**7**

**7.14 *Learning Activity***

In these activities you will use the file *Census.sav*. The overall goal is to run the **Independent-Samples T Test**, to interpret the output and visualize the results with an error bar chart.

1. We want to see whether men and women differ in their mean socioeconomic index (*sei*) and their age when their first child was born (*agekdbrn*). First, use the Explore procedure to view the distributions of these two variables by gender. Are they similar or different? Do you see any problems with doing a t test?

2. Now do a t test for each variable, by gender. Is the homogeneity of variance assumption met, or not? What do you conclude about mean differences by gender?

3. Create an error bar chart for each variable by gender. Is the graph consistent with the result from the t test?

**8.10 *Learning Activity***

The overall goal of this learning activity is to use the **Paired-Samples T Test**.

1. One variable in the customer survey asked about agreement that SPSS products are a good value (*gdvalue*). A second question asked about agreement that SPSS offers high quality products (*hiqualty*). Use a paired-samples t test to see whether the means of these two questions differ (they are measured on a five-point scale). What do you conclude?

2. Then test whether there is a mean difference between agreement that SPSS products are easy to learn (*easylrn*) and SPSS products are easy to use (*easyuse*). What do you conclude?

3. Could we use a paired-sample t test to compare how long a customer has used SPSS products (*usespss*) and how frequently they use SPSS (*freqspss*)? Why or why not?

**9.20 *Learning Activity***

The overall goal of this learning activity is to use One-Way ANOVA with post hoc tests to explore the relationship between several variables. You will use the PASW Statistics data file *Census.sav*.

1. Investigate how the number of siblings (*sibs*) varies by highest degree (*degree*). Ask for appropriate statistics.

2. Is the assumption of homogeneity of variance met? Is the ANOVA test significant at the .01 level?

3. Do a post hoc analysis, if justified. Ask for both the Bonferroni and Scheffe tests? What do you conclude from these tests? Which education groups have different mean numbers of children? Are the Bonferroni and Scheffe tests consistent?