Running Independent t-Tests and Bar Charts in Excel 2011
Instructions for Mac Users

Running an Independent t-test
1. Copy and paste two continuous groups of data that you want to compare into a new sheet.
2. Open StatPlus and go to Statistics → Basic Statistics and Tables → Comparing Means (T-Test)...
3. Under “Variable 1,” click on the small box next to the “Values” field. This will take you back into Excel. Highlight all of the data from your first group.
4. Go back to StatPlus and do the same for “Variable 2.” If you include the variable name in your selection, keep the “Labels in first row” box checked. If not, uncheck the box.
5. Under “T-Test Type,” select Two-Sample T-Test Assuming Unequal Variances (heteroscedastic). Then hit OK.

6. The results will pop up in a new window. It displays the mean, variance, and count of both groups. Use the p-value in the “Two-tailed distribution” if your alternative hypothesis is two-sided, and use the p-value in the “One-tailed distribution” if your alternative hypothesis is one-sided.
7. To complete the analysis, create a bar chart for means to compare the means of the two groups visually (see below).

Bar Chart for Means
1. Copy and paste two continuous groups of data that you want to compare into a new sheet.
2. In an empty space next to the data, create a table with the labels of the two groups across the top and the following statistics as the row labels: mean, standard deviation, count, and standard error of the mean.
3. Fill in the cells for both groups using the following built-in functions:
   - Mean: = AVERAGE([select data])
   - Standard Deviation: = STDEV([select data])
- Count: = COUNT([select data])
- Standard Error: = [standard deviation] / SQRT([count])

4. Highlight the two means in the table. Then go to the Charts tab and select Column \(\rightarrow\) 2-D Clustered Column.

5. Remove the “Series1” legend by clicking on it and hitting Delete.

6. Right-click on the chart and go to Select Data… Click on the small box next to the “Category (X) Axis Labels” and highlight the labels for both groups. Then hit Return and click on OK.

7. Add a title and axis labels by going into the Chart Layout tab and select “Chart Title” and “Axis Titles.” Add an appropriate title above the chart and both horizontal and vertical axis labels.

8. Double-click on one of the bars in the chart to open the “Format Data Series” window.


10. Click on the small box next to the “Positive Error Value” field and highlight the two standard errors from your table. Then hit Return.

11. Repeat for the “Negative Error Value” field (highlighting the same standard errors) and hit OK.