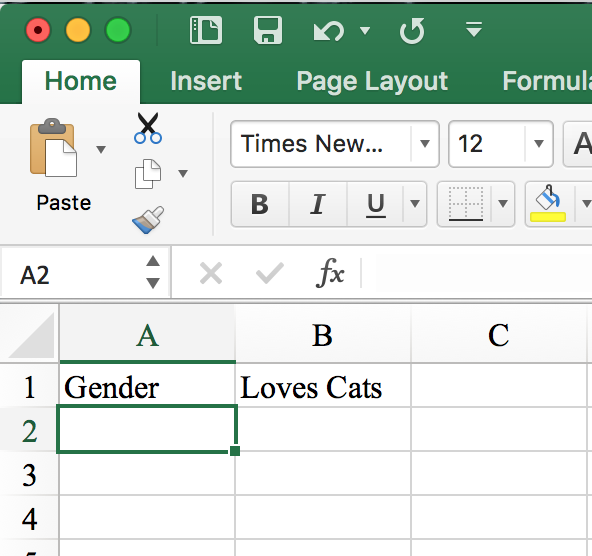
# **Entering Data in Excel:**

When we enter data to use in JASP, we want to follow the “tidy data” rule. Tidy data is:

* Each person gets their own row of data.
* Each column is a different variable for the data.

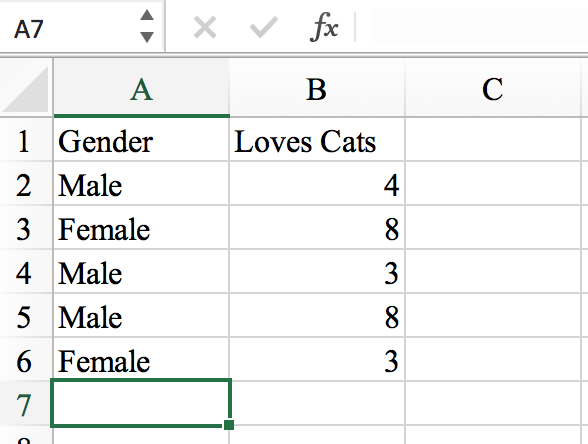
To create data, we can start typing in Column A, row 1. Let’s create a dataset of men and women with scores on a variable (Loves Cats).

In the first **row**, type the name of the variables:



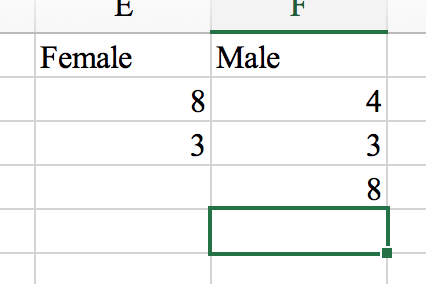
JASP will understand that the first row of the dataset is the name of each variable.

Starting in the second **row**, add some data for the participants.



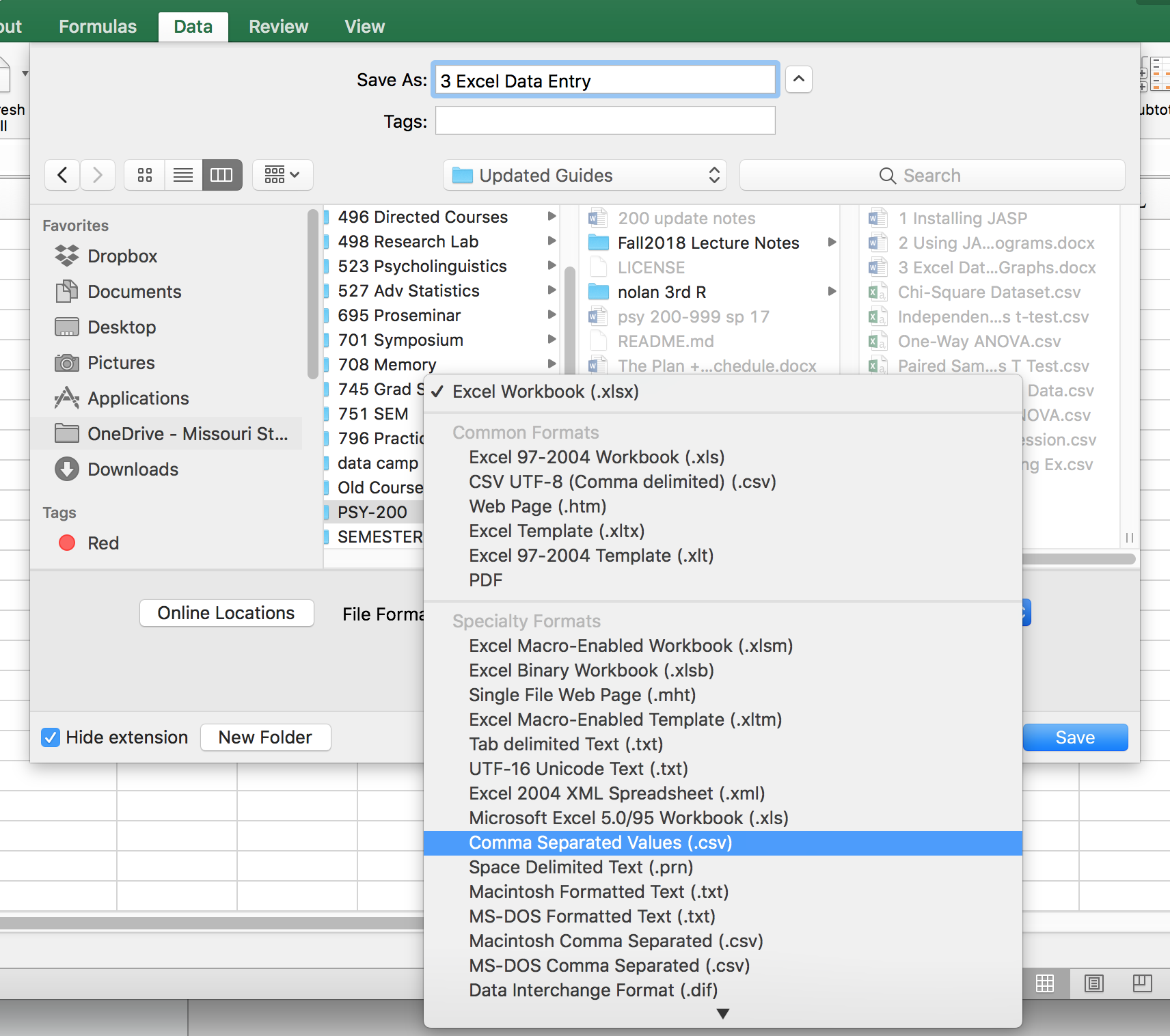
JASP will interpret the second **row** as the start of the data points (or each participant in your dataset). This dataset would be considered “tidy” because each person is a specific row (Male participant who rated Loves Cats as 4, Female participant who rated Loves Cats as 8, etc.) AND each column is a different variable (Gender and Loves Cats).

It’s very tempting to type in the data more like this:

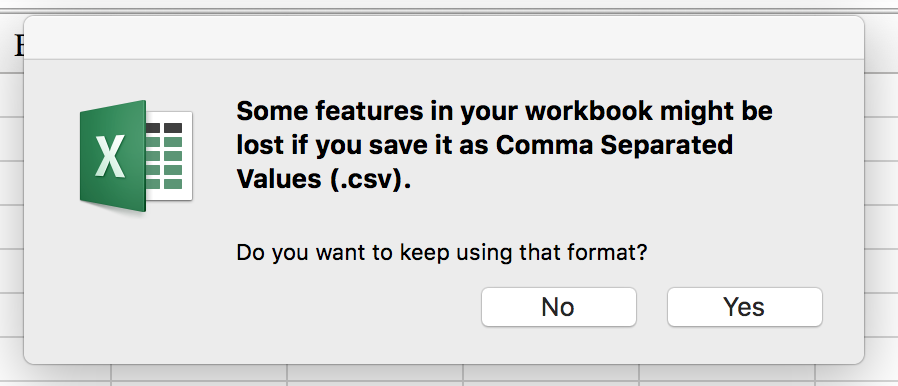


As a person starting to learn statistics and data, this organization does seem logical. However, it can be confusing for statistics programs to interpret if you have several variables for each gender (i.e., you also asked them about Loves Dogs).

If you want to use your Excel file in JASP, you will need to save it as a **.csv** file. Normal excel files are **.xsl or .xslx** but you will want to pick **Comma Separated Values.** There are a couple options, but use the one with no other special indicators (i.e., UTF-8).



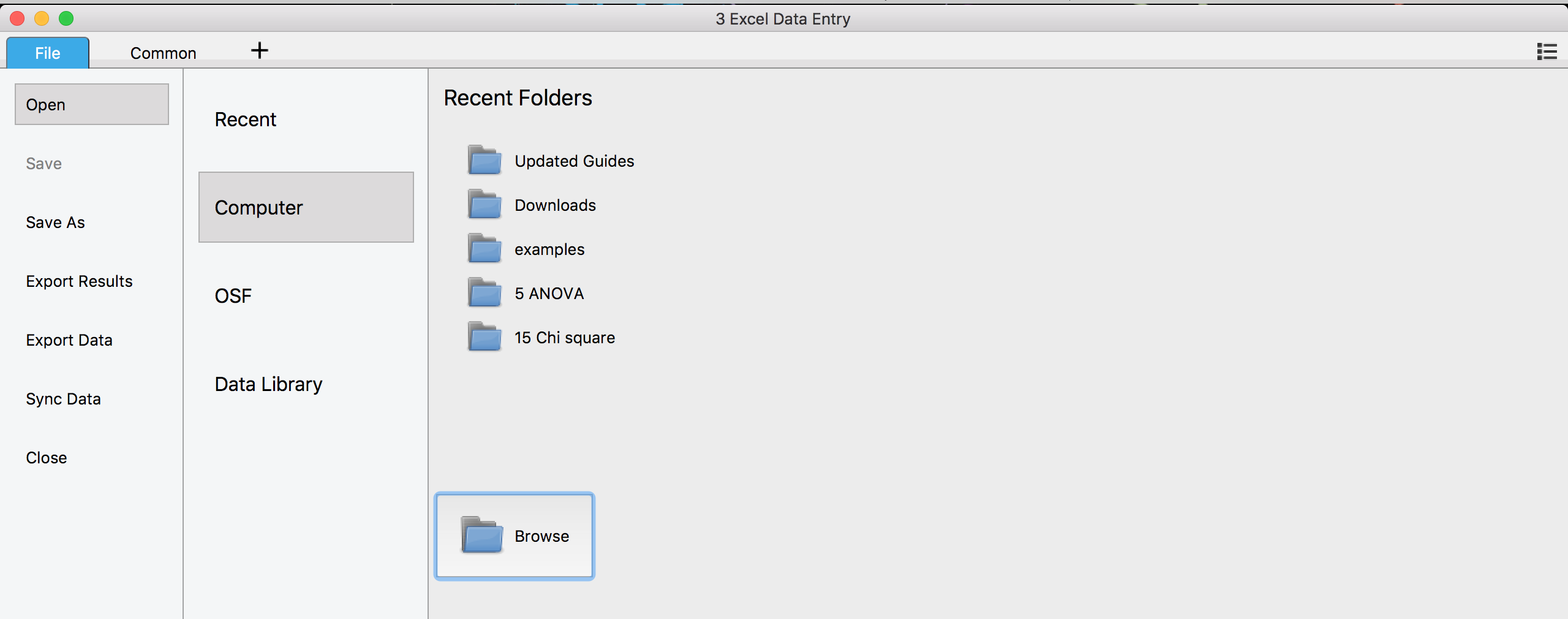
You will likely see this window as well:



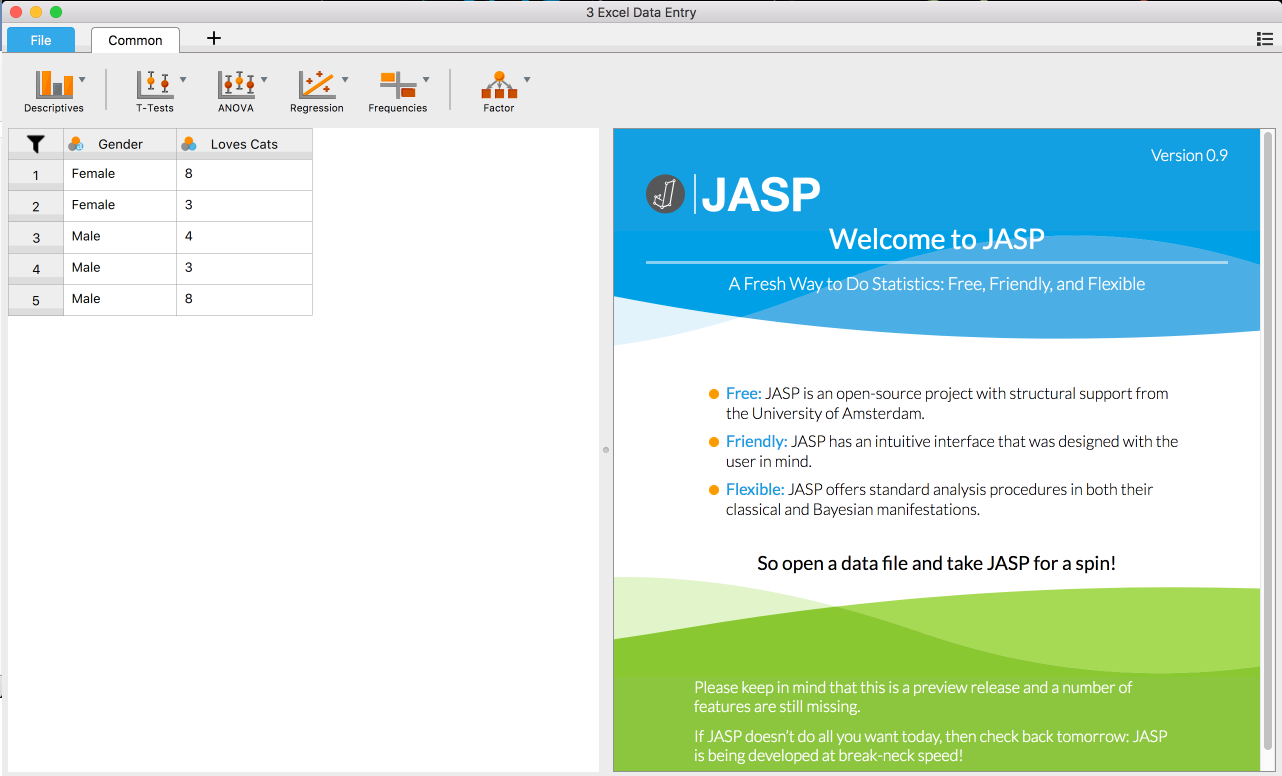
Click “yes”.

# **Editing Data in JASP:**

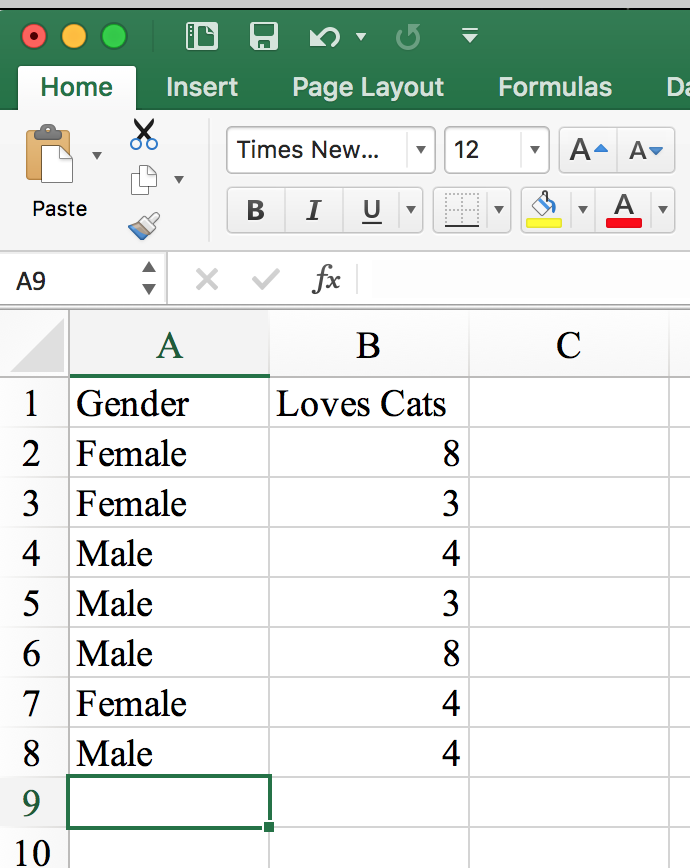
To open a data file click “File” 🡪 “Computer” 🡪 “Browse” and select the file from your computer.



We have now opened the .csv excel file we made above in the example.



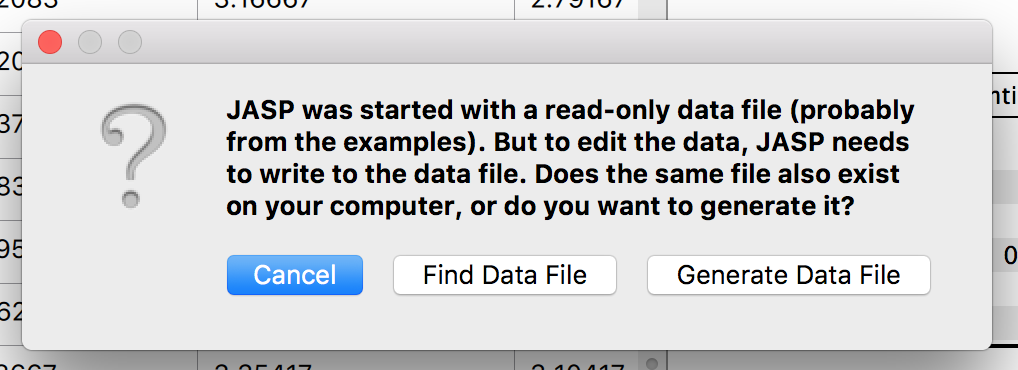
If you want to edit the data found in JASP, double click on a cell of the data. After you double click, Excel will open, and you can edit like we did in excel earlier. I added two more lines of data.



Now, save your data in Excel by clicking the “Save” icon  or by using “File” 🡪 “Save”. When you switch back to JASP, you will see the updated data.



If you are using a built in dataset for JASP, they don’t want you to edit their original data. If you double click on that data, you will see the following box:



If you want to edit that dataset, use “Generate Data File” to create a version of it you can edit in Excel.

# **Creating Graphs in Excel:**

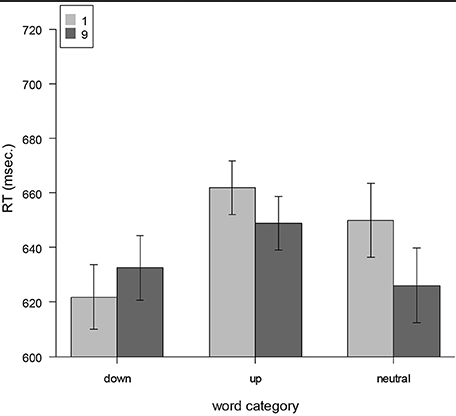
In JASP, you can create graphs based on the analysis options you picked, but they often don’t contain all the information you might want (and you can’t edit them directly). This section will cover how to make graphs in Excel so you can control all the parts of the graph yourself.

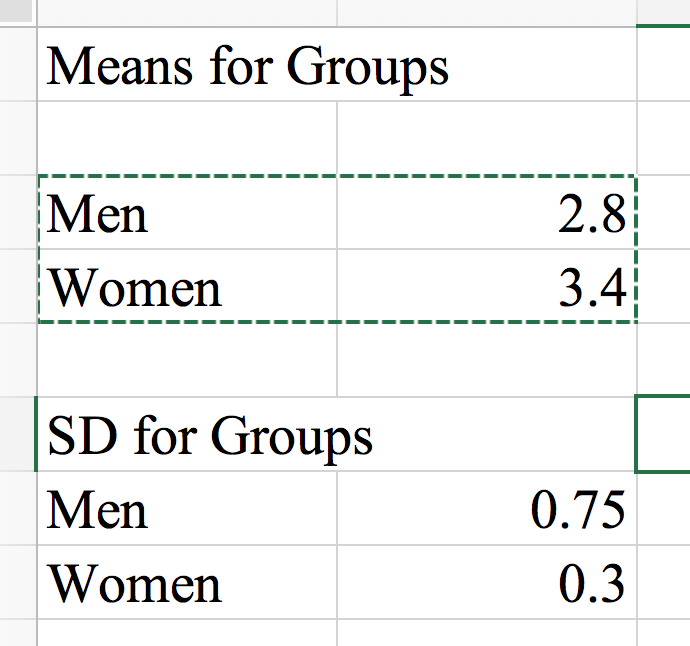
### Bar or Line Graphs:

One Independent Variable:

First, you need to enter the data you want to graph, which is usually the means of each group. You can put this information in any cells you like in Excel.

Second, you will want to enter any secondary data that you want to graph, which is often the standard deviation or standard error of the means (depends on your instructor!) to make the error bars that you might see on a bar or line graph. Here’s an example below, and the error bars are the lines on each bar, which denotes the variation around the mean.

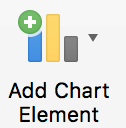
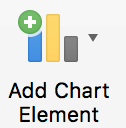
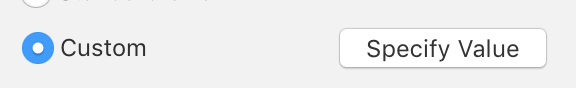


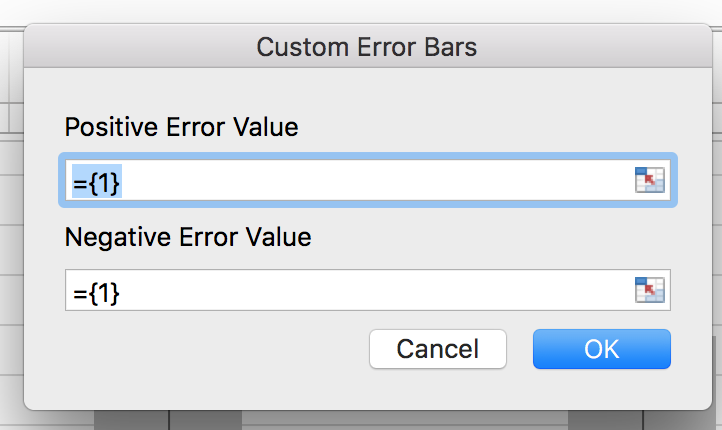


After you enter the data click “Insert” in the top excel menu 🡪 click either “2D column” or “2D line” to get a bar graph (called columns) or line graph. The instructions are the same for them after this point. It will help if you highlight the mean data before you click these buttons.

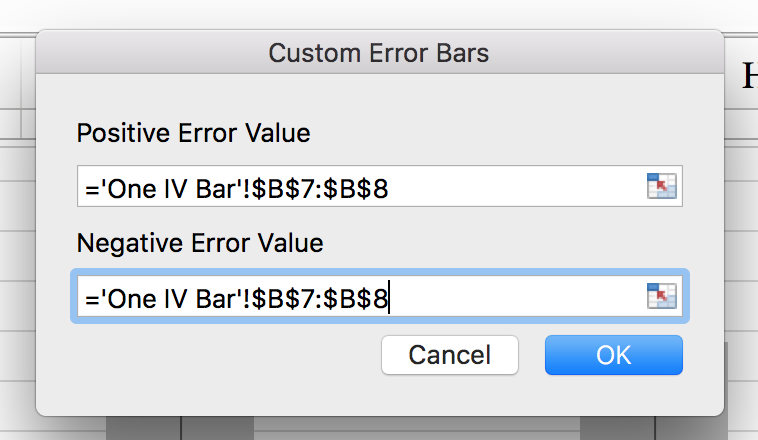
PLACE RIBBON HERE, WITH ARROWS POINTING TO THOSE TWO DIFFERENT SPOTS.

The first chart you get is pretty bland. You will want to delete the “Chart Title” as that is not included in APA style. There are lots of options to clean up the graphs here are some of the most popular ones:

* Change the font by clicking on the words (men/women on the X-Axis) or numbers (Y-Axis) and changing the font under “Home” on the top Excel menu.
* Change the color by **double** clicking on the bars, which will pull up a side menu. Click on the Paint Icon  🡪 “Fill” 🡪 “Solid Fill” 🡪 and then pick a color under color.
* Add X and Y axis labels by clicking on the chart so that “Chart Design” is available in the top Excel menu.
  + Then click on “Add Chart Element” .
  + Then click on “Axes Titles” and pick “Primary Horizontal” and “Primary Vertical”.
  + To edit these titles, click on the words “Axis Title” and start typing.
* Add error bars: Click on the chart so that “Chart Design” is available in the top Excel menu.
  + Then click on “Add Chart Element” .
  + Then click on “Error Bars” and pick “More Error Bar Options”.
  + A side menu for “Format Error Bars” will open up.
  + Click “Custom” 🡪 Specify Value 
  + A new window will pop up allowing you to select the area you put in the standard deviation or standard error. Be careful here to highlight the right cells, as well as the same cells for both “Positive” and “Negative” Error values.



* + After I highlighted the cells for the SDs, it should look like this below with numbers and codes (may be different cells on your screen):

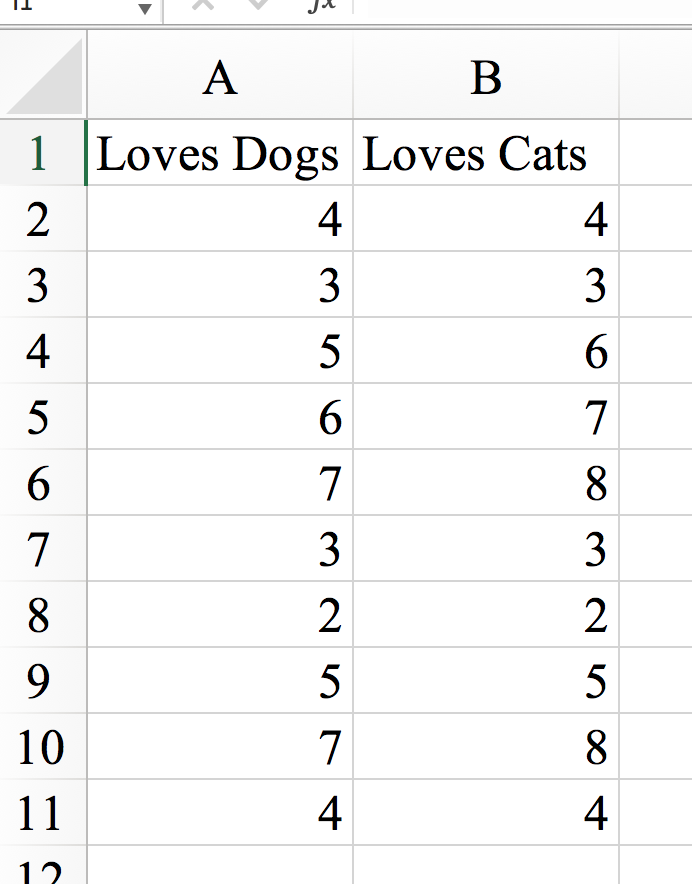


* + Click “Ok” and the bars will be added to your graph!

Two Independent Variables:

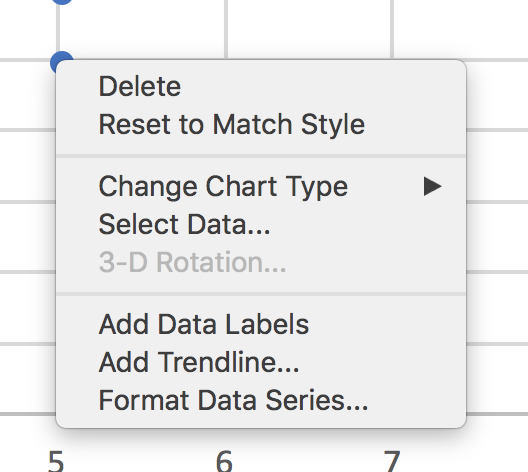
### Scatter Plots:

The data entry for scatter plots require that you have all the points, not just the means for each group.



Highlight all the data. Then, click on “Insert” 🡪 “Scatter” 🡪 First scatter plot option.

Additionally, you can add a “line of best fit”. To add that, right click on a dot on the graph, and select “Add Trendline”.



The “Format Trendline” side bar menu will pop up. “Linear” is the default option and usually the one you want. You can also click on the options to “Display Equation on Chart” or “Display R-squared value on chart” if your instructor wants that option.