

Lab: SPSS Basics and Descriptive Statistics

- A. Starting and Exiting SPSS
- B. Opening Data Files
- C. Producing Frequencies and Descriptive Statistics
- D. My First Data File
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A. Starting and Exiting SPSS

Starting SPSS: SPSS Version 16 can be started in a few ways, depending on your computer

- Click **Start, All Programs, SPSS, Inc., SPSS 16.0**

OR

- Look for the SPSS icon on the desktop and double-click

An “SPSS for Windows” dialogue box will appear. Click **Cancel** for now... later we will learn some other options to use when the program first opens.

Exiting SPSS:

- Click **File, Exit**

OR

- Click on the close icon in the top right corner of the SPSS program window.

B. Opening Data Files Already Saved

You can open data files already saved, or create a new dataset directly in SPSS, then save it for ongoing work. First, let’s practice opening an already created dataset.

Let’s find the file called ***GSS93 subset***, one of the sample files that comes with SPSS (the location of files may vary by computer)

- Click **File, Open, Data**. An “Open File” dialogue box will appear.
- Your search will be some variation on this:
 - Local disk (C:), Program Files, SPSSInc, SPSS16, Samples
- Look for the ***GSS93 subset*** file. Click on it and then click **Open**.

C. Producing Frequencies and Descriptive Statistics

Let's produce some basic statistics using this sample data set

- Click **Analyze, Descriptive Statistics, Frequencies**. A dialogue box named "Frequencies" should appear
- Select the desired variables listed on the left window listing. You can click on MARITAL, SEX, and RACE while holding down the **Ctrl** key on the keyboard to select these all concurrently.
- Click the arrow button in the middle of the dialogue box. The variables you selected should move over to the right window listing
- Click on the **Statistics** button at the bottom middle of the dialogue box
- Click to select Std. Deviation, Variance, Range, Minimum, Maximum, Mean, Median, and Mode
- Click **Continue** and then **OK**
- Your SPSS "Output" viewer screen should then appear with your results. This output viewer will remain open. Any new commands and new output will be appended at the bottom. (Always scroll down to see your latest output!)

***What would happen if you selected the variable "age" and ran the frequencies command?

***What univariate analysis would appropriate for age?

Student	Gender	Score
1	1	87
2	1	53
3	1	92
4	1	70
5	1	78
6	1	73
7	1	91
8	1	60
9	1	77
10	1	82
11	1	85
12	1	33
13	1	88
14	1	98
15	1	88
16	2	89
17	2	73
18	2	91
19	2	76
20	2	75
21	2	89
22	2	81
23	2	83
24	2	68
25	2	86
26	2	55
27	2	89
28	2	89
29	2	70
30	2	93

- How many variables do we have? What type of variables are they? (Note: “Student” is an ID number, not a variable. ID numbers are important, so they will be input into SPSS.)
- When we enter data, it is important to convert our categorical information into numbers whenever possible. In this case, our “Gender” variable will use the following **values** and **value labels**:
1 = Male
2 = Female

The numbers you assign do not matter—as long as you know (and SPSS knows) what they mean

- Type in your data (*just the numbers*; ignore the column headings for now) first in the “Data View” part of the SPSS Data Editor found by clicking the “Data View” tab at the bottom of the SPSS screen. The “Data View” is a primitive spread sheet.
- We will design our variables using the “Variable View” part of the SPSS Data Editor found by clicking the “Variable View” tab at the bottom of the SPSS screen. Once you complete the data entry, click on the Variable View screen.

D. My First Data File

Now we’ll create a brand new data file using this dataset.

- To start a new file, click File, New, Data. Or, if not open yet, open SPSS and cancel

out of the “What would you like to do?” dialogue box. You should then have a blank spreadsheet screen. At the bottom of the software screen to the left you’ll see two tabs, “Data View” and “Variable View”. The Data View screen is where your new data gets entered. The Variable View screen is how you define your variables. Click on the Data View tab, and look over the following data set:

Designing the variables can be done all on the Variable View screen:

Name	Click on the first box under “Name”. Here, you type in the name of the first variable “Student” (without quotes). [Note: “Student” is not really a variable but an ID number, which is common in databases. Still, we’ll set it up as a variable but we won’t be doing any analysis on it.]
Type	Click on the first box under “Type”. Click on the gray square that appears just to the right, and a “Variable Type” dialogue box will open. Select “Numeric” and keep the “Width” and “Decimal” settings as is.
Width	Here you can adjust the width of your data columns. Leave as is for now.
Decimals	Here you can adjust the number of decimals needed for your data. Leave as is for now.
Label	Click on the first box under “Label”. Here, you type in the label or very short description of the first variable... something like “Student ID#”
Values	<p>For the first variable “Student” you will not have any value labels because it is not a categorical variable.</p> <p>But for categorical variables you will need value labels. For example, for “Gender” you will use the labels assigned above (1 = male and 2 = female). To do this, click on the appropriate box under “Values”. Click on the gray square that appears just to the right, and a “Value Labels” dialogue box will open. Click to the Value box and type in the value 1, click on the Value label box and type in male. Click the Add button. Do the same procedure for female. Click OK.</p>
Missing	Here you can assign codes for missing values . Leave as is for now.
Columns	Here you can adjust the size of your data column. Leave as is for now.

Align Here you can adjust the alignment of the data appearance. Leave as is for now.

Measure Here you assign the level of measurement: scale (which is the same as any continuous type variable), ordinal, or nominal. To assign the correct type, click on the appropriate box under “Measure”. Click on the gray down arrow that appears just to the right, and a list will appear. Select the correct type.

Now go back to the Data View screen. You’ll notice that the columns now have your variable names.

- Once you’ve completed setting up your variables, generate the basic statistics for this data set similar to what we did above (see the output below).

E. Saving Data Files

- Click **File, Save As**, and a “Save Data As” dialogue box appears. In the **Save In:** box select the drive for your USB device, if you brought one. If you’re home, just save the new file to an appropriate folder, just like any other document. You will be given the choice to save two files—your output file, and your datafile. Closing SPSS without saving the files will delete your recent work.

Exit the program. You do not need to save the output (and you won’t have to save SPSS files for future lab assignments, either). Congratulations, you have just been initiated into the SPSS Club!

*** Comments about practicing SPSS on your own

*** Comments about Lab Rules and Guidelines

Frequencies (Gender): Analyze, Descriptive Statistics, Frequencies; select “gender” move it to the Variable(s) column; click OK

```
FREQUENCIES VARIABLES=gender  
/ORDER=ANALYSIS.
```

[This is the programming language or syntax that SPSS generated from your commands. It is always shown in the output.]

Statistics

gender

N	Valid	30
	Missing	0

gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	15	50.0	50.0	50.0
	Male	15	50.0	50.0	100.0
	Total	30	100.0	100.0	

Descriptives (Score): Analyze, Descriptive Statistics, Descriptives; select “score” and move it to the Variable(s) column; click Options; check Mean, Std. Deviation, Variance, Range, Minimum, Maximum; then click Continue and OK.

```
DESCRIPTIVES VARIABLES=score
  /STATISTICS=MEAN STDDEV VARIANCE RANGE MIN MAX.
```

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
score	30	65	33	98	78.73	14.222	202.271
Valid N (listwise)	30						