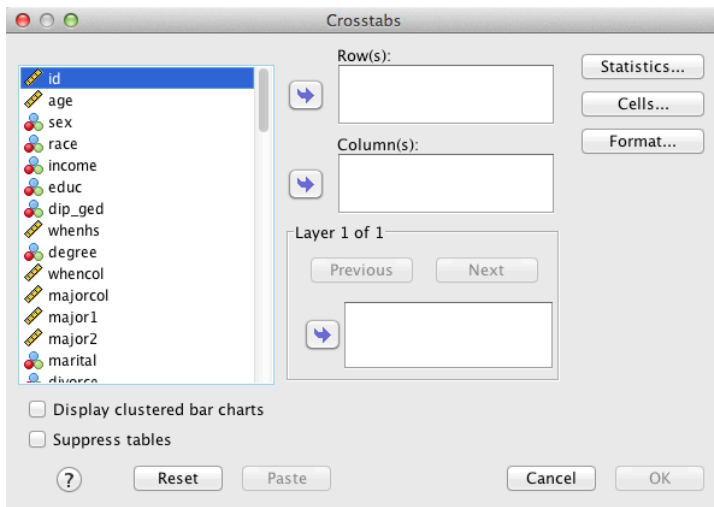
2. Bring over one of the variables that you want to create a crosstab table for into the Rows and the other into the Columns. Traditionally, the hypothesized IV is put in the row and the DV in the columns.
3. Hit the Statistics… button, and then check the box that says Chi-square. Press Continue.
4. Hit the Cells… button, then check the box that says Expected (under Counts.) Press Continue.
5. Hit OK.

Bivariate Pearson Correlations

Pearson correlations are to determine if there is a relationship between two continuous variables.

1. Go to Analyze→ Correlate → Bivariate…
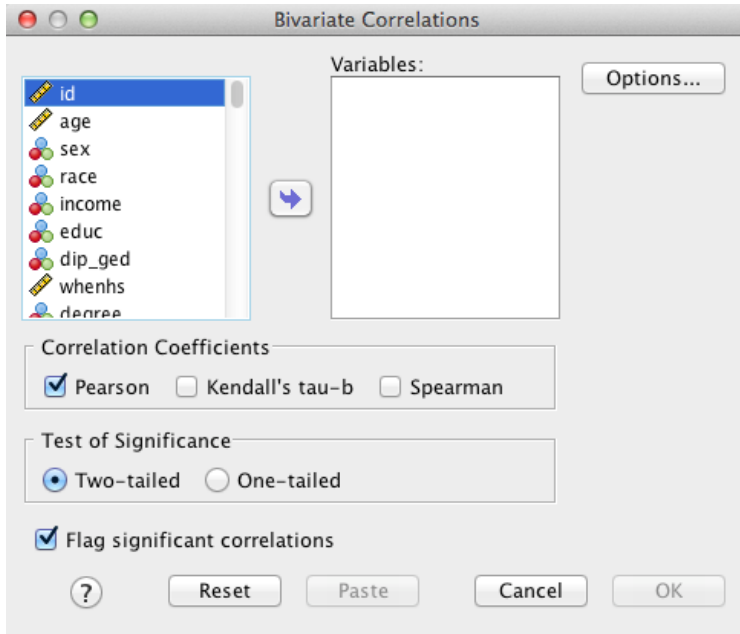
2. Select the variables that you want to correlate, and move them into the Variables list. It doesn't matter what order you do them in.
3. Press OK.

Independent Samples T-Test

An independent samples t-test is used to determine whether there is a relationship between one independent variable with two levels (such as sex – male and female) and a continuous dependent variable. The test detects the average difference in the DV between two the two levels of the IV.

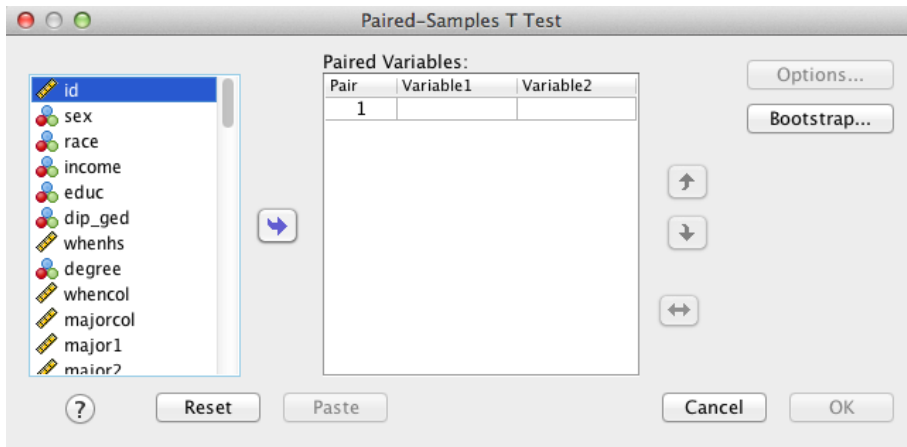1. Go to Analyze → Compare Means → Independent Samples T Test…
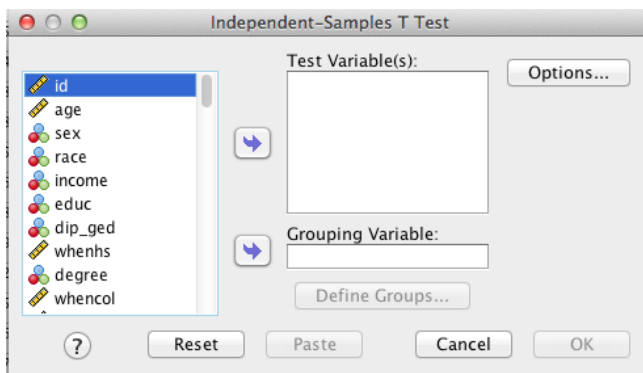
2. Move the dependent variable (continuous) into the Test Variables box.
3. Move the independent variable (categorical variable with two levels) into the Grouping Variable Box. Press Define Groups…, then enter the numbers that correspond to the codes of the two groups you want to compare.
4. Press OK.

Paired Samples T-Test
A paired samples t-test is used when you want to detect whether there is a relationship between one categorical independent variable with two levels and one continuous dependent variable, but each case in level 1 is matched with a case in level 2. An example is doing before and after tests of people on some continuous variable, in which each person is their own control. To do this correctly, Person/Time 1's values must be in one variable and Person/Time 2's values must be in a different variable.

1. Go to Analyze → Compare Means → Paired Samples T-Test…

2. Move the independent variable for Time/Person 1 over to the "Paired Variables" box. It will show up under "Variable1."
3. Move the independent variable for Time/Person 2 over to the "Paired Variables" box. It will show up under "Variable2."
4. Press OK.

One-way Analysis of Variance (ANOVA)
A one-way ANOVA is used to determine if there is a relationship between one independent variable with 3 or more levels (so three groups to compare, like three racial groups) and one continuous dependent variable.

1. Go to Analyze → Compare Means → One-Way ANOVA…
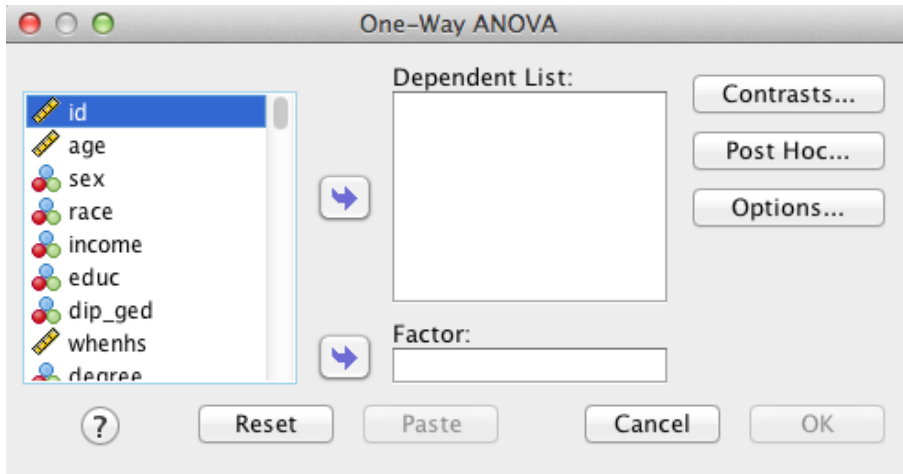
2. Move your dependent variable (continuous) into the Dependent List.
3. Move your independent variable (categorical variable with 3 or more levels) into the Factor box.
4. Press the Post Hoc… button.
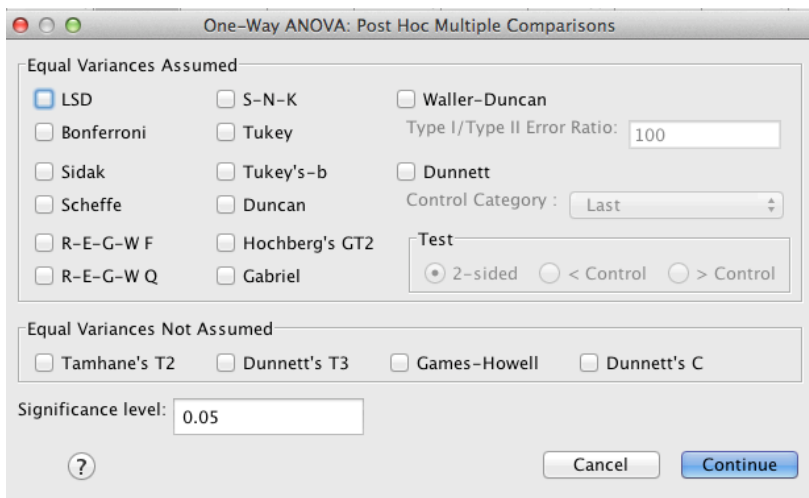
5. Select some post hoc tests. There are no hard and fast rules about which ones to select, but generally researchers select 2-3. If you only pick one, I suggest Sidak. Another widely used one is Tukey. The results are likely to be quite similar. Press Continue.
6. In the original box, press OK.

Two (or More)-Way ANOVA
A two-way ANOVA is used to determine if there is a relationship between two categorical independent variables, each with at least two levels, and one continuous dependent variable.

1. Go to Analyze → General Linear Model → Univariate…
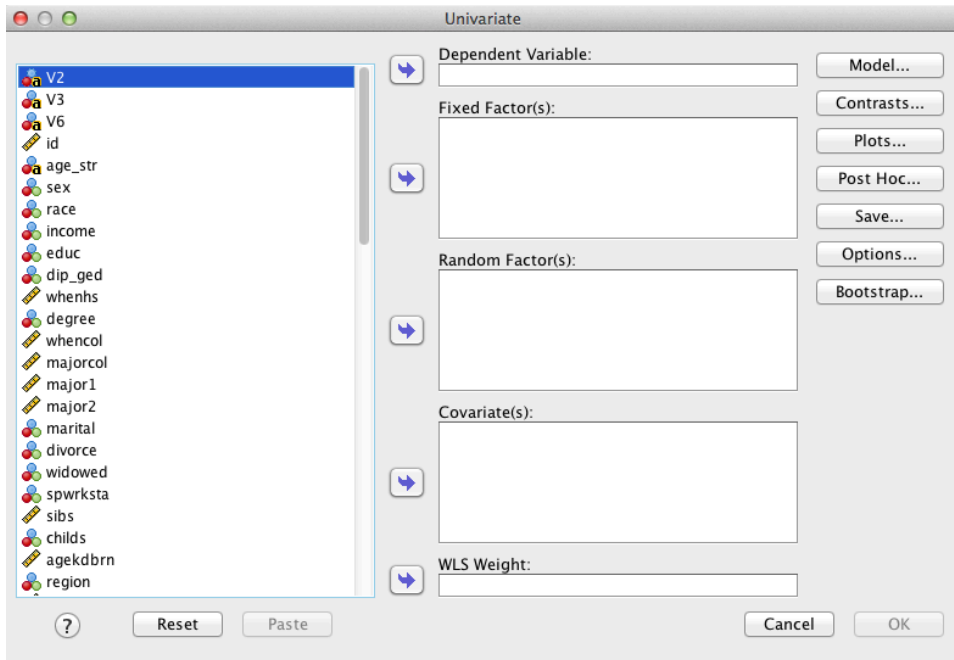
2. Select your continuous dependent variable, and bring it over to the Dependent Variable box.
3. Select your categorical independent variables, and bring them over to the Fixed Factor(s) box.
4. Press Plots… (*This option will allow you to get an interaction graph.*)
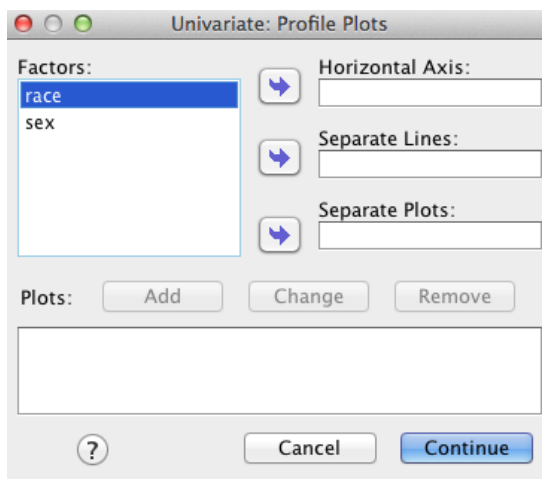
5. Bring the independent variable with the MOST levels to the Horizontal Axis box. Bring the other independent variable to the "separate lines" box, and then hit Add. Press Continue.
6. Press Options…
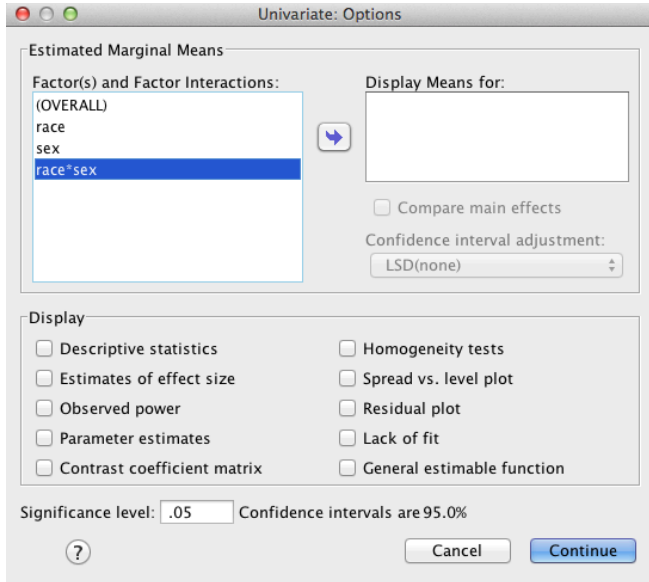
7. Bring over both of your variable and the interaction term (variable1*variable2) to the "Display Means for" box. Press Continue. *This will allow you to get the means for each group, which you'll need for a write-up.*
8. Press OK.

__If you have not taken a statistics class before, please ignore this note. You DO NOT need to do post-hoc tests.__

If you have *taken a statistics class before, and are **comfortable** with interpreting post-hoc tests for a two-way ANOVA, you also may choose to press the "Post-Hocs…" dialog and ask for post-hoc tests. You will only need post-hoc tests for 3+ level IVs. Again, here, I recommend Sidak or Tukey. However, do note that although you may get a significant main effect in your main ANOVA table, you may find that your post-hoc tests don't necessarily support that. That is because of a statistical quirk; main effects are difficult to correctly interpret with an interaction term in the analysis. For* THIS *class, if you would like to, all you have to do is explain that in the text. Please see Melissa or Heather if you need help. **If this confuses you, please don't worry about the post-hoc tests at all***.

Reliability Analysis
1. Go to Analyze → Scale → Reliability Analysis…
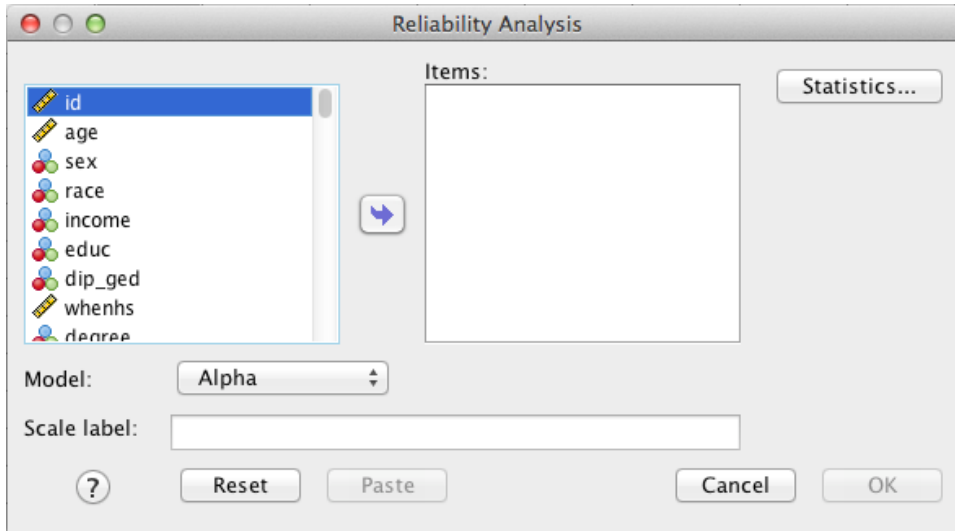
2. Move all of the items of the scale you want to analyze into the Items list. Make sure that you move over any recoded items instead of the originals.
3. If you are attempting to create your OWN scale, you will need inter-item correlations (measures of how much the items correlate with each other) and statistics for if certain items are deleted (to allow you to determine which items to drop from your scale, if any, to make it better). To get those, press Statistics…, then check the "Scale if item deleted" option under the Descriptive Statistics and the "Correlations" option under Inter-item. (Here you can ask SPSS for any statistics you want.)
4. Press Continue. In the original box, Press OK.

If you are attempting to create your own scale, please see Melissa or Heather for assistance with interpretation of the results.