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General instructions for using SPSS are presented in Appendix D. Following are detailed instructions for using SPSS to perform **The Independent-Measures t Test** presented in this chapter.

Data Entry

1. The scores are entered in what is called *stacked format*, which means that all of the scores from *both samples* are entered in one column of the data editor (probably VAR00001). Enter the scores for sample #2 directly beneath the scores from sample #1 with no gaps or extra spaces.
2. Values are then entered into a second column (VAR00002) to identify the sample or treatment condition corresponding to each of the scores. For example, enter a 1 beside each score from sample #1 and enter a 2 beside each score from sample #2.

Data Analysis

1. Click **Analyze** on the tool bar, select **Compare Means**, and click on **Independent-Samples t Test**.
2. Highlight the column label for the set of scores (VAR00001) in the left box and click the arrow to move it into the **Test Variable(s)** box.
3. Highlight the label from the column containing the sample numbers (VAR00002) in the left box and click the arrow to move it into the **Group Variable** box.
4. Click on **Define Groups**.
5. Assuming that you used the numbers 1 and 2 to identify the two sets of scores, enter the values 1 and 2 into the appropriate group boxes.
6. Click **Continue**.
7. In addition to performing the hypothesis test, the program computes a confidence interval for the population mean difference. The confidence level is automatically set at 95% but you can select **Options** and change the percentage.
8. Click **OK**.

SPSS Output

We used the SPSS program to analyze the data from the Sesame Street study in Example 10.1 and the program output is shown in Figure 10.9. The output includes a table of sample statistics with the mean, standard deviation, and standard error of the mean for each group. A second table, which is split into two sections in Figure 10.9, begins with the results of Levene’s test for homogeneity of variance. This test should *not* be significant (you do not want the two variances to be different), so you want the reported Sig. value to be greater than .05. Next, the results of the independent-measures *t* test are presented using two different assumptions. The top row shows the outcome assuming equal variances, using the pooled variance to compute *t*. The second row does not assume equal variances and computes the *t* statistic using the alternative method presented in Box 10.2. Each row reports the calculated *t* value, the degrees of freedom, the level of significance (the *p* value for the test), the size of the mean difference and the standard error for the mean difference (the denominator of the *t* statistic). Finally, the output includes a 95% confidence interval for the mean difference.

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