**SPSS – Independent Samples t-Test**

The data example – A researcher studied the effect of feedback on estimation of length. Two samples of subjects are given practice estimating the lengths of lines drawn by the researcher on a chalkboard. One group receives no feedback about the accuracy of the estimates. The second group receives feedback (“too long,” “too short”) for accuracy. Then everyone is tested for accuracy of length estimation. The amount of error, in inches, is measured for all subjects. Is there an effect of feedback on accuracy? Test with alpha of .05 and two tails. The data are:

|  |  |
| --- | --- |
| No Feedback | Feedback |
| 6 | 3 |
| 7 | 3 |
| 4 | 1 |
| 7 | 5 |

  STEP 1: Define variable name, label, and values

Open SPSS and choose **Type in data**. *Note: We will eventually enter two columns of data: one containing all of the error scores and another specifying the group corresponding to each score.* *Keep this in mind when defining variables*. Start by naming the variable of interest. Click the Variable View sheet tab. Type the variable name (8 characters max) in the Name column (e.g., Error). If needed, specify variable type, width, and number of decimals or simply accept the default settings. You have the option of typing a more descriptive variable name (255 characters max) in the Label column. Now we need to define a variable (the grouping variable) that specifies which group goes with each error rate. In the second row, type the name of the grouping variable (e.g., Group). It’s okay to accept the default settings for type, width, etc.

STEP 2: Input the data into SPSS  
  Make sure to click back into Data View. Enter all error data in a single column beneath the variable name (Error). Next, enter the group that corresponds to each error score, where No feedback = 1 and Feedback = 2.

STEP 3: Select the statistical procedures

Go to the **Analyze** menu and select **Compare Means** and then select **Independent Samples T-Test**.

STEP 4: Select the variables

Inside the subcommand box, select the test variable (Error) by clicking the arrow key to move the variable name into the right box. Next choose the grouping variable (Group) by clicking the arrow key toward the bottom of the dialog box. Click **Define Groups**, and type in the code corresponding to the first group (e.g., 1) and the code corresponding to the second group (e.g., 2). Click **Continue** and then the **OK** button.

STEP 5: The data output lists Sig. (2 tailed) at .032, which is less than .05, so we reject Ho. (This means that we have a 3.2 % chance of making a Type I error and we set our highest acceptable level at 5%.—the alpha level)