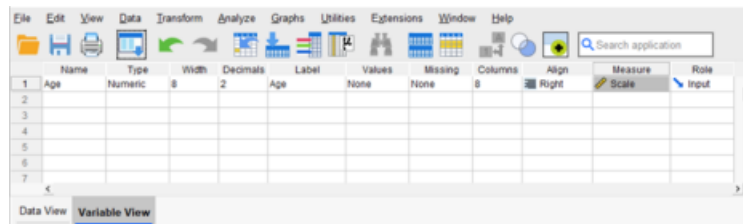
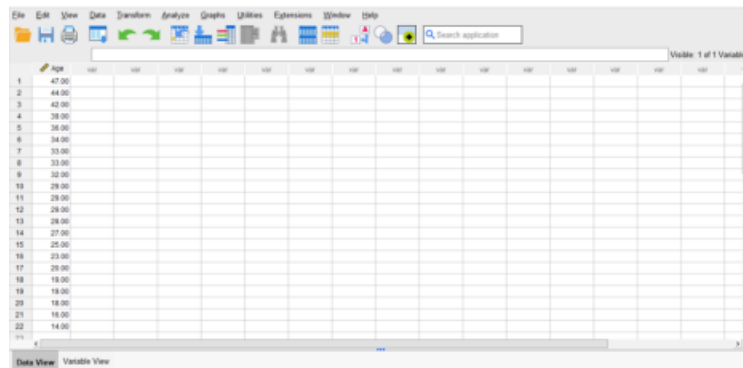


4.7: Using SPSS

SPSS software can be used to find the standard deviation and variance of a variable. Before analyzing data, they must be properly entered and defined in an SPSS spreadsheet. To review the process for entering data, see Chapter 2. If data are entered for Data Set 4.1, the variable view tab should look like this:



If data are entered for Data Set 4.1, the data view tab should look like this:

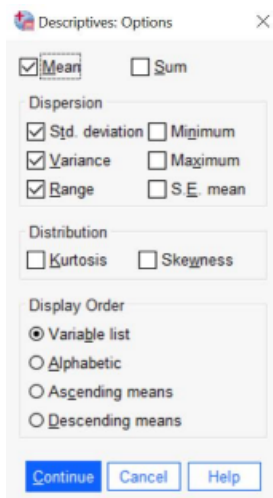


Once data are properly entered, the steps below can be followed.

Analyzing Data

The steps to generating a standard deviation in SPSS are:

1. Click Analyze > Descriptive Statistics > Descriptives.
2. Drag the name of the variable you want to analyze from the variable list on the left into the Variable(s) text box on the right of the command window. You can also do this by clicking on the variable name to highlight it and then clicking the arrow to move the variable from the left into the Variable text box on the right.
3. Click the Options button on the upper right side of the command window.
 - a. Some items will be marked by default such as the mean. Click on the boxes to select any measures of variability desired such as the range, standard deviation, and variance. You can also select boxes to have SPSS specify what the highest and lowest scores were for the variable, if desired. The image to the right is what the Options window would look like if requesting the mean, range, standard deviation, and variance. Click Continue to close the options window and return to the main command window.
4. Click OK.



5. A table summarizing the results will appear in the SPSS output viewer. Here is an example of what that would look like for Data Set 4.1 for the items selected as shown in step 3 above:

Descriptive Statistics

	N	Range	Mean	Std. Deviation	Variance
Age	22	33.00000	29.00000	9.38591	88.09524
Valid N (listwise)	22				

Compare the results in the SPSS output table to the ones computed by hand in this chapter. The sample size is 22, which matches Data Set 4.1. Only one range is reported in SPSS which is the exclusive range, however, it is important to note that SPSS does not specify and simply refers to this as “Range.” The range as reported in the SPSS output table matches the exclusive range computed by hand in this chapter as 33.00. SPSS also reports the mean as 29.00, the standard deviation as 9.39, and the variance as 88.10 when rounded to the hundredths place. These are consistent with the values computed by hand in this chapter. By comparing our hand-calculated results to those provided by SPSS we can get assurance that our computations are correct.

Structured Summary for Measures of Variability

After carefully reading the chapter, complete the following structured summary to add a learning check and easy-to-use reference to your notes.

Summarize what each symbol stands for and the types of data for which each is most appropriate.

IR =

ER =

$RSLR$ =

n =

N =

x =

\bar{x} =

μ =

SS =

s =

σ =

s^2 =

$$\sigma^2 =$$

Fill-in the appropriate information for each statistic below:

1. Exclusive Range
 - a. For which kinds of data can/should this be used?
 - b. What is the focus of this statistic?
 - c. What are the steps and/or formula and its steps for this statistic?
2. Inclusive Range
 - a. For which kinds of data can/should this be used?
 - b. What is the focus of this statistic?
 - c. What are the steps and/or formula and its steps for this statistic?
3. Standard Deviation
 - a. For which kinds of data can/should this be used?
 - b. What is the focus of this statistic?
 - c. What are the steps and/or formula and its steps for this statistic?
 - d. How is this statistic reported when using APA format?
4. Exclusive Range
 - a. For which kinds of data can/should this be used?
 - b. What is the focus of this statistic?
 - c. What are the steps and/or formula and its steps for this statistic?

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