

Running Descriptives on SPSS

The Descriptives procedure allows you to get descriptive data about any of your scale level variables. The most common use of the procedure is to find the mean and standard deviation for a variable.

The procedure is used with scale level variables, most likely scores on some measure. If you run Descriptives on a nominal level variable, you get information that is meaningless. For example, if your variable is gender with values coded as 0 = male and 1 = female and you run a Descriptives, you might get a mean of 0.7. What does that mean? It doesn't tell you anything about the participants in your study. For nominal or ordinal variables, you must run Frequencies.

Running Descriptives

Follow these commands:

- **Analyze** ⇒ **Descriptive Statistics** ⇒ **Descriptives**
- Highlight each variable of interest from the box on the left side of the screen, then click on the **arrow** button.
- Click on **Options**.
- Mean, standard deviation, minimum and maximum should be checked as the defaults. Click on **Skewness** and **Kurtosis**.
- Click on **Continue**.
- Finally, click **OK**.

Practice Descriptives

Use the High School and Beyond data set (hsbdata.sav) to practice running **Descriptives**.

- **Analyze** ⇒ **Descriptive Statistics** ⇒ **Descriptives**
- Highlight *math achievement*, then click on the **arrow** button.
- Highlight *scholastic aptitude test - math*, then click on the **arrow** button.
- Click on **Options**.
- Mean, standard deviation, minimum and maximum should be checked as the defaults. Click on **Skewness** and **Kurtosis**.
- Click on **Continue**.
- Click **OK**.

Reading a **Descriptives** Output

The following is the Descriptives Output for the practice session and the presentation.

Descriptives

This is all there is to the output, but there is a lot of information. Look at the first five columns in blue. The first column has the number of cases with valid data for each test. The next two columns tell you the minimum and maximum score that were earned on each test. Then the mean and standard deviation for each test is listed.

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
math achievement test	75	-1.67	23.67	12.5645	6.67031	.044	.277	-.940	.548
scholastic aptitude test - math	75	250	730	490.53	94.553	.128	.277	.943	.548
Valid N (listwise)	75								

These two columns give the skewness and kurtosis statistics. Values should be less than ± 1.0 to be considered normal.

This column tells you the number of cases with scores.

These two columns tell you the minimum and maximum score that were earned on each test.

These two columns tell you the mean score and the standard deviation for each test.

Now look at the last two columns in purple. These are the skewness and kurtosis statistics. These statistics are more precise than looking at a histogram of the distribution. The rule to remember is that if either of these values for skewness or kurtosis are less than ± 1.0 , then the skewness or kurtosis for the distribution *is not* outside the range of normality, so the distribution can be considered normal. If the values are greater than ± 1.0 , then the skewness or kurtosis for the distribution *is* outside the range of normality, so the distribution cannot be considered normal.

For both of these variables the skewness is very close to 0, indicating that the distribution of scores is not skewed. But look at the kurtosis. The math achievement test has a negative kurtosis, meaning that the distribution is slightly flatter than normal or platykurtik. Just the opposite is true for the SAT math test. While it is not outside the normal range, the distribution is tall, it is leptokurtik, hence the positive kurtosis value.

For skewness, if the value is greater than + 1.0, the distribution is right skewed. If the value is less than -1.0, the distribution is left skewed.

For kurtosis, if the value is greater than + 1.0, the distribution is leptokurtik. If the value is less than -1.0, the distribution is platykurtik.