

# How to Graph in Microsoft Excel 2007

QAC201

## Simple Graphing: Categorical-by-Categorical & Categorical-by-Continuous

- 1) In Row 1, type the labels for your independent variable; in Column A, type the labels for the variable you want to place on the x-axis

### *Example*

*I am examining the relationship between gender and height during adolescence. On the x-axis I will place my independent variable gender, and on the x-axis I will place the ages 13 through 19.*

	A	B	C
1		Male	Female
2	13		
3	14		
4	15		
5	16		
6	17		
7	18		
8	19		
9			
10			

**Note:** Box A1 should not be filled in.

**Note:** Your dependent variable will be represented on the y-axis when the graph is created.

- 2) Under these labels, type the information you want to graph into the appropriate boxes.

### *Example*

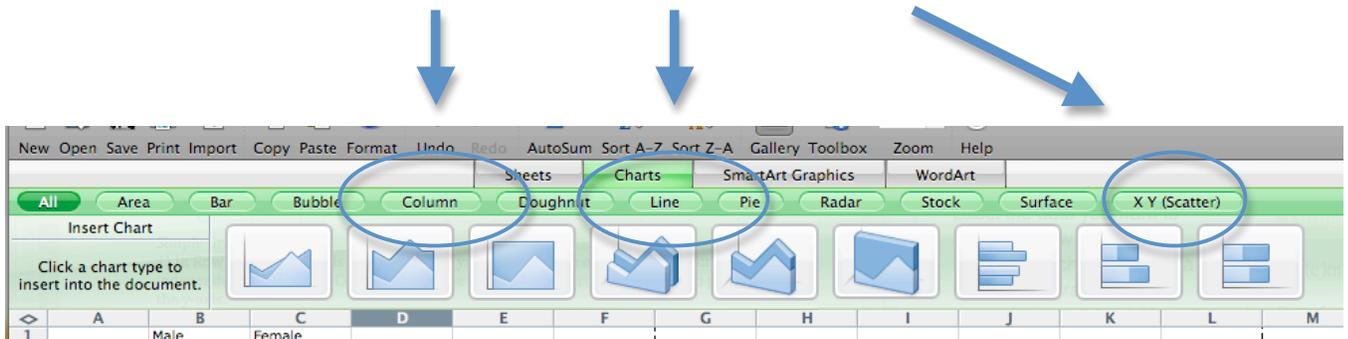
*At age 13, the average height according to my data is 63 inches for males and 61 inches for females. I will therefore want to put the value 63 in box B2 and the value 61 in box C2. This will be done for all my data points.*

	A	B	C
1		Male	Female
2	13	63	61
3	14	65	62
4	15	66	63
5	16	67	65
6	17	68	67
7	18	69	68
8	19	70	68
9			

3) Highlight the data for the graph by clicking and dragging your mouse across the data in the spreadsheet.

4) Click on the "Insert" tab at the top of the screen. On the Insert ribbon, select "Charts". A tab with the different graph types will appear at the top of the screen.

Most common graph types

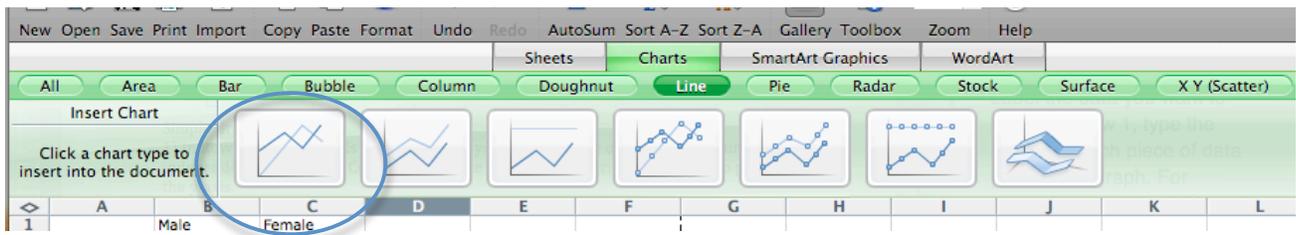


5) Select the graph type that will most effectively represent your data set. A new menu of only that graph type will appear for you to select from.

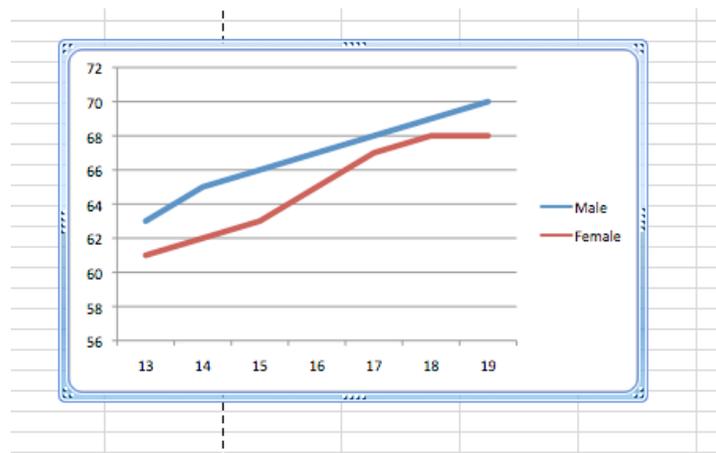
*Example*

*I want to represent the relationship between gender and height during adolescence through a line graph. I prefer the first line graph, and select it.*

**Note:** Some graphs stack information. Be careful to select only graph types that appropriately display your information.



6) Excel will then make a graph displaying the data you provided in the spreadsheet.



7) Graph titles, axis titles, etc. can be adjusted using “Toolbox” in a Mac computer or the “Design” tab on a PC.

8) Color, size, gradient, etc. can be edited by right clicking on the graph and selecting “Format”.

9) Once you have completed all changes, right click on the graph and select “Save as Picture”.

### **Simple Graphing: Continuous-by-Continuous**

1) In Column A, type the label for your independent variable, which will appear on the x-axis; in Column B, type the label for your dependent variable, which will appear on the y-axis.

*Example*

*I am examining whether major depression is correlated with high cigarette smoking, and will be using a continuous measure for depression as my independent variable and recorded cigarette smoking frequency as my dependent variable. Therefore, I will write “Depression Score” in box A1 and “Smoking Frequency” in A2.*

	A	B
1	Depression Score	Smoking Frequency
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		

2) Beginning with Row 2, each row will represent a new individual. Type in the appropriate column information for an individual into each row.

*Example*

*My first individual had a depression score of 15 and smoked 22 cigarettes the week he was interviewed. Therefore, I will type the value 15 into A2 and 22 into B2. This will be done for each individual in the set.*

	A	B
1	Depression Score	Smoking Frequency
2	15	22
3	14	14
4	6	0
5	3	0
6	7	0
7	9	10
8	15	13
9	18	22
10	15	22
11	3	0
12	0	3
13	0	2
14	0	0
15	7	0
16	4	3
17	2	7
18	4	2
19	7	0
20	9	3
21	15	26
22	15	24
23	16	14
24	17	16
25		

**Note:** If you have a large data set, it is best to copy and paste the values directly off your data analysis program. On each program:

SPSS	On the “data editor” screen, right click on the variable name to highlight the entire column, then select copy; paste into Excel
Stata	<b>browse IV DV</b> ; right click on the variable name to highlight the entire column, then select copy; paste into Excel
SAS	Go to your library and then right-click on the icon of the SAS datafile and select “View in Excel”. You can reduce the data set to the two variables you need by right-clicking on the columns you don’t need and selecting “delete”.
R	<pre>&gt; var.graph &lt;- cbind(dataset\$IV, dataset\$DV) &gt; write.table(file="P:[link to your name within the QAC course]\File.Name", sep="\t", row.names=F) In excel, select “Open” and make sure “all files” is selected from drop down menu and open “File.Name”.</pre>

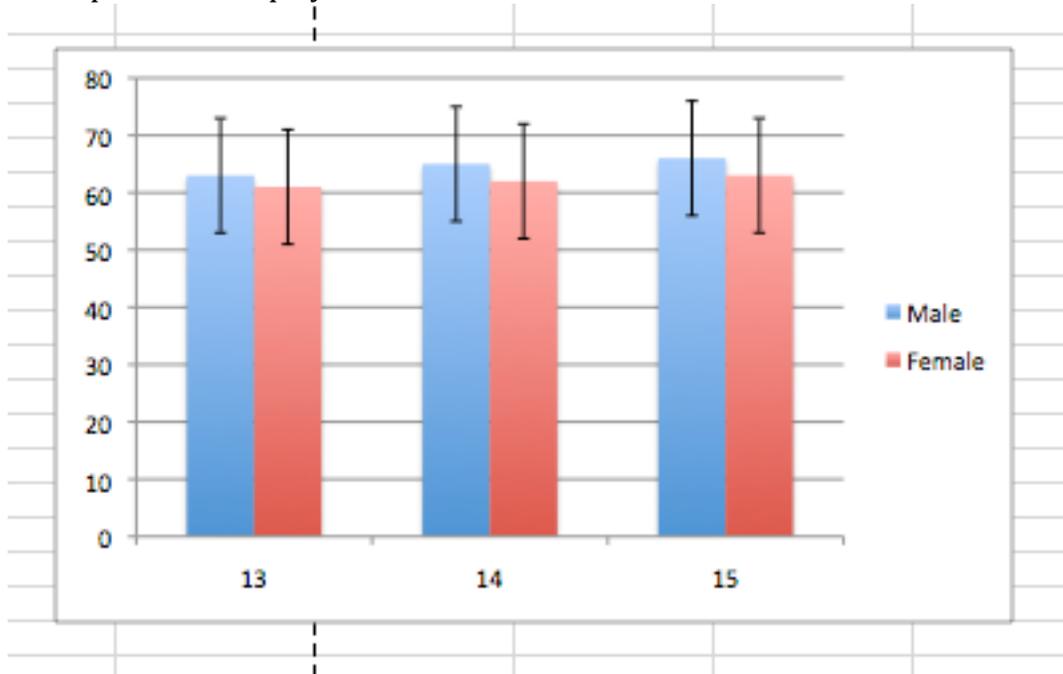
3) Follow Steps 3 – 9 from above. At Step 4, make sure you selected the “X Y (Scatter)” graph type.

## **Other Important Notes**

### **Adding Error Bars**

*A typical use for error bars is to show variability in the measures that are plotted in a column/bar graph.*

- 1) Create your column or bar graph using the above steps.
- 2) Once the graph has been created, move your cursor to one of the bars and left click. All the bars of that color should now be highlighted.
- 3) By double clicking on one of the highlighted bars, an “Edit” drop down menu will appear.
- 4) Select the Error Bars tab in the Edit menu.
- 5) Select the preferred display or error amount.



**Note:** This will need to be performed for every different color bar.

### **Adding a Best Fit Line**

*Best fit lines are used to estimate the directionality and degree of the relationship between two quantitative variables represented in a scatter plot.*

- 1) Create a scatter plot using the above steps.
- 2) Once the graph has been created, move your cursor to any data point and left click. All the points should now be highlighted.
- 3) Right click on one of the highlighted dots and select “Add Trendline”

