

Instructions for Data Analysis in SPSS 10.0

At the beginning screen, click on “Start” (at the bottom left-hand corner of screen), move pointer over “Programs”, then to “Windows Applications, then double-click on “SPSS 10.0 for Windows”. Next, click on the circle next to “Type in Data” and click on “OK”. Your screen should look like a grid now and your ready to enter the data. Follow the instructions below.

Entering Data

Before entering your data, switch the screen to “variable view” (click on the tab at the bottom left of your screen named "variable view"). At this point you are going to tell SPSS what your variables are and what characteristics they have. **On this screen, each row corresponds to one of your variables.**

1. In the column labeled "Name" type in a name for your variable that does not exceed 8 characters. Sometimes you need to come up with an abbreviation for your variable here--but there is another column in which you can type out a long label. Type the names of each variable on a separate row.
2. Be sure that "Numeric" is always showing in the column labeled "Type"
3. You can leave the "Width" column set at its default value.
4. In the column labeled "Decimals", enter a number that represents the number of decimal places you'd like to enter for you variables (e.g., if you want to enter a number like 3.25, then enter "2" in decimals column to tell SPSS that your data have 2 decimal places).
5. In the column titled "Label", here you have up to 120 characters to describe your variables. For example, under "Name" you may have had to abbreviate "Exercise Condition" as excond, here under "Label" you can type out the whole variable name: "Exercise Condition". This labeling is very important because this label will show up on your output and will help you to remember what the numbers mean.
6. Some variables, **but not all**, will also require an entry in the "Value" column. Only those variables to which you assigned an arbitrary number will need an entry here. Sex of subject is a good example (as is experimental condition). SPSS only understands numbers so you'll need to assign some numeric value to male and another to female (e.g., 1 = male, 2 = female). But since this assignment is arbitrary, you need SPSS to remind you what "1" means for sex of subject. To do this, click on the gray box in the "Value" column. Type “1” for the first category and then name it in the box named “value label” (e.g., you'd type "1" in the value box and then click on the value label box and type in "male"). Click “add” and proceed to next category. After you’ve added all of your levels, click “ok”.
7. Don't worry about the rest of the columns. Once all of your variables are named on the variable view screen, switch back to the data view screen and enter your data in the appropriate columns. **After the data are entered & labeled you’re ready to conduct statistical analyses. The instructions for common analyses follow.**

General File Management Procedures:

DO NOT PRINT YOUR OUTPUT UNTIL YOU'VE COMPLETED ALL RELEVANT ANALYSES

But when you're ready:

To Print

1. Go to "File" and click on "Page Setup", change "Orientation" to "Landscape". Then click on "options" and then "Header". **In Header box type your name and then click "ok"**. This will bring you back to the "Page Setup" box. Click "ok" again.
2. Go back to "File" and click on "Print."

To Save

It is always a good idea to save both your data file and output files.

1. To save your data file, be sure that you are looking at the screen that is labeled "SPSS Data Editor" (top left of screen). Click on "File" and then "save as", type in a name for your file (e.g., "mydata")--be sure you save to the A: drive and not the hard drive. SPSS automatically puts a ".sav" extension on the filename do not change the extension!
2. To save your output (output is the results from your analyses), be sure you are looking at the screen labeled "SPSS Viewer" (top left of screen). Click on "File" and then "save as" type in a name for your file (e.g., "myresults")--be sure you save to the A: drive and not the hard drive. SPSS automatically puts a ".spo" extension on the filename do not change the extension!

Common Statistical Analyses

Creating a Frequency Distribution (This analysis answers the question "How many "X's" do I have?)

1. To create a frequency distribution, you go to the menu bar at the top of the screen and click on "analyze."
2. Then in the menu that appears, you click on "descriptive statistics" and then "frequencies."
3. Next, a dialogue box will appear in which your variables are listed on the left-hand side. You select the variables you want to describe with a frequency distribution and click the arrow button. This will move the variable into the next box.
4. Next, once all the variables you need are on the right side, you click on "ok."
5. Finally, your distribution is formulated and will come up on the screen. You move the scroll bar on the right-hand side of the screen to view the whole document.

Calculating the Mean, Standard Deviation, and Minimum and Maximum Values

1. To calculate the mean, standard deviation, and minimum and maximum values, you click on "analyze" on the menu bar, "descriptive statistics", and "descriptives."
2. Then you use the same system as above. You select the variables that you need, click the arrow button, and click "ok."
3. Finally, the computer calculates everything, and a table with the descriptives listed in it will appear. Again, use the scroll bar to view everything.

Conducting Pearson correlation

1. To calculate Pearson correlation, you click on “analyze” on the menu bar, click on “correlate”, and click “bivariate”.
2. Next, select the variables you want to correlate (to select more than one hold down the shift key) and click on the arrow.
3. Click ok.

Conducting an Independent Sample t-test (THIS ANALYSIS WILL PROVIDE YOU WITH MEANS & STANDARD DEVIATIONS FOR BOTH OF YOUR GROUPS)

1. To calculate an independent sample t-test, you click on “analyze” on the menu bar, click on “compare means”, and click “independent-samples t test.”
2. Next, in the “Test Variable(s)” dialogue box, you put in the dependent variable by selecting the variable and clicking on the arrow.
3. Then in the “Grouping Variable” box, you select the independent variable and clicking the arrow.
4. Next, after the variable appears in the grouping variable box, two question marks will appear after it in parenthesis. That tells you that you need to define a range for it. To do that, you click on the “Define Groups” button.
5. Next, you enter the values for the two groups and click “continue.” You will notice the values that you just entered will appear in place of the question marks.
6. Finally, you will click “ok” and your t-test will appear on the screen. Remember to use the scroll bar to see everything.

Conducting an Between Subjects ANOVA (THIS ANALYSIS WILL PROVIDE YOU WITH MEANS & STANDARD DEVIATIONS FOR EACH OF YOUR GROUPS)

1. Click on “analyze” on the menu bar, click on “general linear model”, and click “univariate.”
2. Next, put a variable in the dependent variable by selecting the variable and clicking on the arrow next to the "Dependent Variable" box.
3. Then in the “Fixed Factors” box, you place the independent variable by selecting it and clicking the appropriate arrow.
4. Click the "Options" button
5. Click the box next to "Descriptive Statistics", then click continue
6. Click on "Ok"

If you find a significant difference, see me for how to do Post-Hocs

Conducting a PURE Within-Subjects ANOVA (THIS ANALYSIS WILL PROVIDE YOU WITH MEANS & STANDARD DEVIATIONS FOR YOUR GROUPS)

1. Click on “analyze” on the menu bar, click on “general linear model”, and click “repeated measures.”
2. Click inside box labeled "Within Subject Factor Name" and create a name for your within subjects factor (a name you have not yet used)
3. Click inside box labeled "number of levels" and type in number of levels
4. Click "Add"
5. Click "Define"

6. Select the variable that represents the first level of your within-in subjects factor and click the top arrow.
7. Select the variable that represents the second level of your with-in subjects factor and click the top arrow.
8. Click on options
9. Click on box that says "descriptive statistics"
10. Click on "continue"
11. Click on "Ok"

Conducting Mixed Design ANOVA (THIS ANALYSIS WILL PROVIDE YOU WITH MEANS & STANDARD DEVIATIONS FOR YOUR GROUPS)

1. Click on "analyze" on the menu bar, click on "general linear model", and click "repeated measures."
2. Click inside box labeled "Within Subject Factor Name" and create a name for your within subjects factor (a name you have not yet used)
3. Click inside box labeled "number of levels" and type in number of levels
4. Click "Add"
5. Click "Define"
6. Select the variable that represents the first level of your within-in subjects factor and click the top arrow.
7. Select the variable that represents the second level of your with-in subjects factor and click the top arrow.
8. Select the variable that represents your between subjects factor and click the 2nd arrow.
9. Click on options
10. Click on box that says "descriptive statistics"
11. Click on "continue"
12. Click on "Ok"

Conducting a Regression

1. Click on "analyze" on the menu bar, click on "regression", and click "linear."
2. Next, put a variable in the dependent variable by selecting the variable and clicking on the arrow next to the "Dependent Variable" box.
3. Then in the "Independent(s)" box, you place the independent variable by selecting it and clicking the appropriate arrow.
4. Click on "Ok"