Handy Tips for Students Conducting Psychology Research

Table of Contents

Literature Search Functions

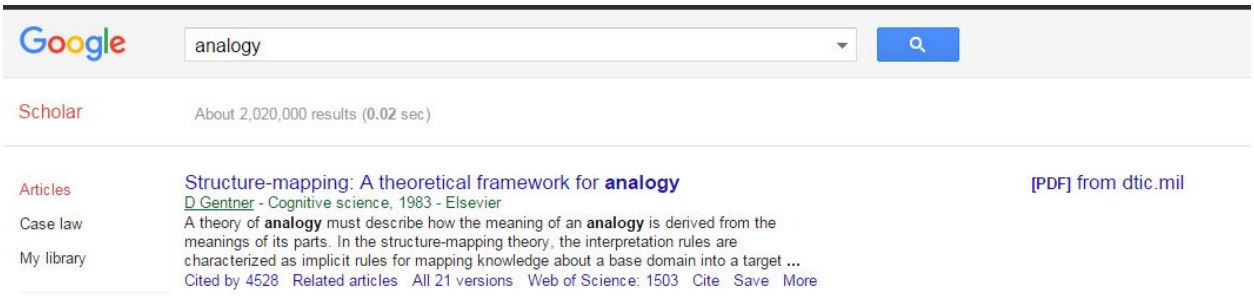
How do I obtain the full-text PDF of a journal article that I've found on Google Scholar?

On the Google Scholar search page (while on the Dickinson network), to the right of the search result oftentimes there will be direct links to an electronic copy of the article. If you click on these links, the PDF will either be directly downloaded, or opened on your screen (which you can then download and save).

If you clicked on the link, on the subsequent page there will also be buttons that will give you the full article in PDF format (which you can then download and save).

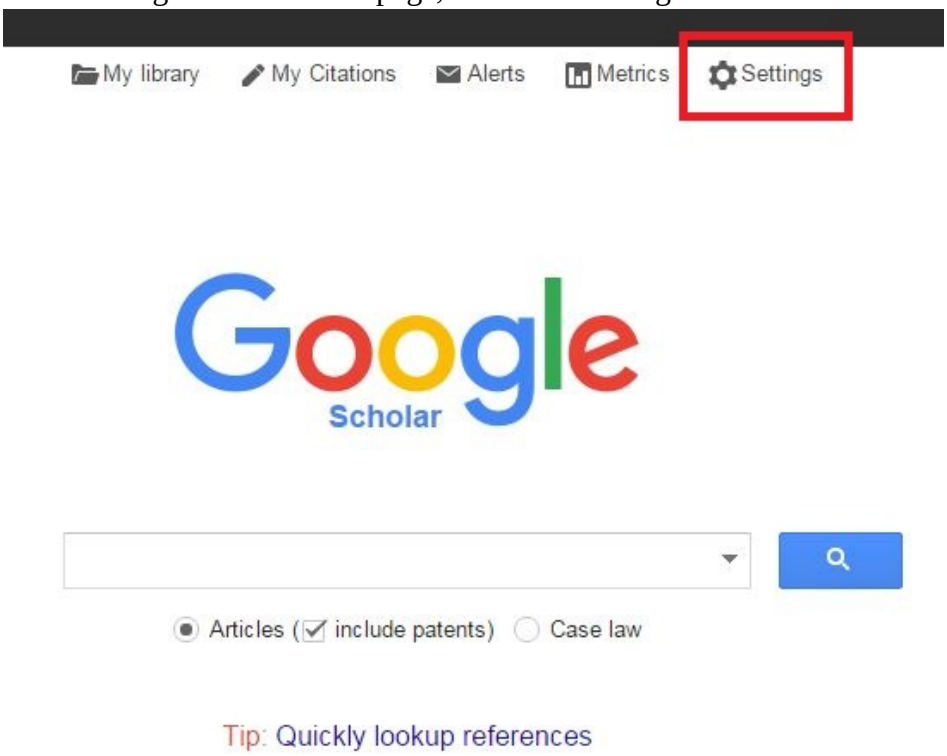
How do I use Google Scholar on my personal computer?

When accessing databases, like Google Scholar, from a personal computer you are often limited in what you can access because of copyright laws and the like. For example, this is what I get when I search for a popular theory in Google Scholar:

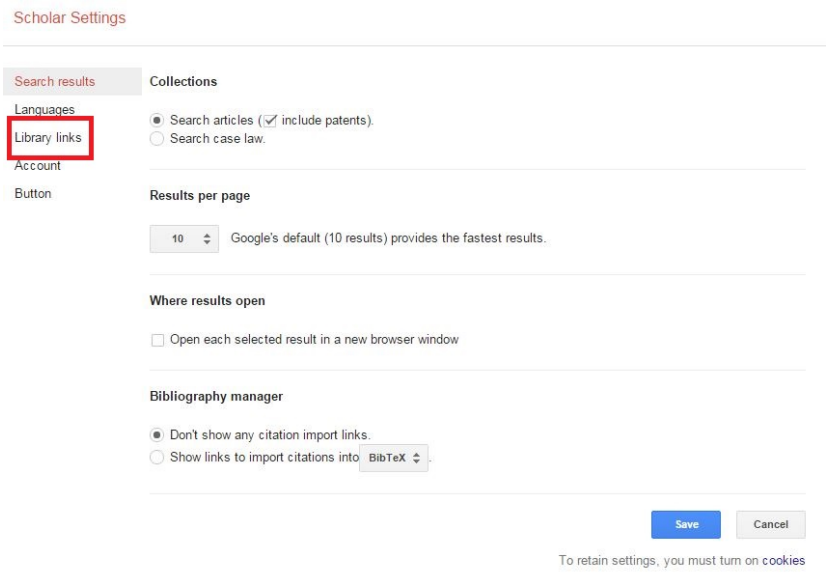


However, you can link Google Scholar to Dickinson's library so that you more easily get more articles.

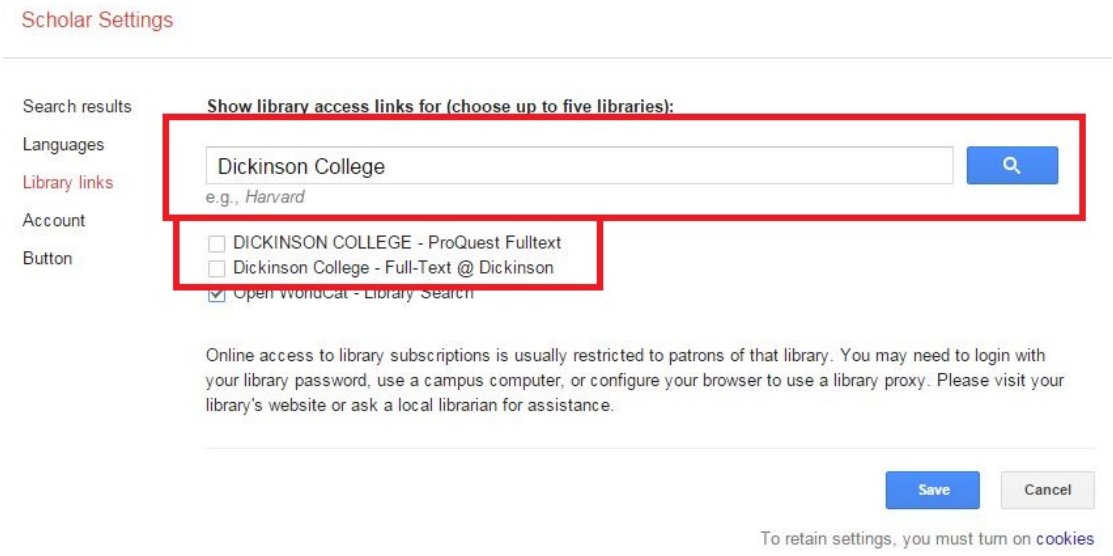
On the Google Scholar homepage, click the 'Settings' button.



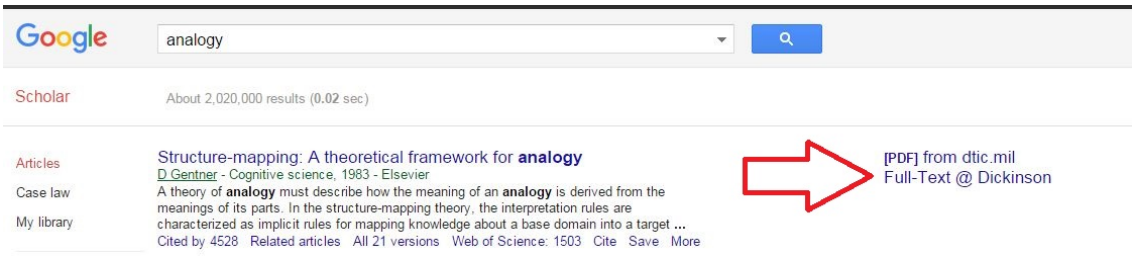
From there, click on ‘Library links’ to see which libraries you are accessing articles from.



In the library search bar, search for ‘Dickinson College’ and you will see two options appear.

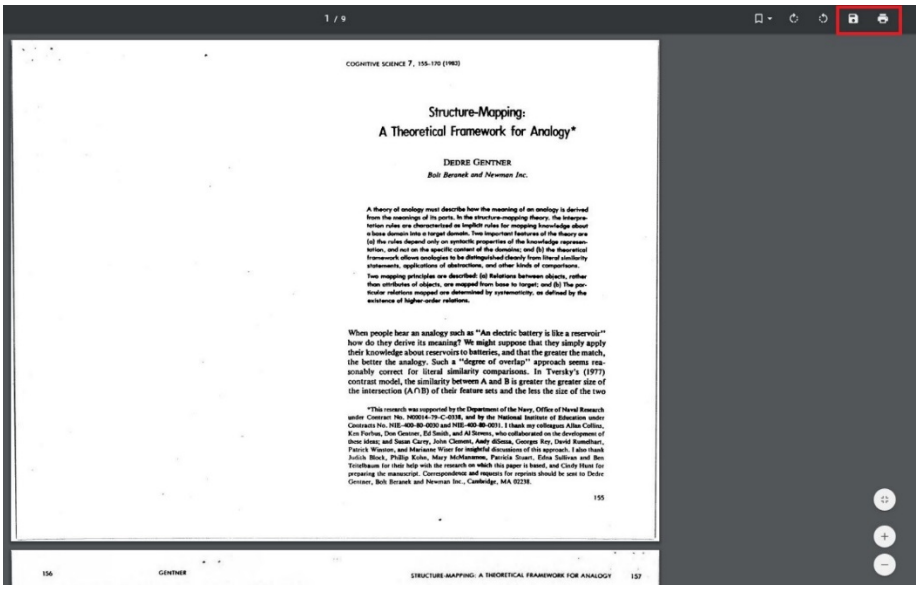


Now, when I search again for the theory of analogies I can access the article through Dickinson’s library.



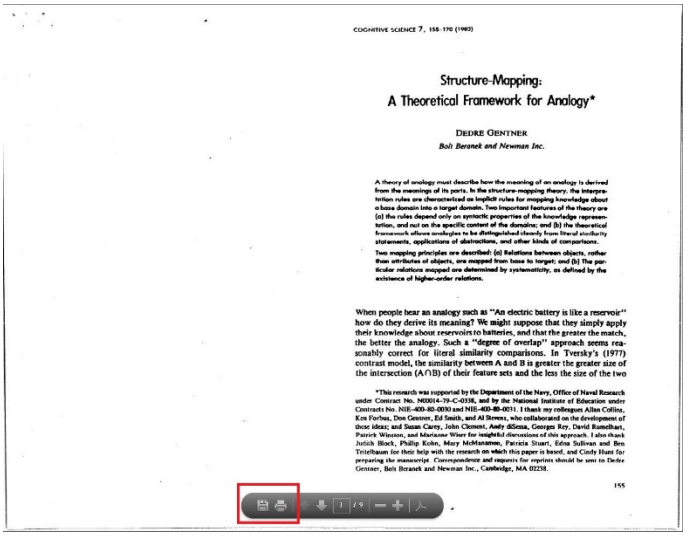
How do I download and save or print a PDF from a website (on Firefox or Chrome)?

If you have a PDF open in your web browser, there will be a menu shown in the top right corner of your screen (if it is not showing, you may need to move your cursor around on the screen). Click on either the ‘Save’ (on the left) or ‘Print’ (on the right) button. Note: you can use the Print to PDF function by clicking ‘Print’ and setting the printer to ‘Adobe PDF’ and saving it the same as you would if you hit the ‘Save’ button.



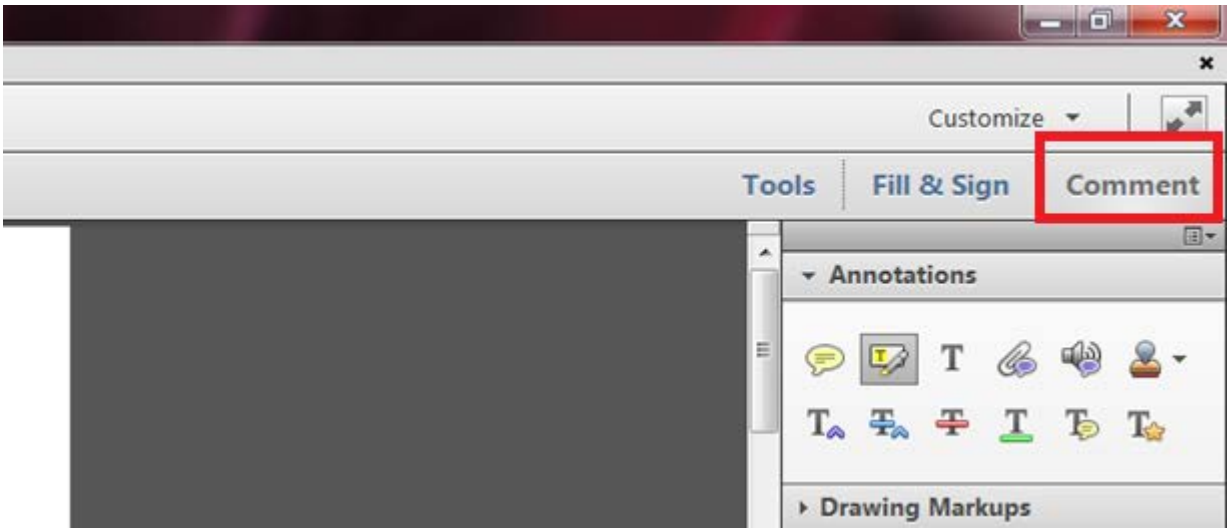
How do I download and save or print a PDF from a website (on Internet Explorer)?

All of the functions and features are the same, but it just looks a little different on Internet Explorer.

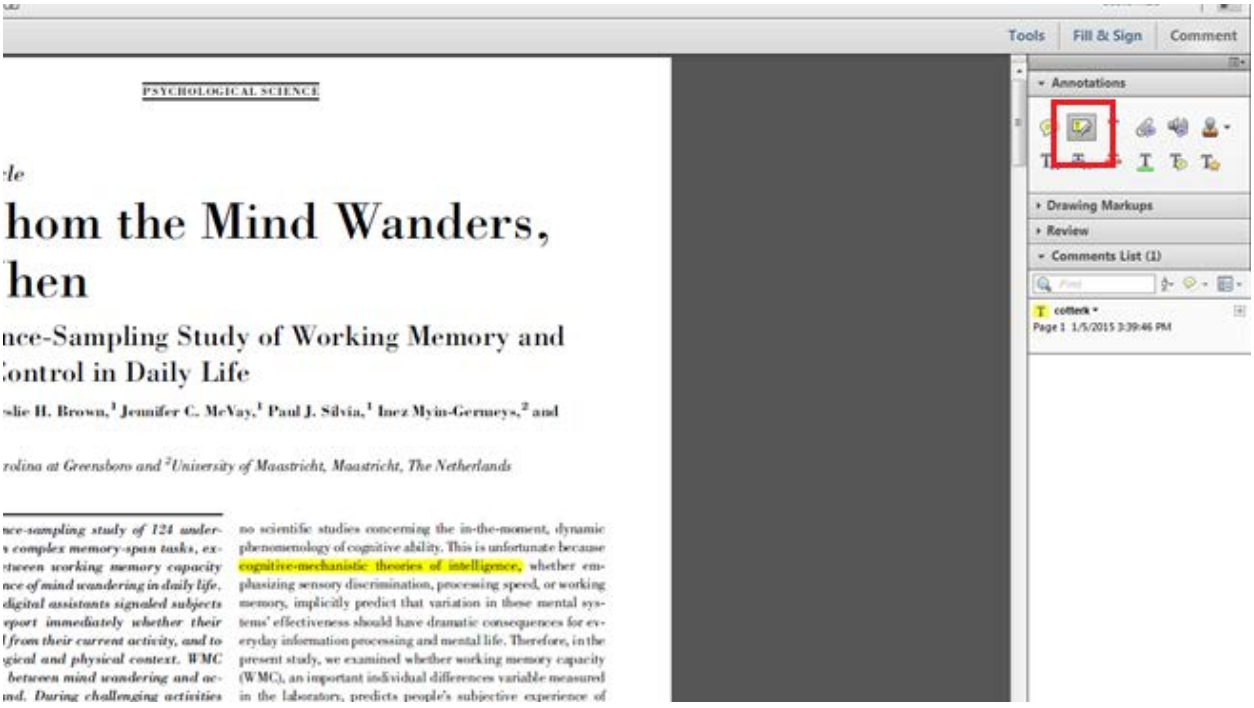


How do I highlight/annotate an electronic journal article (PDF file)?

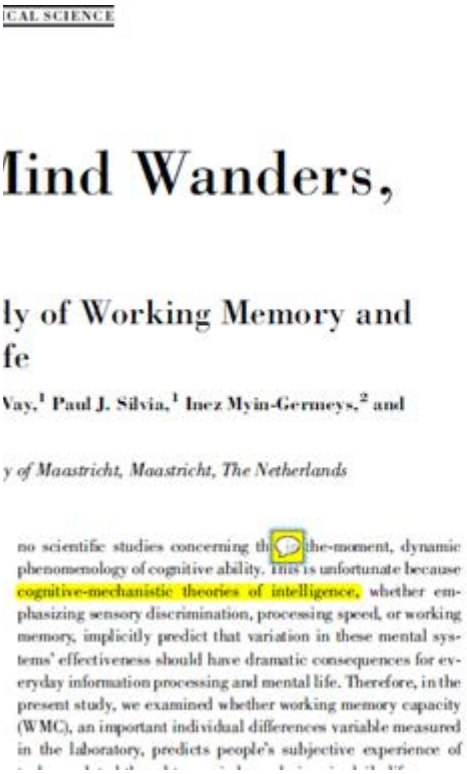
To access these features, click on the “Comment” panel at the top of the Adobe Acrobat screen.



To highlight lines within the PDF, click on the highlighter button (first row, second icon) and click and drag over the text you wish you highlight.



To add your own comments to a PDF, click on the comment button (first row, first icon) and click on the area of text you wish to comment on. A text box will pop up where you can type in your comments and will also be tracked in the right hand panel.



CAL SCIENCE

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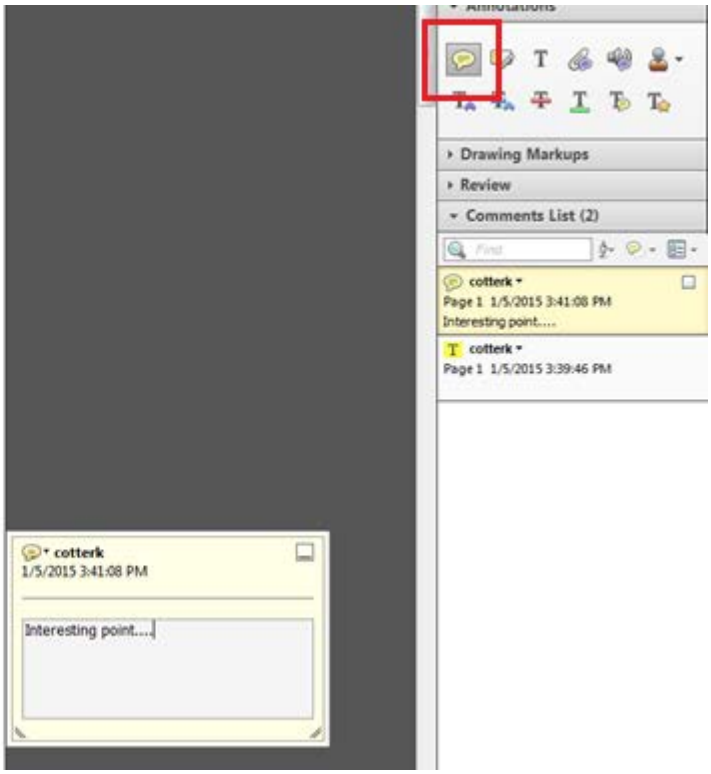
ly of Working Memory and fe

Vay,[1] Paul J. Silvia,[1] Inez Myin-Germeys,[2] and

y of Maastricht, Maastricht, The Netherlands

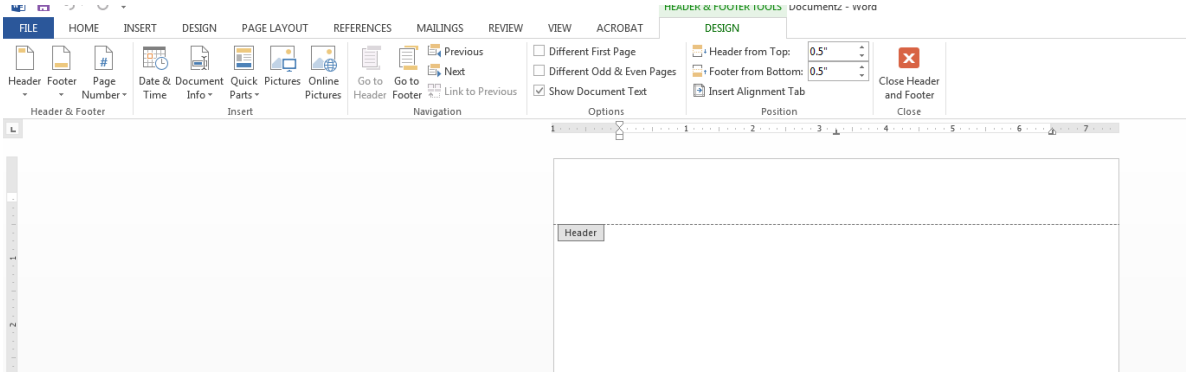
no scientific studies concerning th the-moment, dynamic phenomenology of cognitive ability. This is unfortunate because cognitive-mechanistic theories of intelligence, whether emphasizing sensory discrimination, processing speed, or working memory, implicitly predict that variation in these mental systems' effectiveness should have dramatic consequences for everyday information processing and mental life. Therefore, in the present study, we examined whether working memory capacity (WMC), an important individual differences variable measured in the laboratory, predicts people's subjective experience of



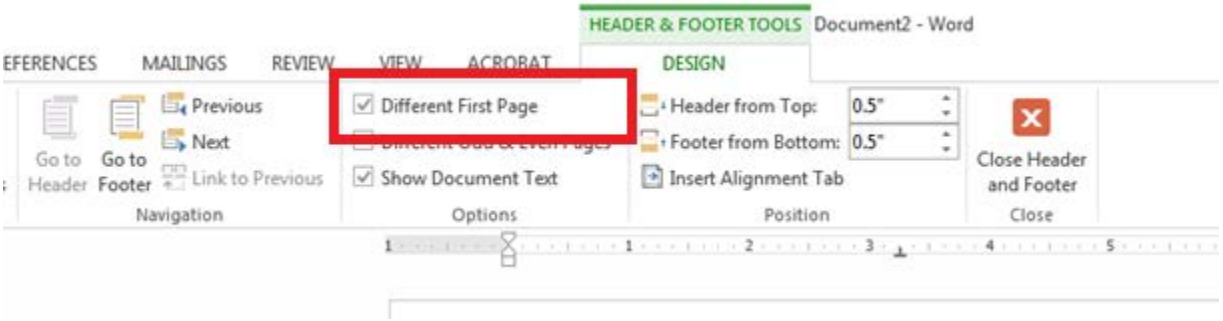
Microsoft Word

How do I create a different first page header in Word?

First, you will need to access the header toolbar. You can do this by double clicking at the very top of the page. The header toolbar will automatically appear above the page.



Once you have accessed the toolbar, tick the box that says “Different First Page.” Once you have this box checked, type what you want to include on your first page header. On the second page, type what you want to include for your page header for the rest of your pages (Word will automatically add this to all subsequent pages).



How to insert Greek letters for statistics?

Previously, users would have to find their preferred letter by going to ‘Insert > Symbol’ and looking around. However, Word now includes an entire font for Greek letters called *Symbol*. Click the drop-down box in ‘Font’ and find ‘Symbol.’

Now, your keys have been converted to Greek letters.

αβχδεφγη...

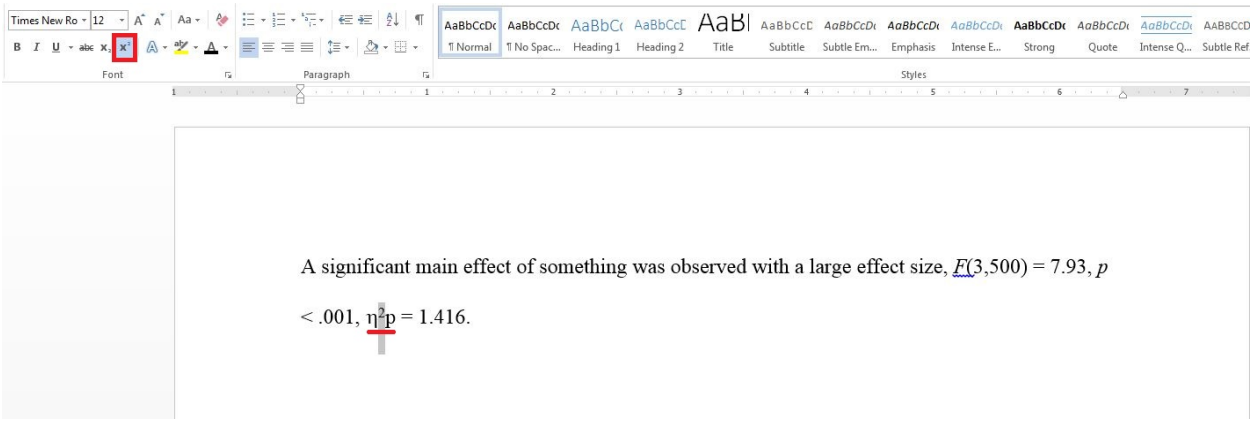
abcdefgh…

How to create superscripts and subscripts for statistics?

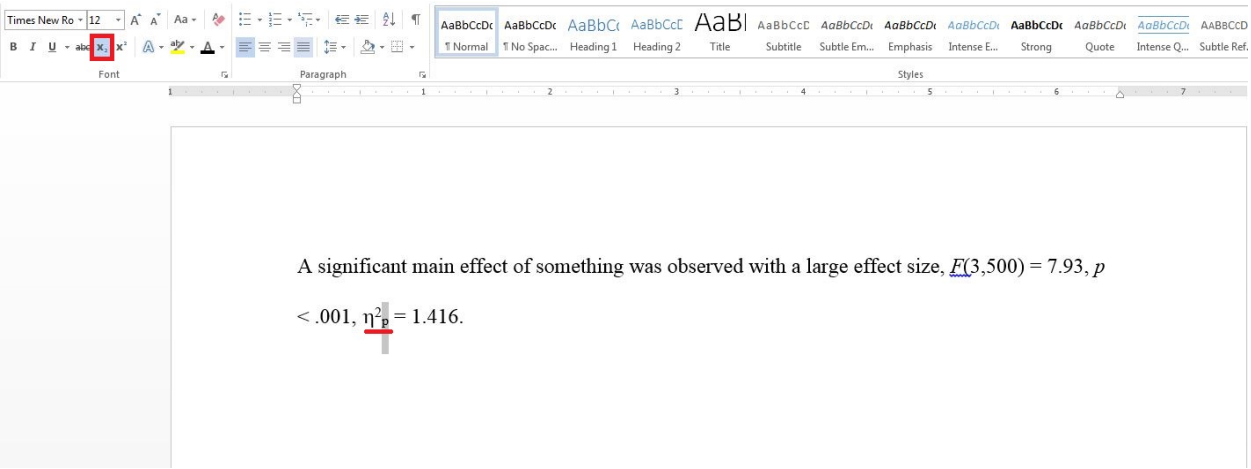
Some statistics or other written conventions (e.g., chi-square and partial eta squared) require a user to create superscripts (i.e., little letters/numbers printed above the normal line; χ^2) or subscripts (i.e., little letters/numbers printed below the normal line; $Trial_1$). These functions are found right on the 'Font' box in the 'Home' tab. Below is an example of creating a partial eta squared:

A significant main effect of something was observed with a large effect size, *F*(3,500) = 7.93, *p* < .001, η2p = 1.416.

Highlight the letter that you want to make the superscript and press the superscript button in the 'Font' area.

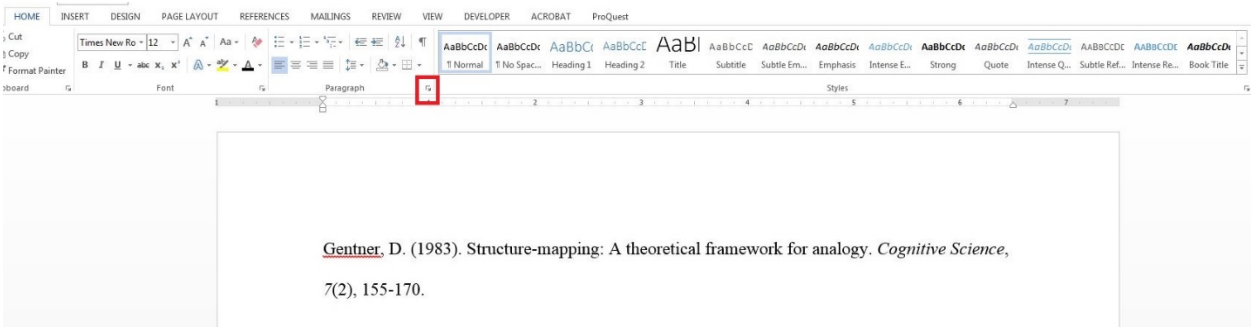


Similarly, do the same for subscripts.

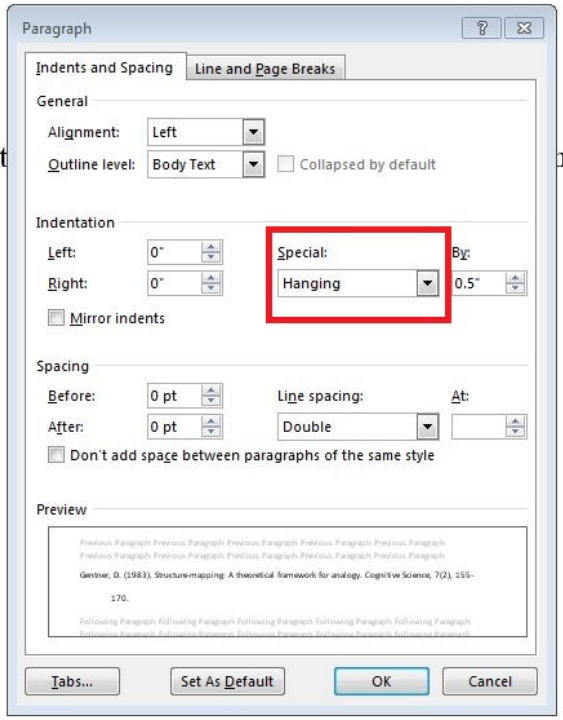


How do I use the "hanging indent" in Word for my References section?

Type out your reference and highlight it. Click the 'Paragraph Settings' under the 'Pargraph' tab on the 'Home' ribbon.



Gentner, D. (1983). Struct nalogy. *Cognitive Science*, *7*(2), 155-170.



On the 'Indentation' section of the 'Paragraph' dialog box, select 'Hanging' under the 'Special:' drop down box. Note: you can select all of your references and make a hanging indent for all of them in one fail swoop.

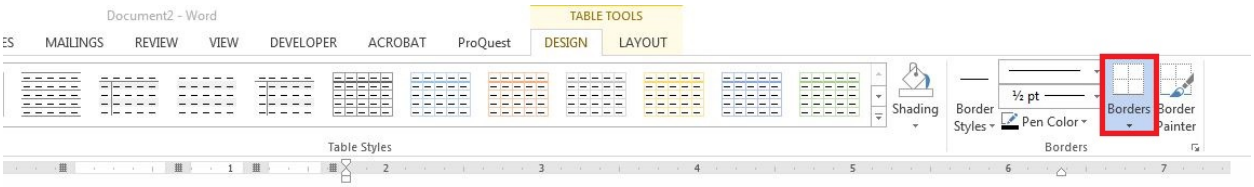
Gentner, D. (1983). Structure-mapping: A theoretical framework for analogy. *Cognitive Science*, *7*(2), 155-170.

How do I create an APA format table (with horizontal lines [i.e., rules] only) in Word?

First, you will need to create your table and enter all the information.

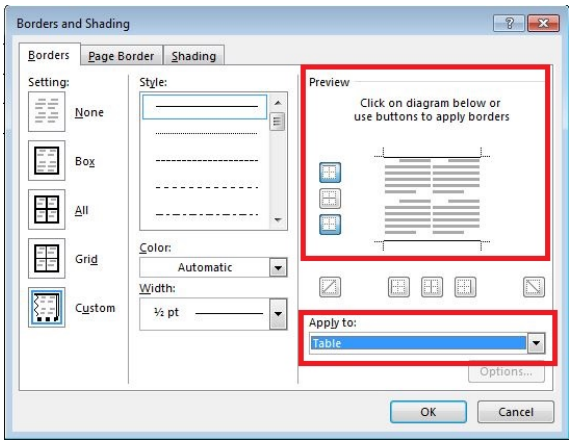
Variable	*M*	*SD*
A	7.50	3.20
B	8.60	1.50

Once you have made your table, click the verticle rules and drag them to resize the columns, eliminating excess white space. Select the entire table and go to the top of the screen and locate the “Borders” button in the Table Tools menu.

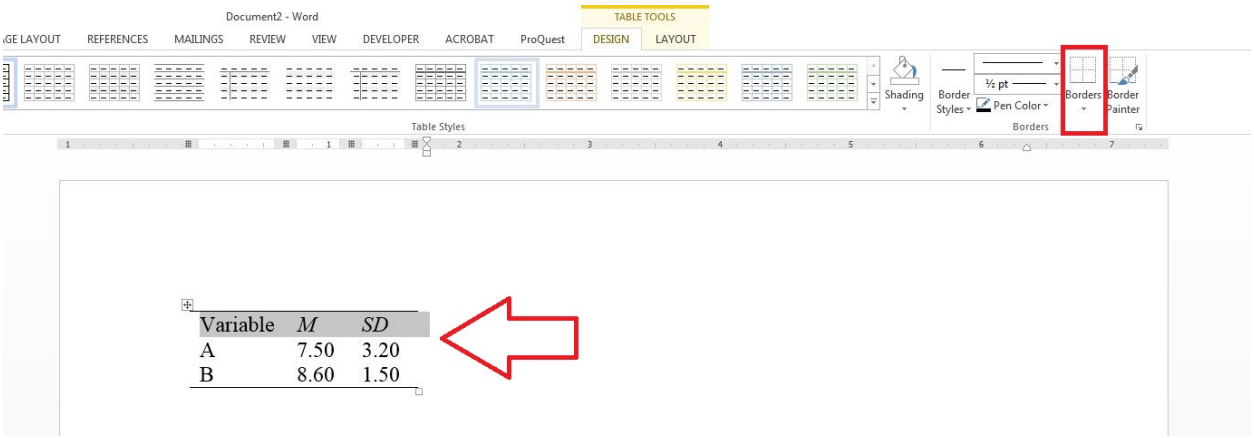


Variable	*M*	*SD*
A	7.50	3.20
B	8.60	1.50

In the drop-down menu, click the ‘Borders and Shading…’ option. The ‘Borders and Shading’ dialog box allows you to click to choose which rules you want to eliminate. Click on all of the internal and vertical rules, so that only the top and bottom are visible (be sure that ‘Table’ is displayed under the ‘Apply to:’ option).



Now, your table will be most of the way there. To finish it, select the top row and give it a bottom border using the ‘Borders’ drop-down box.



Now it's APA official!

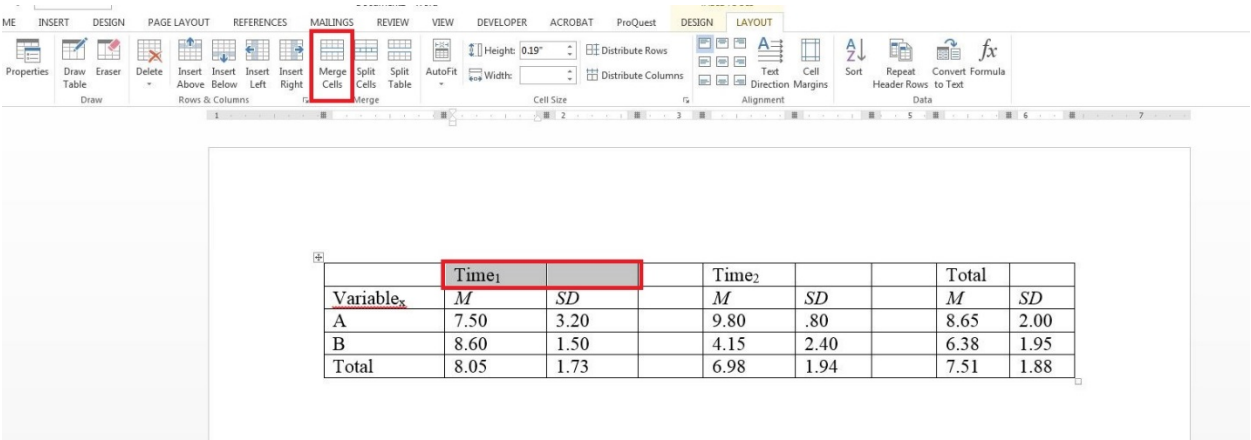
Variable	*M*	*SD*
A	7.50	3.20
B	8.60	1.50

But what if your table is a little more complex?

	$Time_1$			$Time_2$			Total	
$Variable_x$	*M*	*SD*		*M*	*SD*		*M*	*SD*
A	7.50	3.20		9.80	.80		8.65	2.00
B	8.60	1.50		4.15	2.40		6.38	1.95
Total	8.05	1.73		6.98	1.94		7.51	1.88

Notice that there are two empty columns: these will be important for the final look of the table.

First, to make the Time 1&2 and Total headers expand over their respective means and standard deviations, select the two header cells over the columns and select merge.

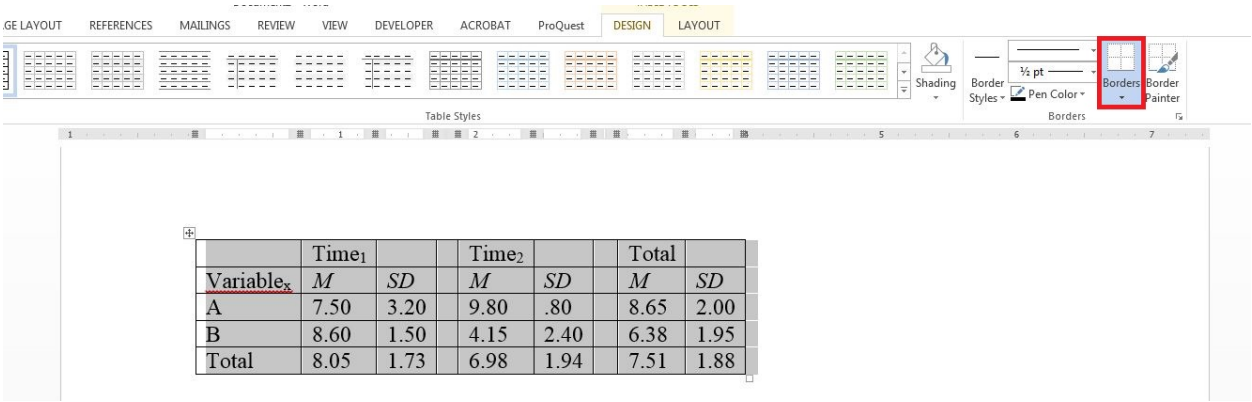


	Time$_1$			Time$_2$			Total	
Variable$_x$	*M*	*SD*		*M*	*SD*		*M*	*SD*
A	7.50	3.20		9.80	.80		8.65	2.00
B	8.60	1.50		4.15	2.40		6.38	1.95
Total	8.05	1.73		6.98	1.94		7.51	1.88

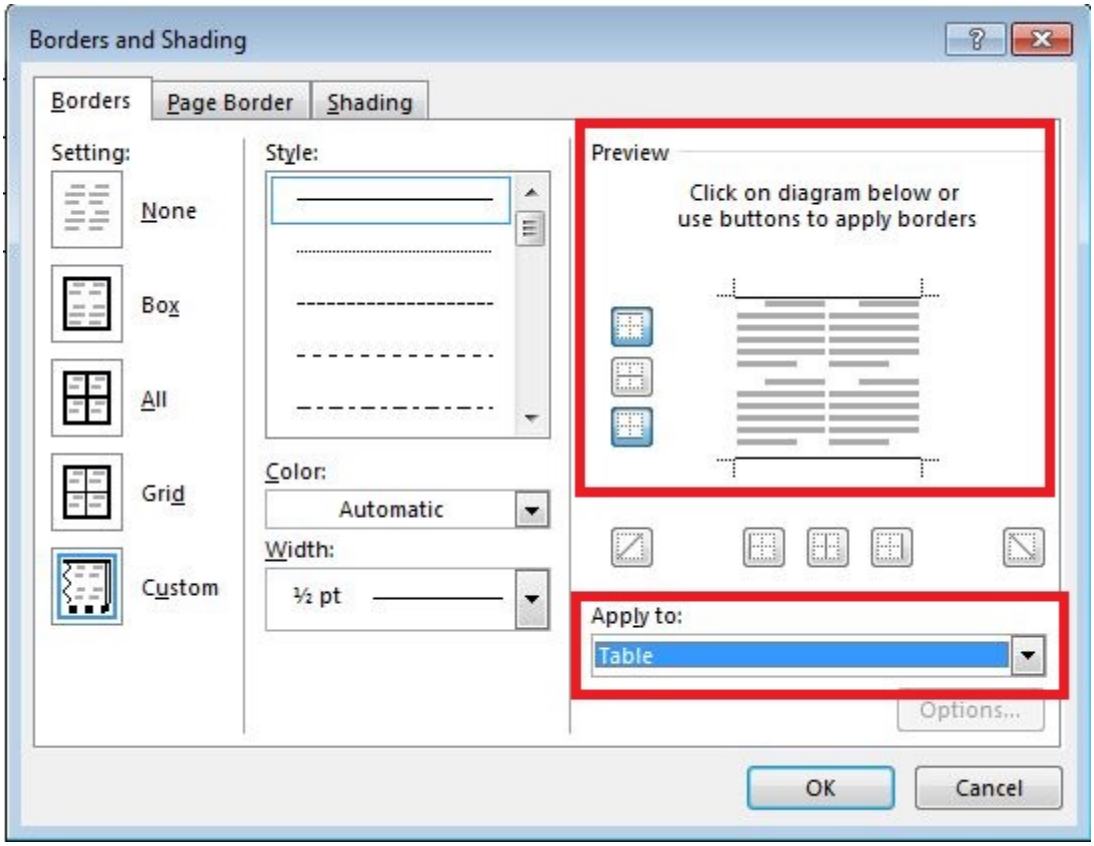
Second, just like last time, resize the table to eliminate white space. It helps to start at the left of the table and work right. **Make the empty columns as narrow as possible.**

	Time$_1$			Time$_2$			Total	
Variable$_x$	*M*	*SD*		*M*	*SD*		*M*	*SD*
A	7.50	3.20		9.80	.80		8.65	2.00
B	8.60	1.50		4.15	2.40		6.38	1.95
Total	8.05	1.73		6.98	1.94		7.51	1.88

Third, select the table and remove all inside and vertical rules using the ‘Borders and Shading…’ dialog box.

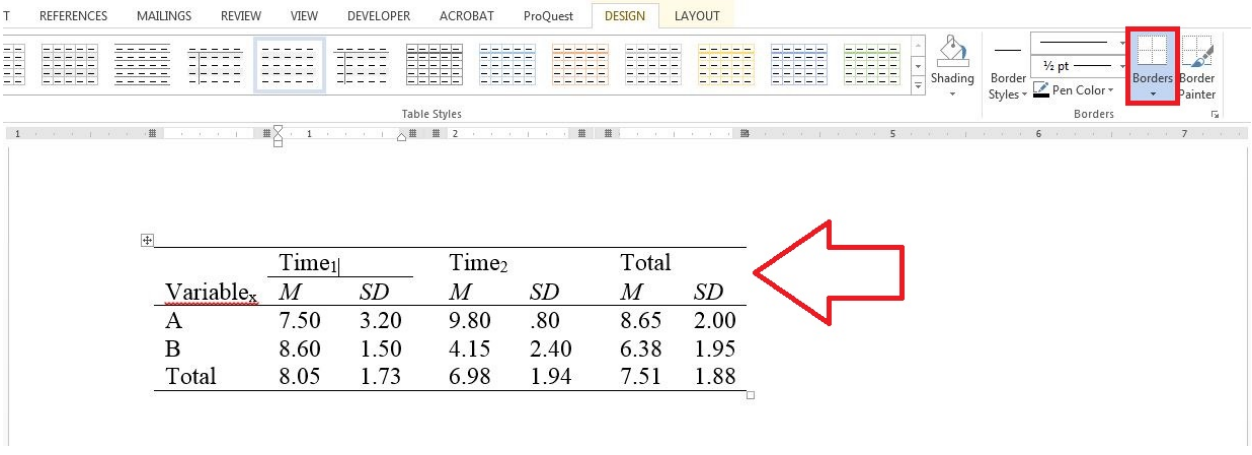


	Time$_1$			Time$_2$			Total	
Variable$_x$	*M*	*SD*		*M*	*SD*		*M*	*SD*
A	7.50	3.20		9.80	.80		8.65	2.00
B	8.60	1.50		4.15	2.40		6.38	1.95
Total	8.05	1.73		6.98	1.94		7.51	1.88



Almost there…Just add a few bottom rules. Start with adding a border to the lower header row.

Then, add a bottom rule to each of the top header cells. Be sure to only add borders to the header cells. There should be a blank in the bottom rule between each of the header cells.



	Time$_1$		Time$_2$		Total	
Variable$_X$	*M*	*SD*	*M*	*SD*	*M*	*SD*
A	7.50	3.20	9.80	.80	8.65	2.00
B	8.60	1.50	4.15	2.40	6.38	1.95
Total	8.05	1.73	6.98	1.94	7.51	1.88

	Time$_1$		Time$_2$		Total	
Variable$_x$	*M*	*SD*	*M*	*SD*	*M*	*SD*
A	7.50	3.20	9.80	.80	8.65	2.00
B	8.60	1.50	4.15	2.40	6.38	1.95
Total	8.05	1.73	6.98	1.94	7.51	1.88

Finally, apply some formatting (i.e., center the columns and maybe adjust the margins) and you're done.

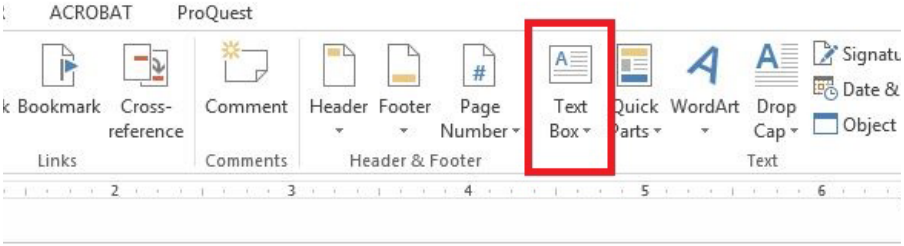
	Time$_1$		Time$_2$		Total	
Variable$_x$	*M*	*SD*	*M*	*SD*	*M*	*SD*
A	7.50	3.20	9.80	.80	8.65	2.00
B	8.60	1.50	4.15	2.40	6.38	1.95
Total	8.05	1.73	6.98	1.94	7.51	1.88

How to insert and format a Figure

Per section 5.20 (pp. 150-167) of the APA manual, Figures are used to represent many types of visual information, can have very idiosyncratic purposes, and have very specific formatting instructions. Figures are presented inside of a box with a border, although the Figure, itself, does not have a border. The Figure must be referenced in text, be clearly readable, have a descriptive caption in sans-serif font, and be able to stand alone. See below for instructions on creating figures in Excel (p. X) and SPSS (p. X).

To insert a figure, on the 'Insert' tab on the Ribbon, click the Text Box drop down and select 'Draw Text Box'

Draw a box large enough to hold your Figure anywhere on the page.



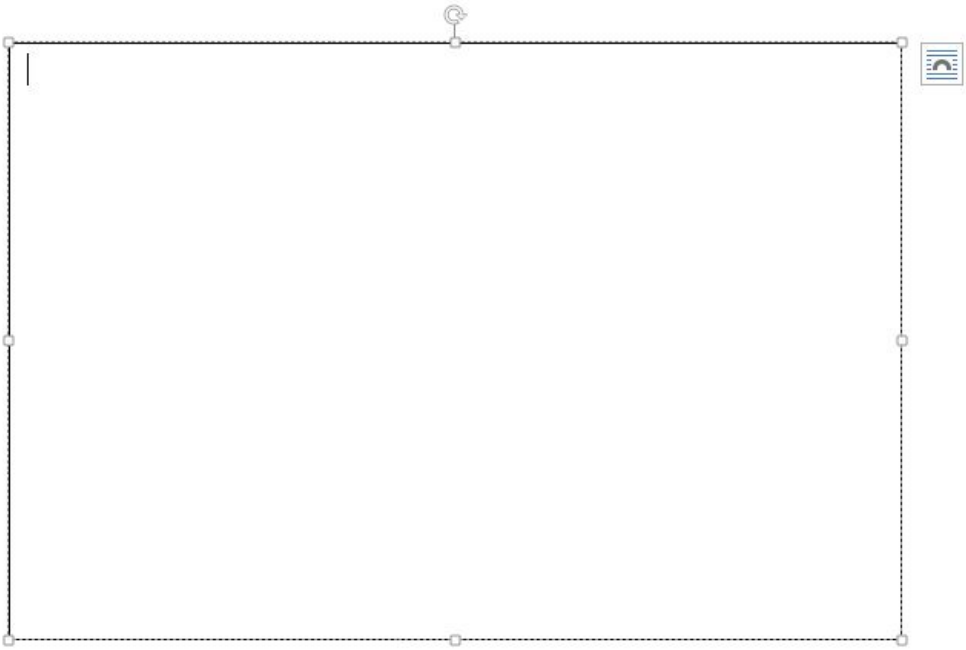
Results

d-Subjects ANOVA was conducted to test the differences in Arbitrary

as a function of Group and Time. See Figure 1 for a graph of the interaction

Results

A 2X3 Mixed-Subjects ANOVA was conducted to test the differences in Arbitrary Dependent Variable as a function of Group and Time. See Figure 1 for a graph of the interaction between the two variables.



Copy and paste your Figure inside of the textbox and write the caption below it.

Results

A 2X3 Mixed-Subjects ANOVA was conducted to test the differences in arbitrary dependent variable as a function of group and time. See Figure 1 for a graph of the interaction between the two variables.

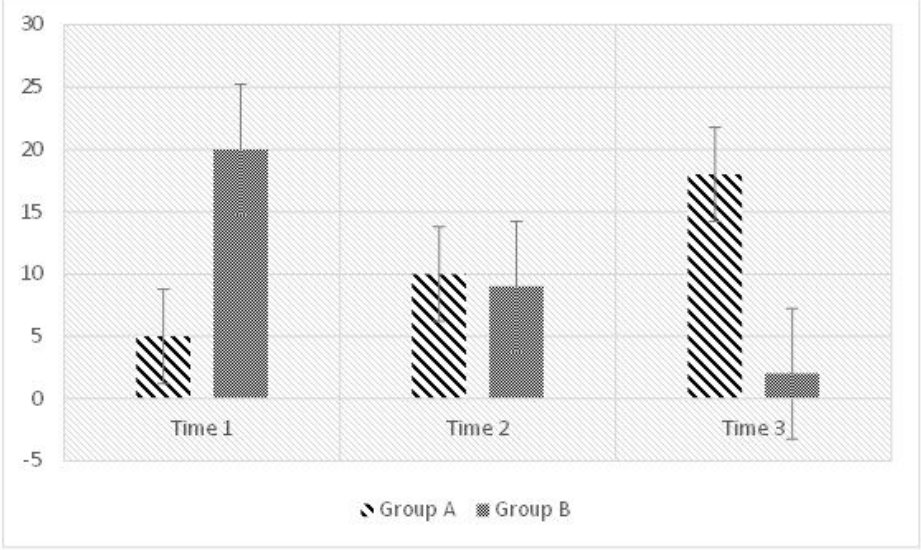
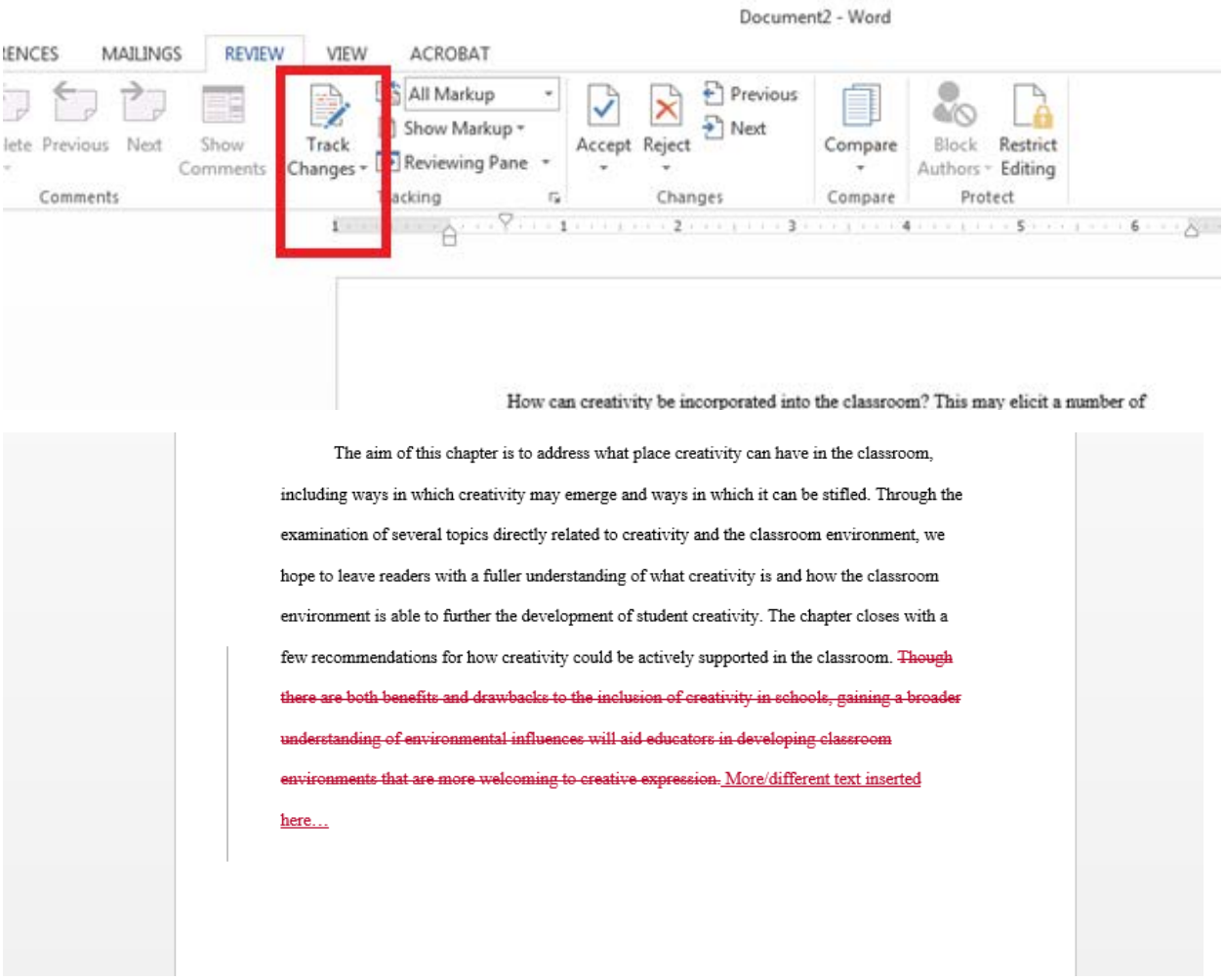


Figure 1. Interaction effect of group and time on arbitrary dependent variable. Error bars represent standard errors.

How do I use the "track changes" function in Word?

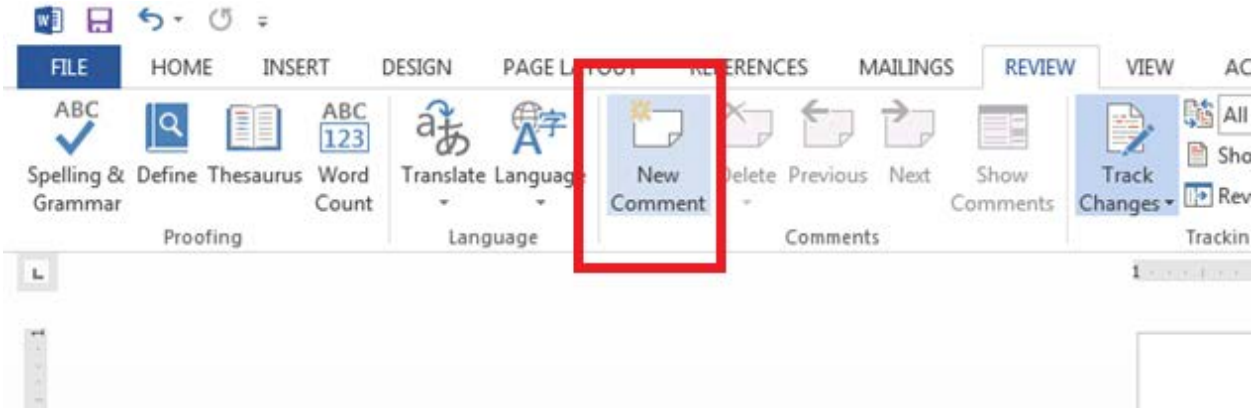
To access the "track changes" function, click on the Review menu. Once in this menu, click on the "Track Changes" button.

One feature shows any changes that you make within the text (including formatting changes and the addition/deletion of text). It will be shown in a different color than the preexisting text.

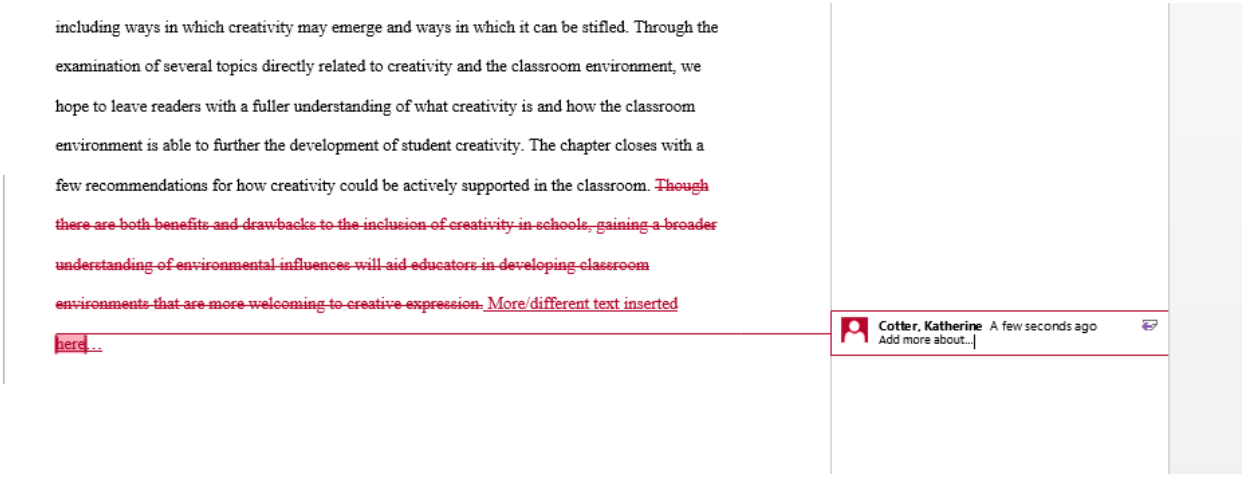


Adding comments

Another feature is commenting. To add a comment, first highlight in the text where the comment should be placed, then click the “New Comment” button in the Review menu at the top of the screen.

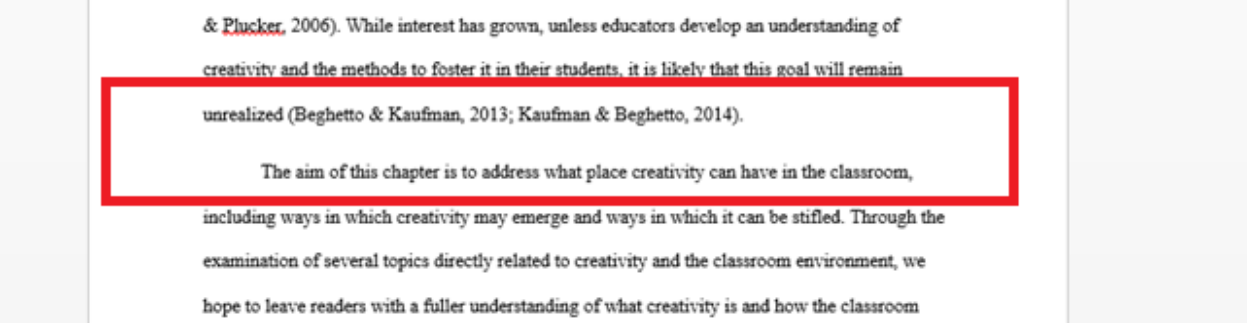


A comment box will pop up in a side panel linked to the place in the text you highlighted. You are then able to type in your comments for later review.

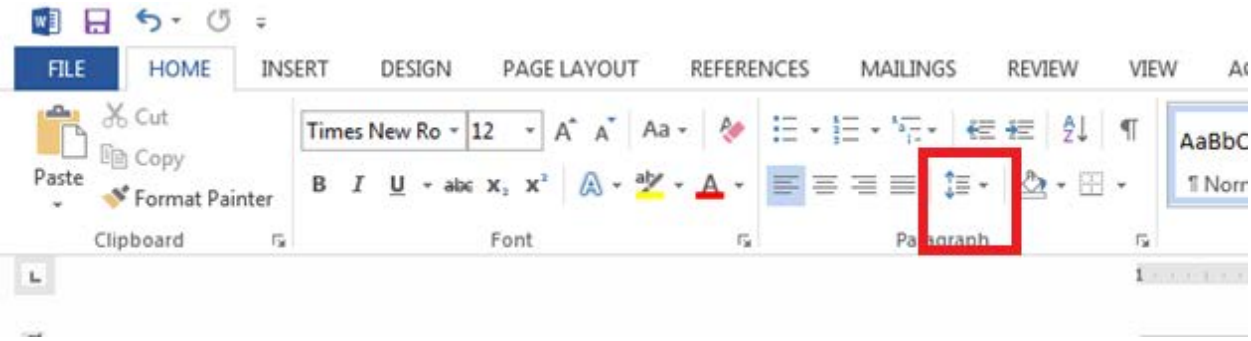


How do I get rid of extra spaces between paragraphs in Word?

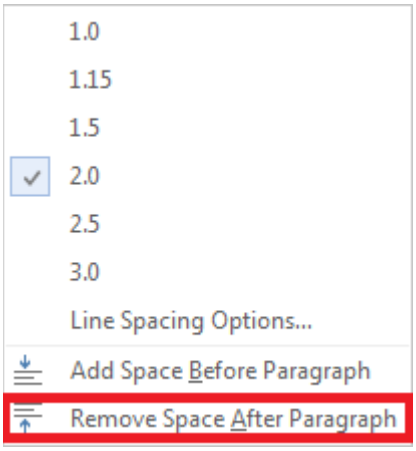
Word by default creates extra spaces between paragraphs (as seen below), but these are not APA style, so you will want to remove them.



On the main menu at the top, find the Paragraph box and you will see the button highlighted below (this is also where you make your paper double spaced).



You will be shown this menu and to remove the spaces click the last option “Remove Space After Paragraph.”



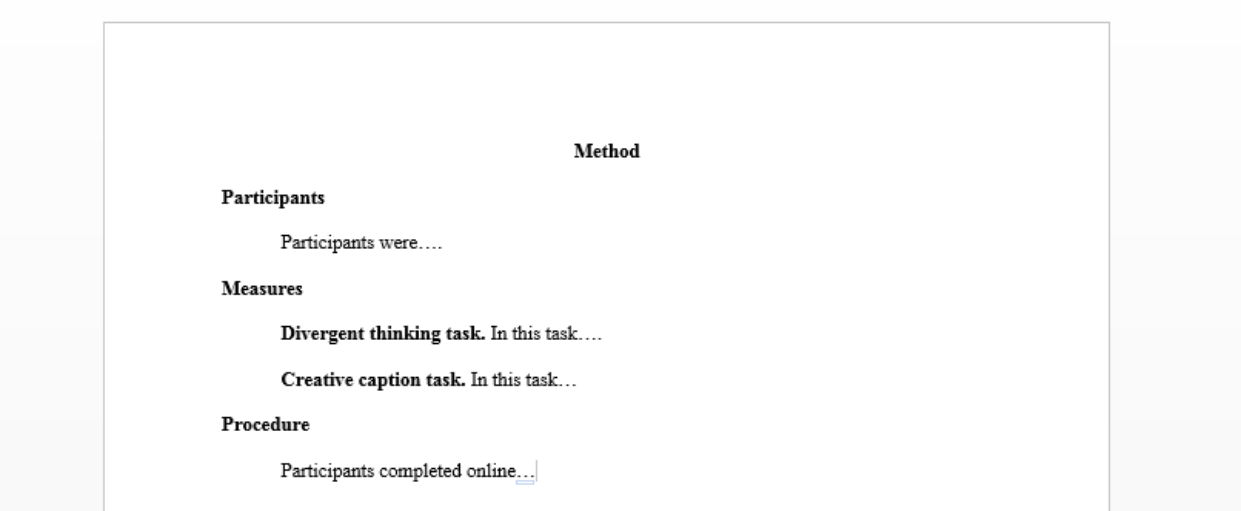
How to properly format headings for subsections?

Typically, the Method section will be one of the only places you will need to use this. The images below explain each level of heading and show a practical example of each.

Table 3.1. Format for Five Levels of Heading in APA Journals

Level of heading	Format
1	**Centered, Boldface, Uppercase and Lowercase Heading**[a]
2	**Flush Left, Boldface, Uppercase and Lowercase Heading**
3	**Indented, boldface, lowercase paragraph heading ending with a period.**[b]
4	***Indented, boldface, italicized, lowercase paragraph heading ending with a period.***
5	*Indented, italicized, lowercase paragraph heading ending with a period.*

[a]This type of capitalization is also referred to as *title case.* [b]In a *lowercase paragraph heading,* the first letter of the first word is uppercase and the remaining words are lowercase.



Method

Participants

Participants were….

Measures

Divergent thinking task. In this task….

Creative caption task. In this task…

Procedure

Participants completed online…

How to insert dots or blank lines between two pieces of text?

Sometimes, for instance on a table of contents or a form, people want to have dots or a blank line in the would-be blank space between two occurrences of text. These are called *leaders*. Instead of typing out periods or underscores which often doesn't produce straight lines, as below:

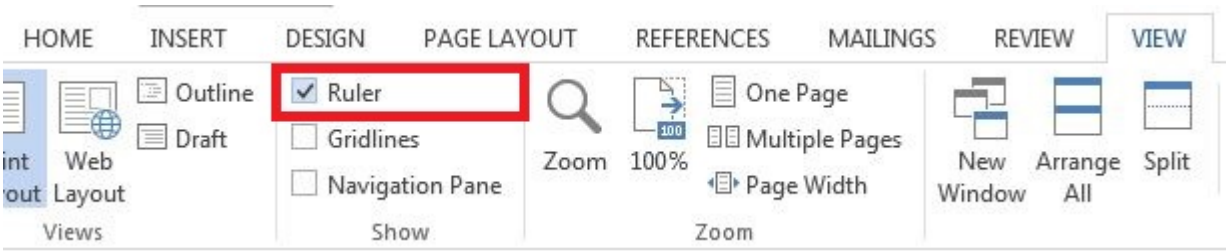
Thing……..1

Stuff……2

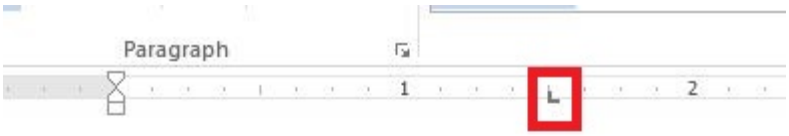
Object……3

Item……4

…You can set up a function to insert leaders for you. First, select the list of items that you want to have leaders between. Second, if it's not already present, on the 'View' tab of the ribbon, click 'Ruler' on the 'Show' area.



On the ruler, choose where you want the right-most options of the list to be by clicking on the Ruler. Note: there are many different types of tabs to choose from.



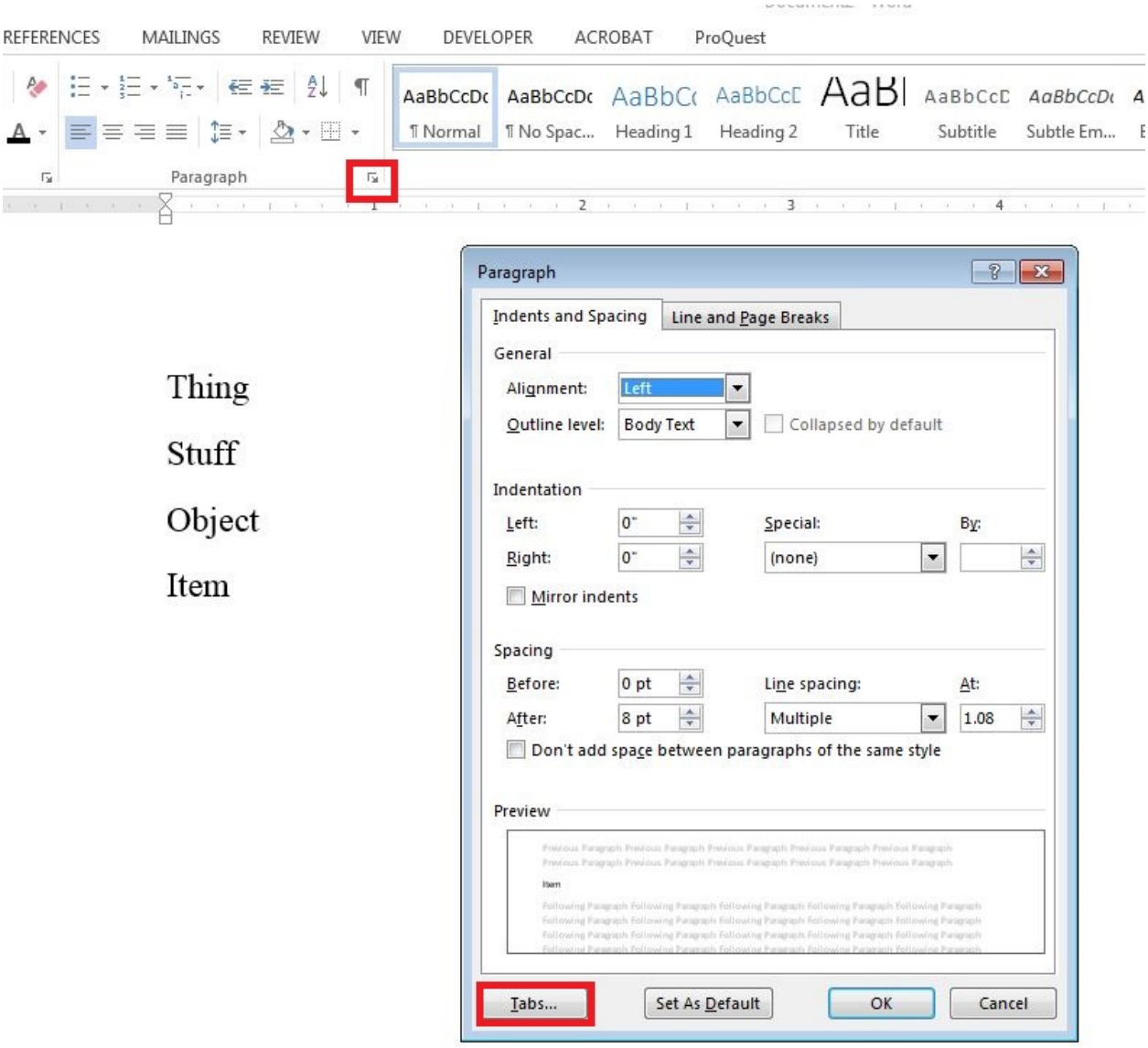
Thing

Stuff

Object

Item

Click on the ‘Paragraph Settings’ button and choose ‘Tabs…’ on the lower left-hand corner.



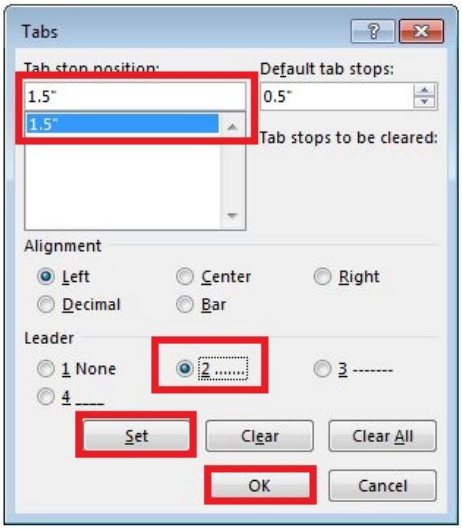
On the ‘Tabs’ dialog box, choose the tab that you want to create a leader for and the type of leader you want. Click ‘Set’ and then ‘OK.’

Thing

Stuff

Object

Item



For each list item, hit ‘Tab’ and your cursor will automatically move to where you placed your tab and will have a dotted leader.

Thing 1

Stuff..... 2

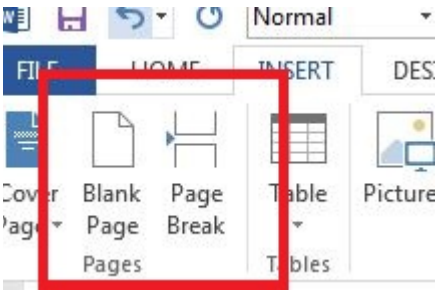
Object

Item

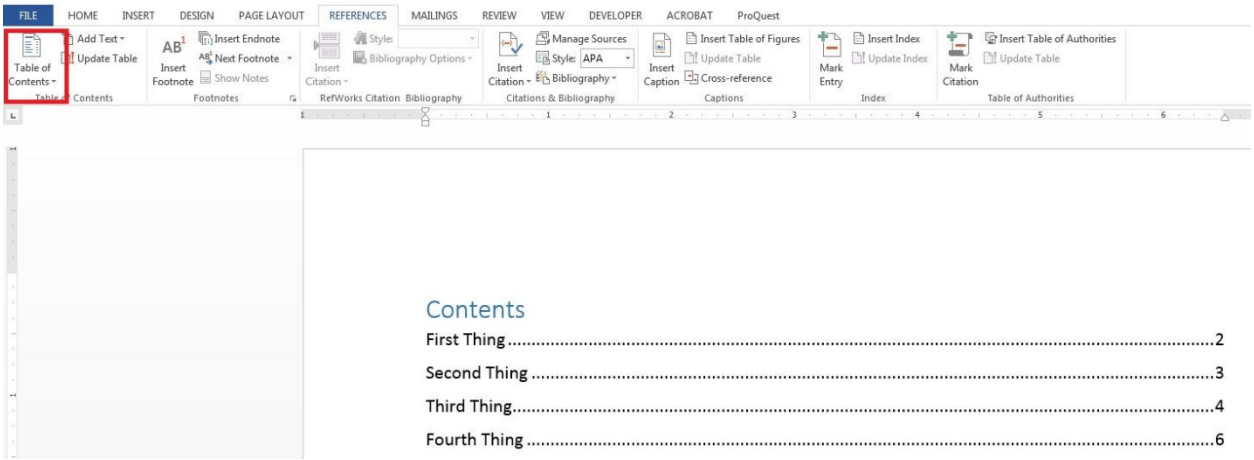
How to automatically create a table of contents?

Tables of contents can be created if your headings are formatted as Word’s prespecifed ‘Heading 1,’ or ‘Heading 2’ styles. As such, decide what you which headings you want to be on your table of contents and give them one of those two styles.

After you have done that, insert a blank page at the beginning of your document where you want the table of contents to be.



Then, on the ‘References’ tab on the ribbon, click the drop down arrow for ‘Tables of Contents’ and choose one of the options.



If you ever add information to your document:

Second Thing

I added stuff below the second thing

…Just click on the table of contents and click the ‘Update Table…’ button. Note: You can choose what specifically you want to update.

Because what I added was a Heading 2 style, it is indented below the Heading 1 in the document.

Contents

First Thing 2

Second Thing 3

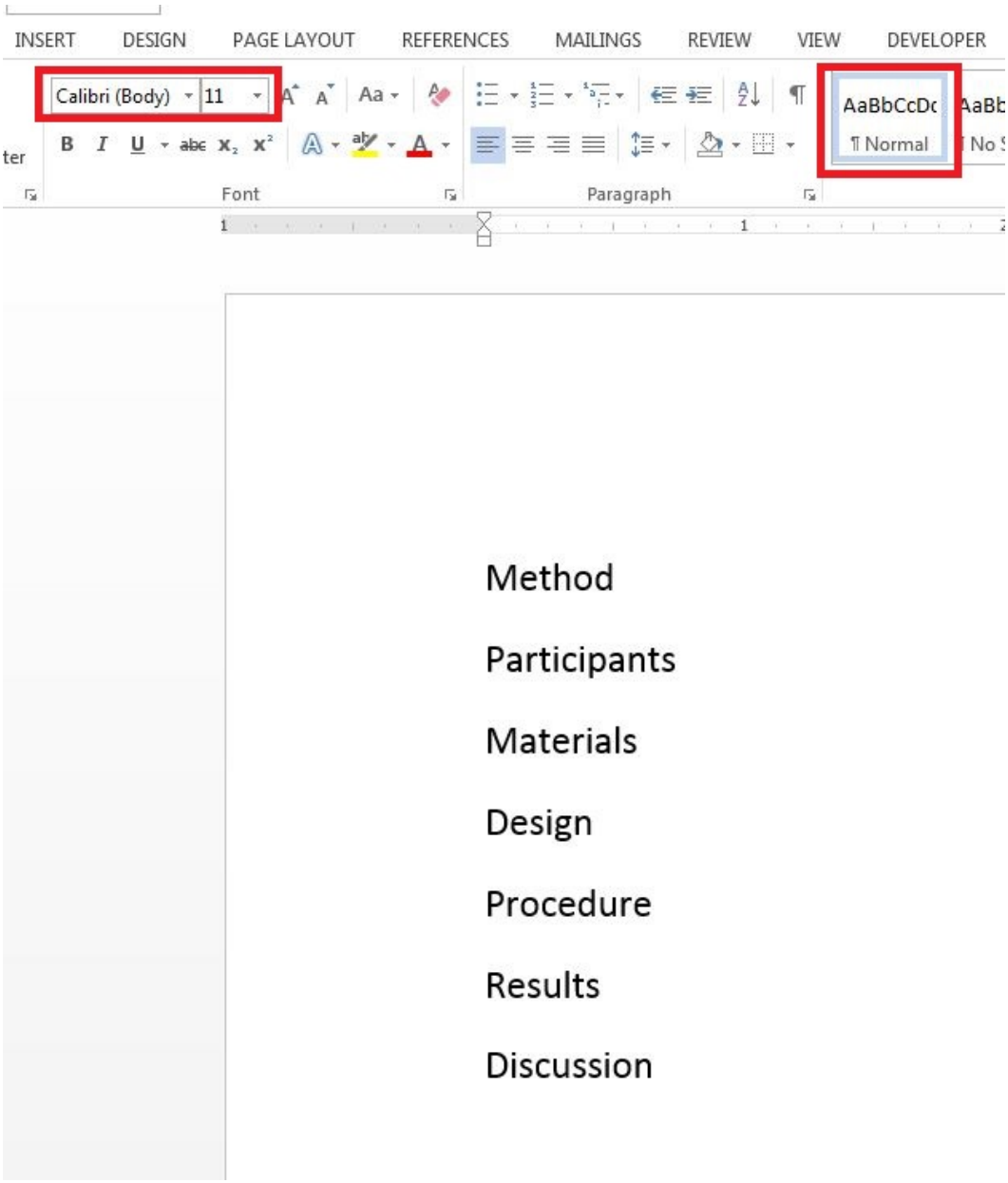
I added stuff below the second thing 3

Third Thing 4

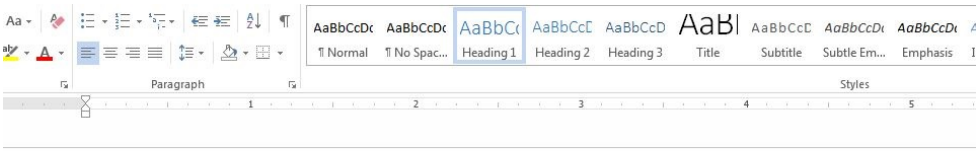
Fourth Thing 6

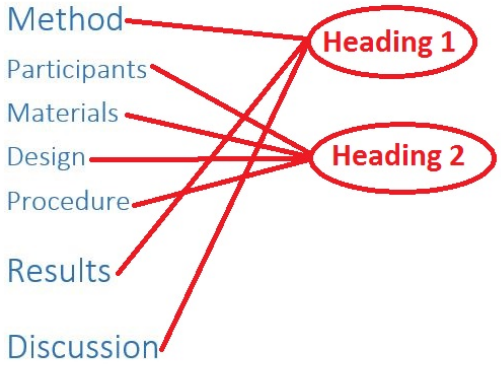
How do I use ‘Styles’?

This incredibly brief introduction to Styles will not do justice to the vast amount of time that can be saved in formatting a document. Learning their basic uses will be incredibly helpful. One area is in APA headings. In the picture below, all of the headings are typed out in the default formatting with a ‘Normal’ style.



The problem is that each item is a heading; some are Heading 1s (i.e., Method, Results, & Discussion), while the rest are Heading 2s (i.e., Participants, Materials, Design, Procedure). First, change each heading to its respective type by clicking anywhere in the word and clicking on the desired style.

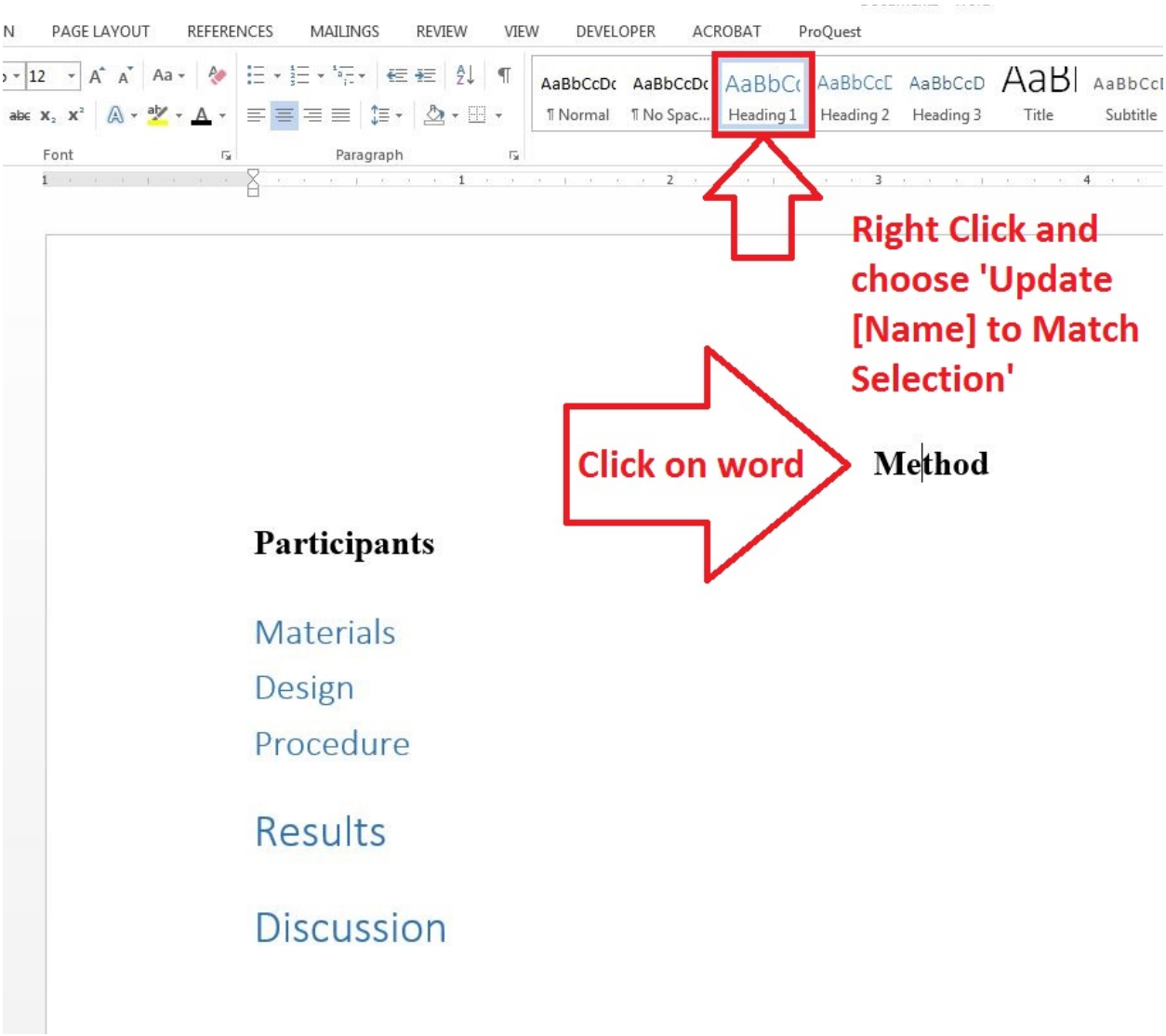




However, notice that the formatting is not correct at all (see section on headings in APA).

Format just one instance of both the Heading 1 (i.e., Black, Times New Roman, 12pt, Bold, Center Justified, Each Word Capitalized, Double Spaced, No Spacing) and Heading 2 (i.e., Black, Times New Roman, 12pt, Bold, Left Justified, Each Word Capitalized, Double Spaced, No Spacing).

Notice how in the ‘Styles’ box in the ‘Home’ tab on the Ribbon the styles still look wrong. This is because styles do not automatically update. That is, if you were to add more Headings 1 or 2, they would be blue Calibri with weird spacing and size. To change all instances of the Styles to match your desired formatting, click anywhere in the text that is formatted correctly, right-click on its style, and click ‘Update [Style Name Here] to Match Selection.’ In the example below, all of the Heading 1s will automatically be updated.


N PAGE LAYOUT REFERENCES MAILINGS REVIEW VIEW DEVELOPER ACROBAT ProQuest
Font
Paragraph
AaBbCcDc ¶ Normal
AaBbCcDc ¶ No Spac...
AaBbC(Heading 1
AaBbCcE Heading 2
AaBbCcD Heading 3
AaBI Title
AaBbCcI Subtitle
Right Click and choose 'Update [Name] to Match Selection'
Click on word
Method
Participants
Materials
Design
Procedure
Results
Discussion

Method

Participants

Materials

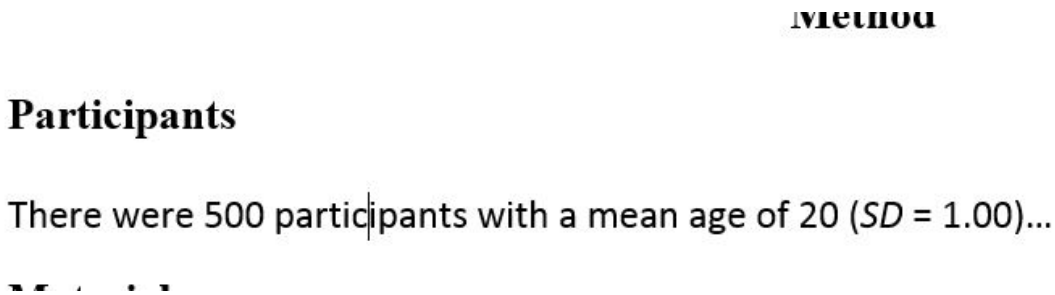
Design

Procedure

Results

Discussion

The style can be applied to the regular text in the body, too. As it is, the Normal style has the wrong Font, size, and spacing.



Formatting and updating the Normal style will re-format all other places where it was used and will be the default for any new text.

Method

Participants

There were 500 participants with a mean age of 20 (*SD* = 1.00)…

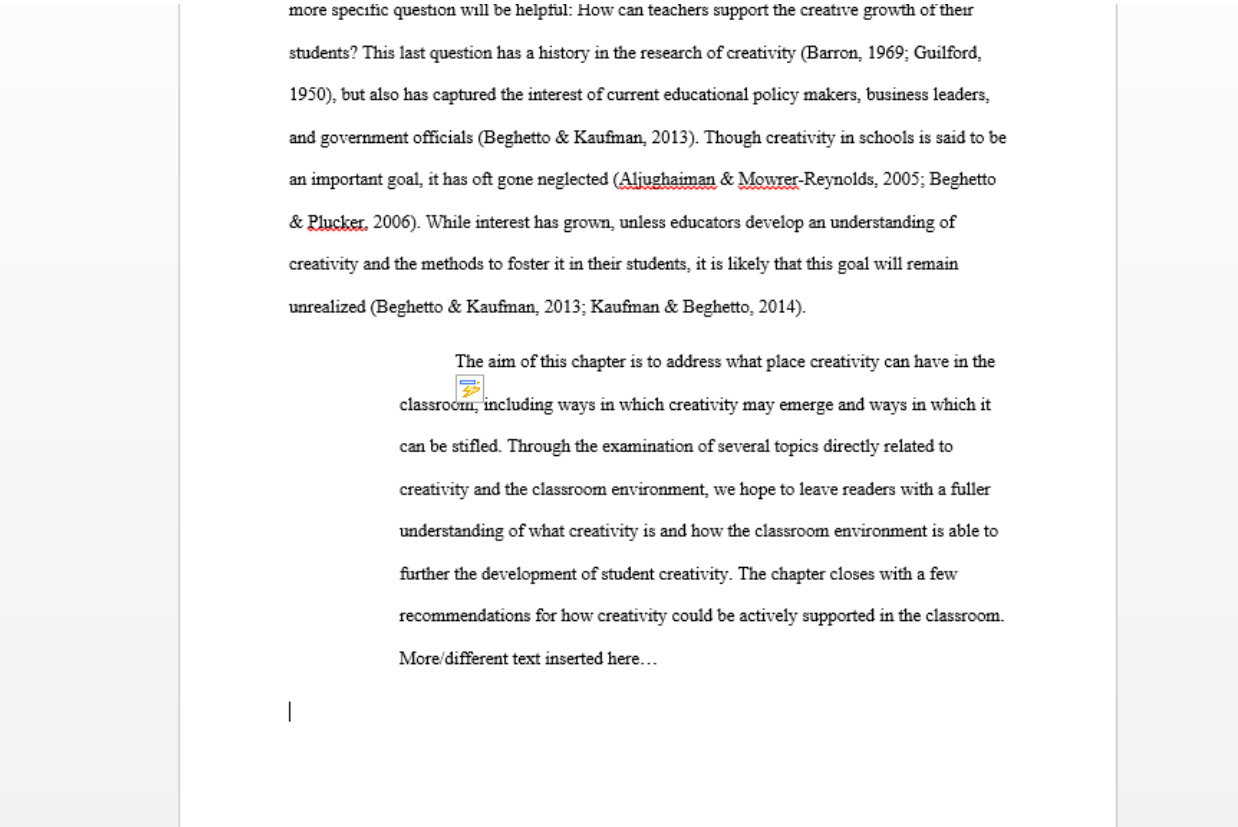
Materials

Two stories were created that…

Design

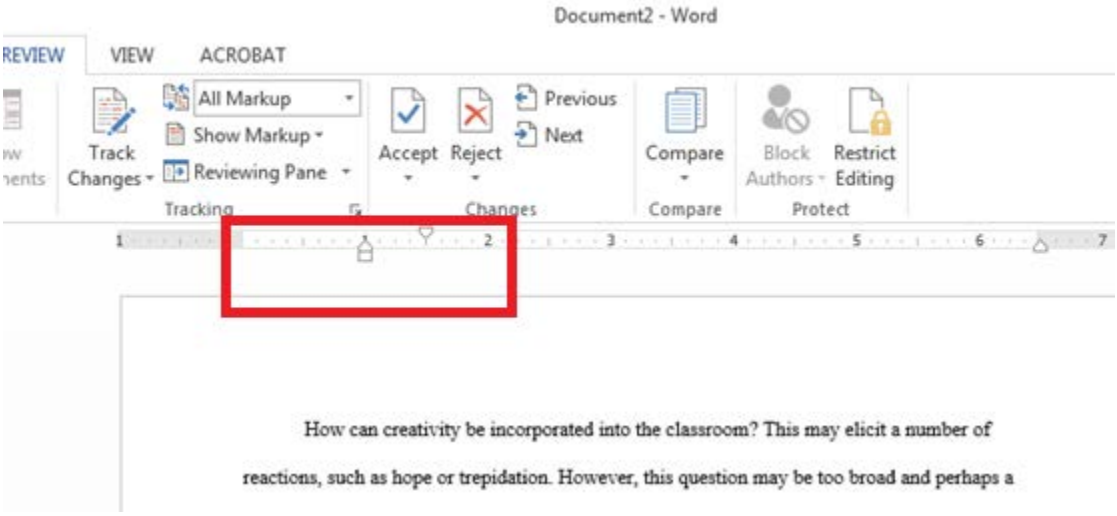
How do I fix the paragraph indentation when Word auto-corrects and incorrectly indents my entire paragraph?

Sometimes Word will over-indent by indenting entire paragraphs instead of just the first line.

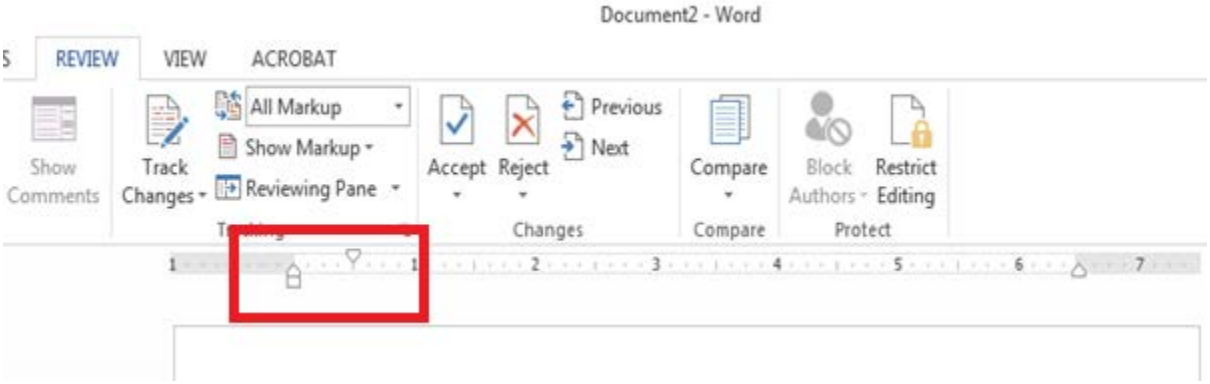

more specific question will be helpful: How can teachers support the creative growth of their students? This last question has a history in the research of creativity (Barron, 1969; Guilford, 1950), but also has captured the interest of current educational policy makers, business leaders, and government officials (Beghetto & Kaufman, 2013). Though creativity in schools is said to be an important goal, it has oft gone neglected (Aljughaiman & Mowrer-Reynolds, 2005; Beghetto & Plucker, 2006). While interest has grown, unless educators develop an understanding of creativity and the methods to foster it in their students, it is likely that this goal will remain unrealized (Beghetto & Kaufman, 2013; Kaufman & Beghetto, 2014).

The aim of this chapter is to address what place creativity can have in the classroom, including ways in which creativity may emerge and ways in which it can be stifled. Through the examination of several topics directly related to creativity and the classroom environment, we hope to leave readers with a fuller understanding of what creativity is and how the classroom environment is able to further the development of student creativity. The chapter closes with a few recommendations for how creativity could be actively supported in the classroom. More/different text inserted here…

To fix this, go to the ruler at the top of the screen. You will notice that the two triangles are over too far (which make the entire paragraph indented). (*If you do not see a ruler*, select the "VIEW" menu tab and check the box next to "ruler).



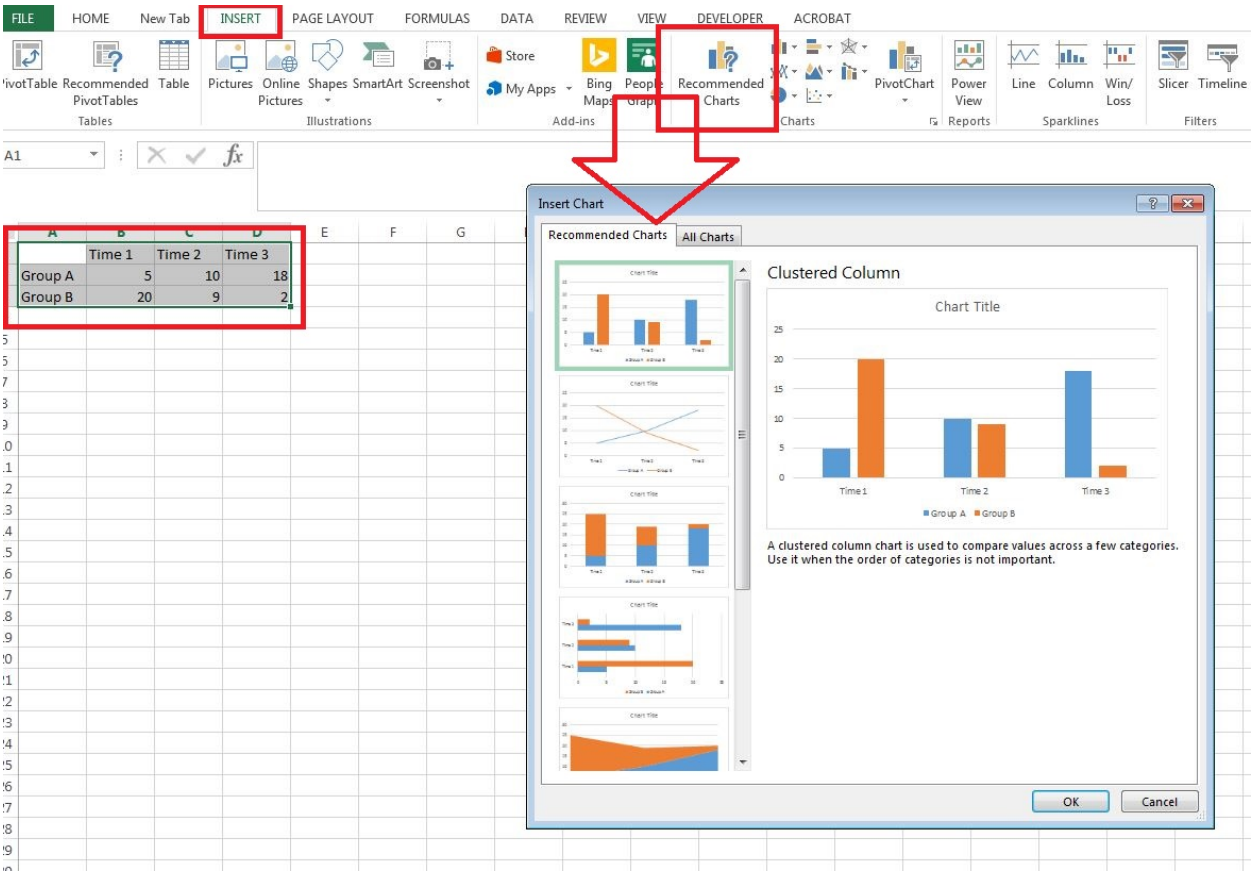
Click on the rectangle underneath the bottom triangle and slide them back to the left so that the bottom triangle and rectangle are at the border between the white and shaded portion of the ruler. This will leave only the first line of the paragraph indented.



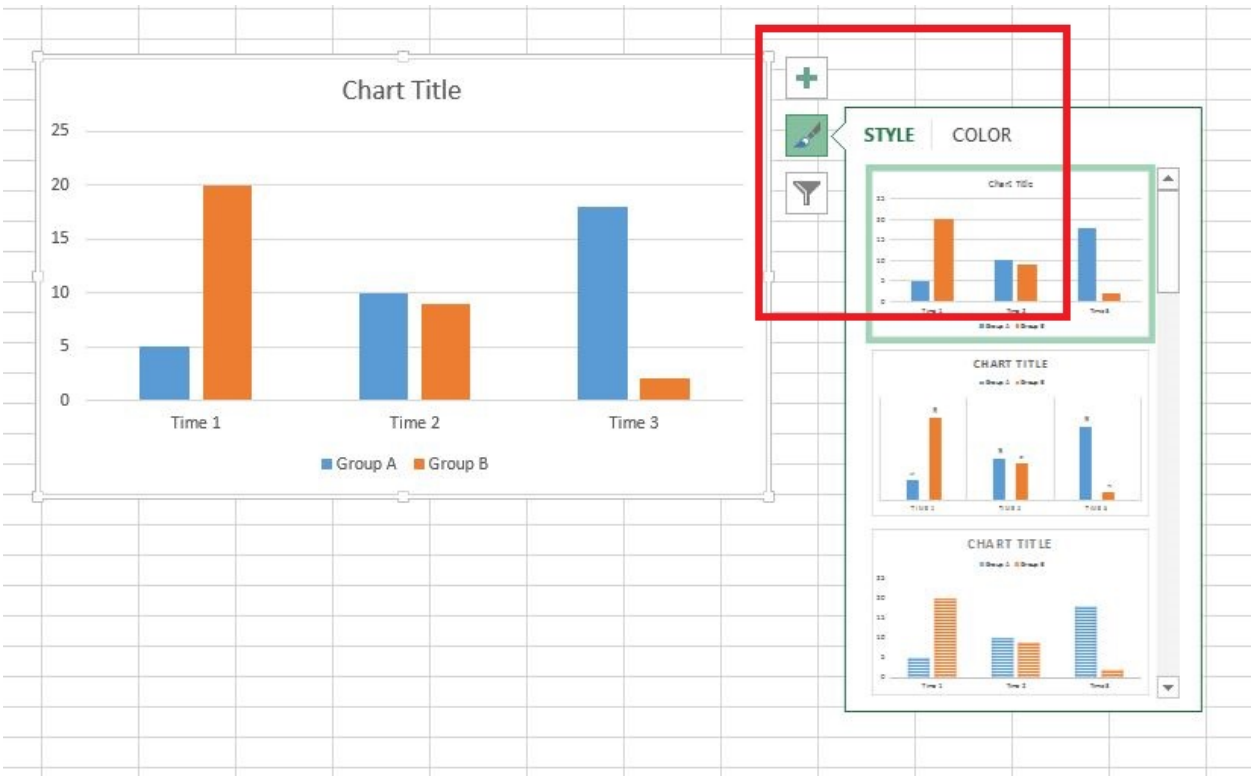
Excel – Basic Functions

Creating a Chart

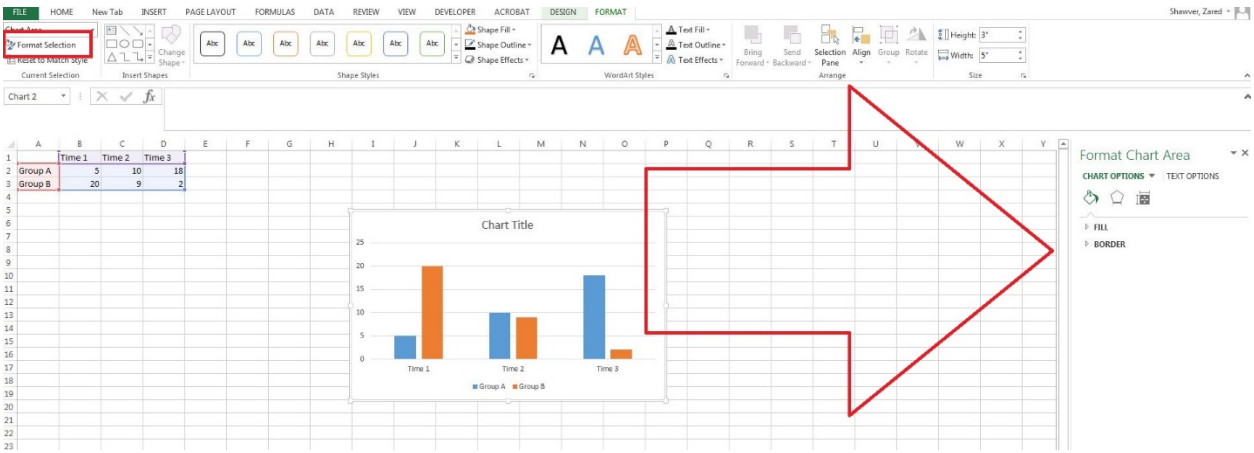
First, input all of the data with headers that you wish to be in your chart. Select all of the data including headers. On the ‘Insert’ tab on the Ribbon, click ‘Recommended Charts’ and in the ‘Insert Chart’ dialog box choose one that best suits your needs.



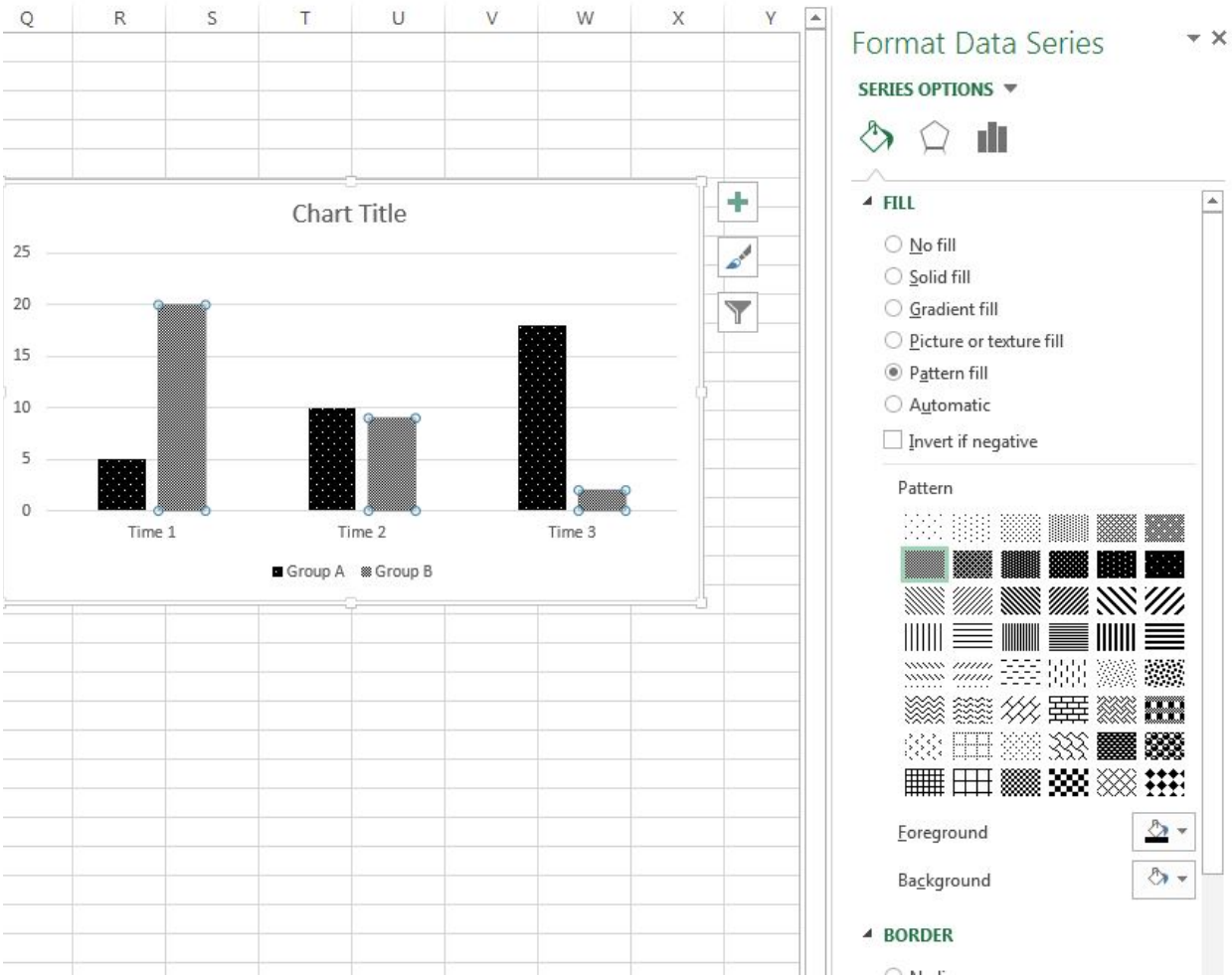
You can quickly format your chart using the pop-out buttons to the right of the chart…



… but these don't work that great. There is a better formatting option in Excel 2013: the Format Selection side menu.



Using this tool bar you can click on the elements that you want to re-format and change them quickly and easily.



Unfortunately, there is no good way to create a table in Excel from raw data; you are better off just using SPSS to do that.

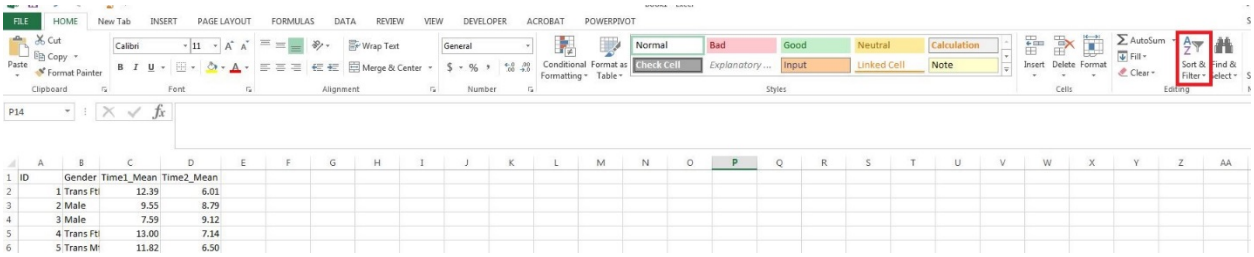
Add error bars to chart

Excel has an incredibly useful new(ish) feature that allows researchers to add error bars to their charts. It is explained very well in the video below (if not better than I could do it in writing).

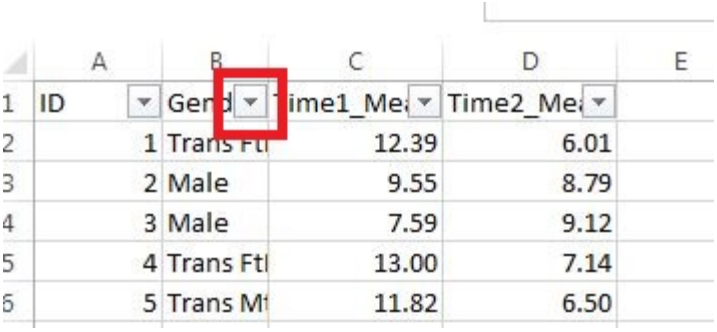
https://www.youtube.com/watch?v=s3_hcCQGc50

How to use filters

Filters are incredibly useful tools for viewing subsets of data within a worksheet. For example, in the data below, if I only want to view data from 'Female' respondents, I can turn on a filter. To turn on a Filter click on the header row of your data, click the drop down arrow on Sort and Filter on the Home Tab and click the 'Filter' button.

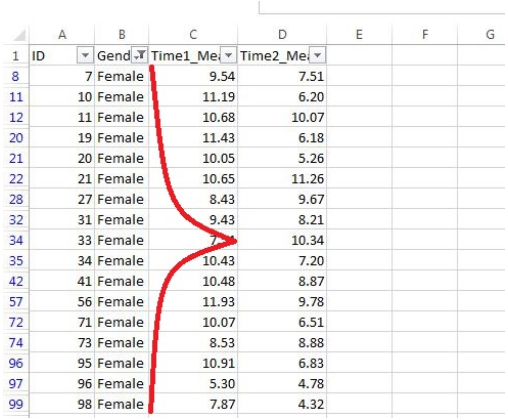


Now, your header row has drop down arrows that you can click and view all of the individual data points in a column. Click on the ‘Gender’ drop down arrow and select only Female.



	A	B	C	D	E
1	ID	Gen	Time1_Me	Time2_Me	
2	1	Trans Ftl	12.39	6.01	
3	2	Male	9.55	8.79	
4	3	Male	7.59	9.12	
5	4	Trans Ftl	13.00	7.14	
6	5	Trans Mt	11.82	6.50	

Now the only visible data are from those who identified as ‘Female.’



	A	B	C	D	E	F	G
1	ID	Gend	Time1_Me	Time2_Me			
8	7	Female	9.54	7.51			
11	10	Female	11.19	6.20			
12	11	Female	10.68	10.07			
20	19	Female	11.43	6.18			
21	20	Female	10.05	5.26			
22	21	Female	10.65	11.26			
28	27	Female	8.43	9.67			
32	31	Female	9.43	8.21			
34	33	Female	7.[illegible]	10.34			
35	34	Female	10.43	7.20			
42	41	Female	10.48	8.87			
57	56	Female	11.93	9.78			
72	71	Female	10.07	6.51			
74	73	Female	8.53	8.88			
96	95	Female	10.91	6.83			
97	96	Female	5.30	4.78			
99	98	Female	7.87	4.32			

How to Freeze Panes

When entering a lot of data, you cannot see your headers once you get down so far. This can be fixed by using the Freeze Panes function. Freeze panes keeps rows and/or columns stationary so that you can scroll anywhere in your worksheet, but still see certain data.

Freeze top row only

Be sure that the top-most row is the one that you want to keep stationary. Typically, this will be your header row. Go to the ‘View’ tab on your Ribbon and click ‘Freeze Panes’ on the ‘Window’ Block and select ‘Freeze Top Row.’ Scroll down as far as you like and your headers will remain.

Freeze Panes

If you want to keep columns and rows stationary, click in a cell that has the columns you want to the left and the rows you want above it.

Again, go to the ‘View’ tab on your Ribbon and click ‘Freeze Panes’ on the ‘Window’ Block and select ‘Freeze Panes.’ Anywhere you scroll, you can view the top row(s) and left-most columns.

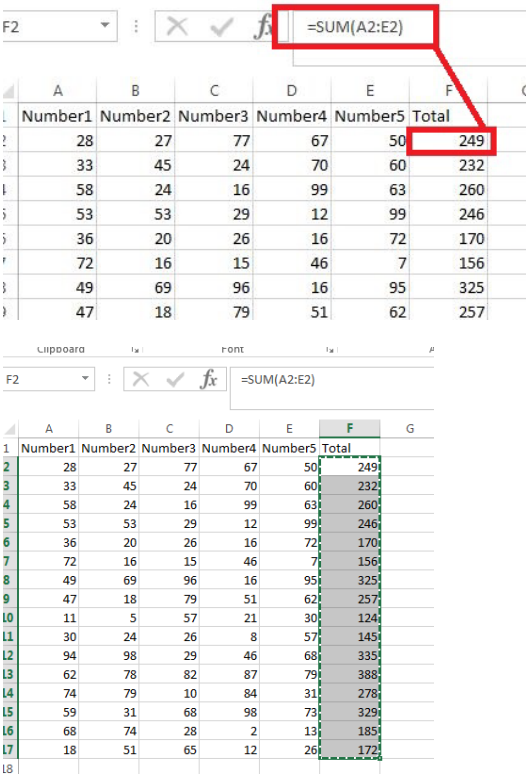
Unfreeze Panes

When you no longer want to have frozen panes, simply go ‘Freeze Panes’ in the ‘View’ tab and click ‘Unfreeze Panes’

Useful Formulas (certainly not an all-inclusive list)

Tip for using formulas

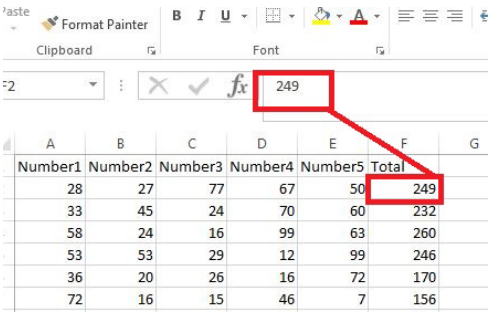
Whenever you use formulas in Excel what is seen is the final product, but what is actually in the cell is still the formula. You should **always** copy cells that you have created formulas in and *paste as values* back in the same location. This way, what is actually in the cell is the value you want, not the formula.



	A	B	C	D	E	F	G
1	Number1	Number2	Number3	Number4	Number5	Total	
2	28	27	77	67	50	249	
3	33	45	24	70	60	232	
4	58	24	16	99	63	260	
5	53	53	29	12	99	246	
6	36	20	26	16	72	170	
7	72	16	15	46	7	156	
8	49	69	96	16	95	325	
9	47	18	79	51	62	257	
10	11	5	57	21	30	124	
11	30	24	26	8	57	145	
12	94	98	29	46	68	335	
13	62	78	82	87	79	388	
14	74	79	10	84	31	278	
15	59	31	68	98	73	329	
16	68	74	28	2	13	185	
17	18	51	65	12	26	172	
18							

I wasn't able to get a screenshot of how to paste as values, but it is simply one of the Paste Special options. Click the drop-down arrow on the home screen where the Paste button is, or right click and click the Paste option with the lowercase 'v.'

Here is the final product:



	A	B	C	D	E	F	G
	Number1	Number2	Number3	Number4	Number5	Total	
	28	27	77	67	50	249	
	33	45	24	70	60	232	
	58	24	16	99	63	260	
	53	53	29	12	99	246	
	36	20	26	16	72	170	
	72	16	15	46	7	156	

Trim

=TRIM([cell to trim])

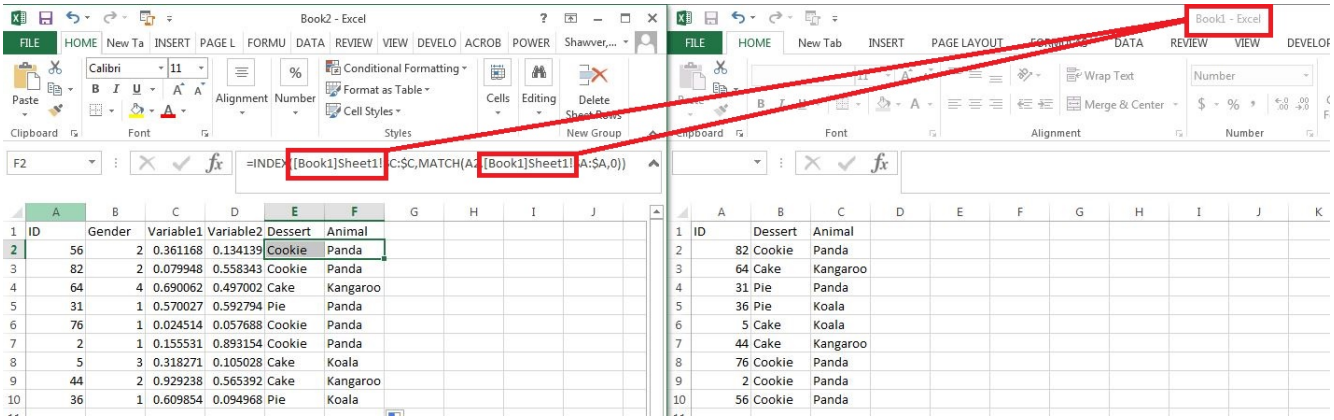
Trim will remove any spaces that were inadvertantly inserted before or after text in your cell. It is helpful to run the trim function on all data that were entered by a person. To use it, just put the cell

Index & Match

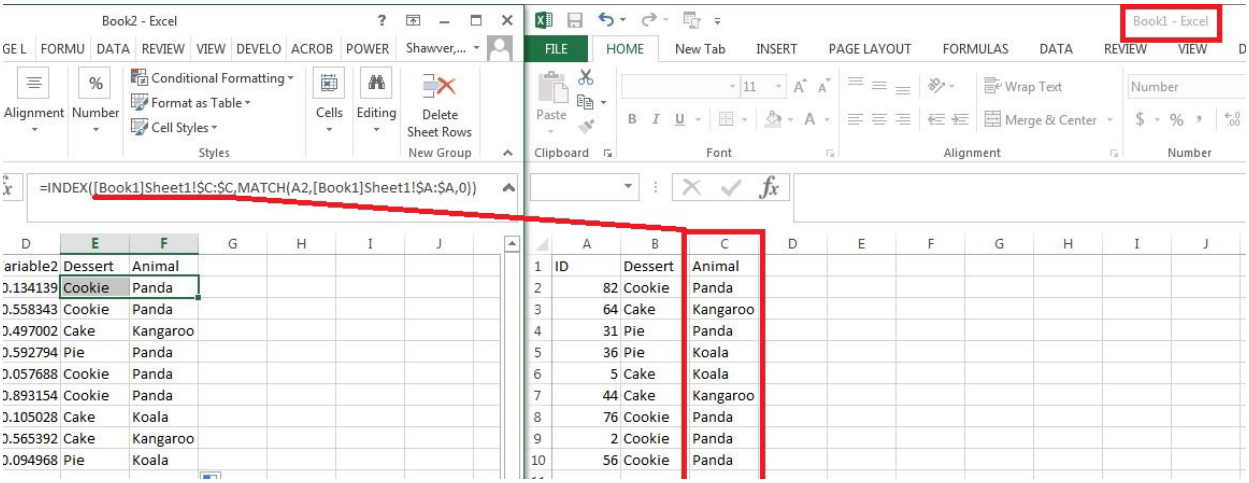
=INDEX([values you want], MATCH([some identifier], [list of identifiers], 0 [this means give exact match]))

Index & Match is absolutely invaluable if you ever have data in two locations and want to combine them. The most straightforward example would be a multi-part study in which research participants complete different surveys. However, these functions together are extremely versatile and useful in many more ways.

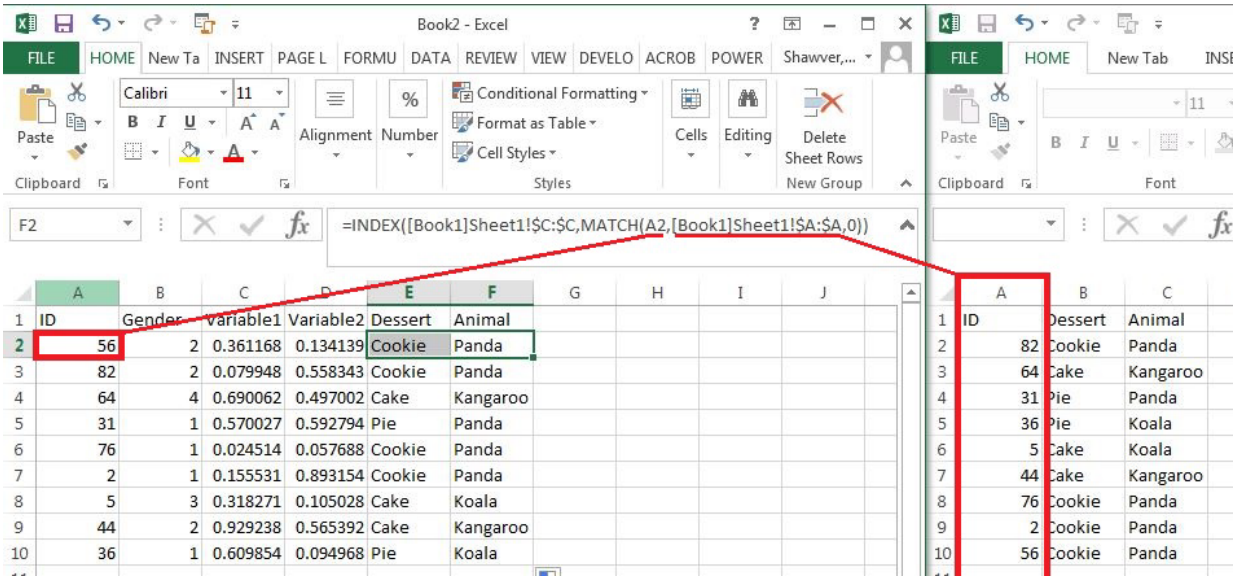
In the example below you can see that the responses from Book1 were placed into Book2 for each participant. Notice how the IDs are in different order in both books; order does not matter for Index & Match



To do this, INDEX will pull data from a list that you specify…



…by MATCHing some value that both lists have in common.



It’s incredibly easy to use and apply to different situations once you get the hang of it.

Sum

=SUM([numbers you want added])

The SUM formula will add all of the numbers in a range that you choose.

Average

=AVERAGE([numbers you want the average of])

The AVERAGE formula is incredibly intuitive and easy to use. To use it just select the cells that have values that you need the average of.

Stdev.S

=STDEV.S([numbers you want the Standard Deviation of])

Similar to the AVERAGE formula, you just simply choose the cells with which you need a standard deviation computed.

Max/MIN

=MAX([numbers you want to know the maximum of])

=MIN([numbers you want to know the minimum of])

MAX and MIN will help you find the range of numbers in a list. The MAX formula will scan through a list of numbers and return the largest one whereas the MIN formula will scan through a list of numbers and return the smallest one.

If

=IF([logical test],[what you want to show if test is true],[what you want to show if test is false])

The IF formula is another incredibly versatile and useful formula. Its possibilities are unmatched by other formulas you will probably encounter. If there is ever a time when you need to create a new variable based on the response(s) of another variable then IF is the formula for you. For example, if you want to create a dichotomous variable from continuous data by conducting a median split (let's say that 6 is our median) into HIGH and LOW, then you would write:

=IF([cell]>6,"HIGH","LOW")

Drag the formula for all of the cells that you want split and you're done.

Protip$_1$: if you want the product of your IF formula to be a word you need to wrap it in quotation marks, but if you want it to be a number you do not need to wrap it in quotation marks.

=IF([cell]>6,"HIGH","LOW") and =IF([cell]>6,1,0)

Protip$_2$: if you want to conduct a test on whether or not a cell has a certain word in it (e.g., does a cell say *male*), then you need to wrap the word that you are testing in quotation marks.

=IF([cell]="male",1,0)

Protip$_3$: you can combine (nest) IF formulas to conduct more than one test (e.g.,if you want to convert points earned in a class to a letter grade). To do this, you would place the additional IF formula(s) where you would put what would be shown if the logical test if false.

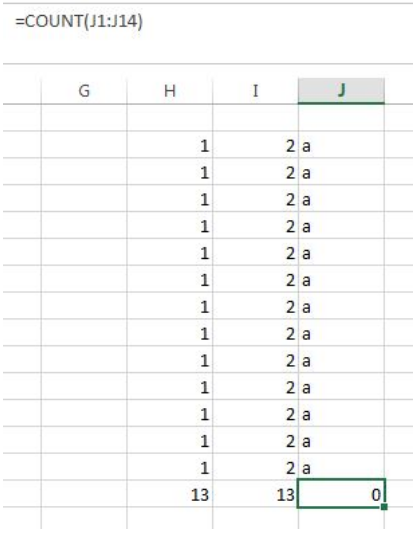
=IF([cell]>89,"A",IF([cell]>79,"B", IF([cell]>69,"C", IF([cell]>59,"D","F"))))

What this formula says is that any grade above 89 is an A; any grade above 79 (but less than 90) is a B; any grade above 69 (but less than 80) is a C; any grade above 59 (but less than 70) is a D; all grades lower than 60 are an F. Please note the [cell] in the formula is the exact same cell in each nested IF. It tests the same value 4 times (once for each logical test) and produces the correct TRUE answer or the final FALSE answer. Pay very close attention to the parentheses in these functions as they are confusing and are extremely easy to mess up.

Count

=COUNT([cells to count])

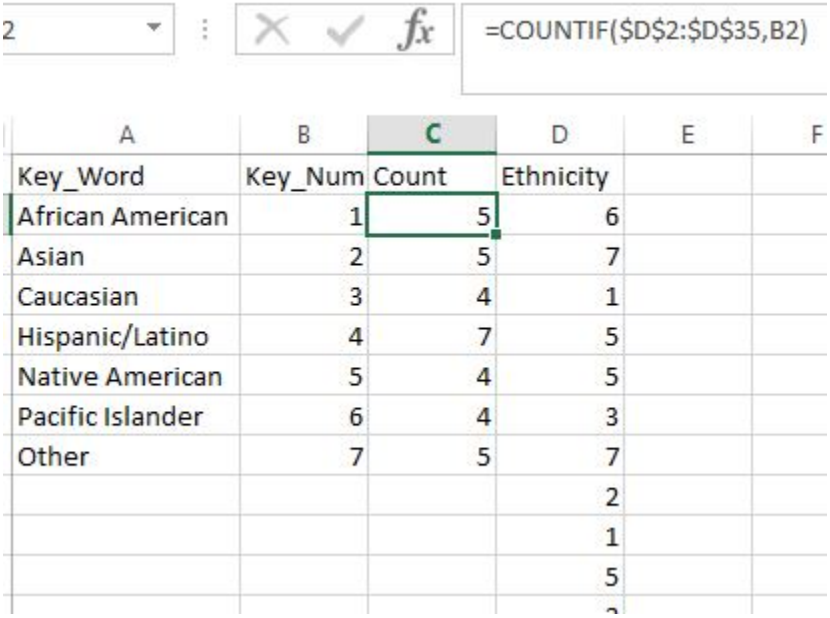
Count will return the number of cells that contain a **number**. It is important to keep in mind it will only count number of cells irrespective of what number is in each cell. To use COUNT, put all of the cells that you want counted inside of the parentheses.



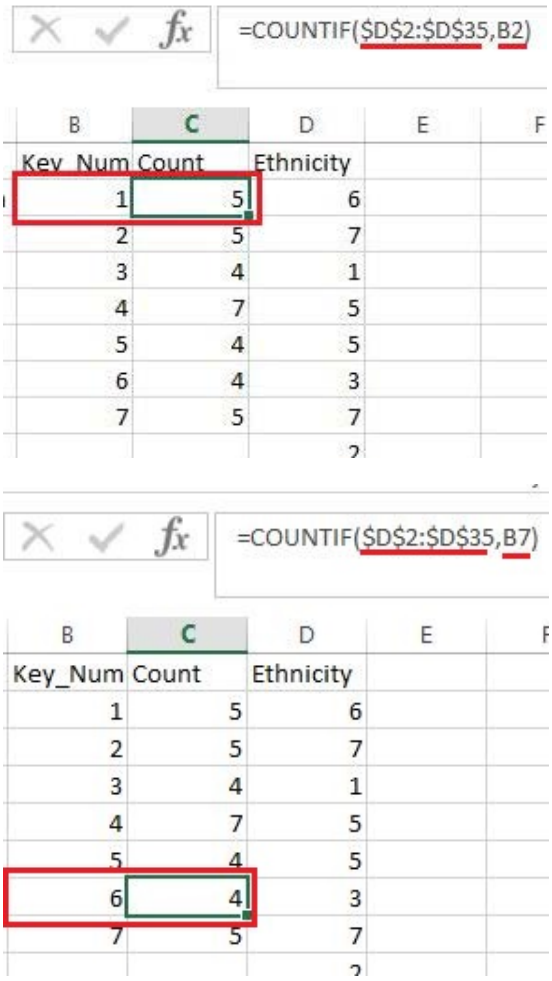
Countif

=COUNTIF([cells to count from],[what to count])

The COUNTIF formula is incredibly useful when you need to know how frequently certain numbers occur within your data. For example, you can use COUNTIF to analyze demographic data.



Protip$_1$: in the picture above, I created a column that contained all of the numbers that I wanted to count and dragged my COUNTIF formula down. This a huge timesaver. However, you need to make the range that you are counting an absolute reference so that when you drag your formulas down you are counting the same range every time. See below how the range that is counted is exactly the same in two different cells even after dragging it down.

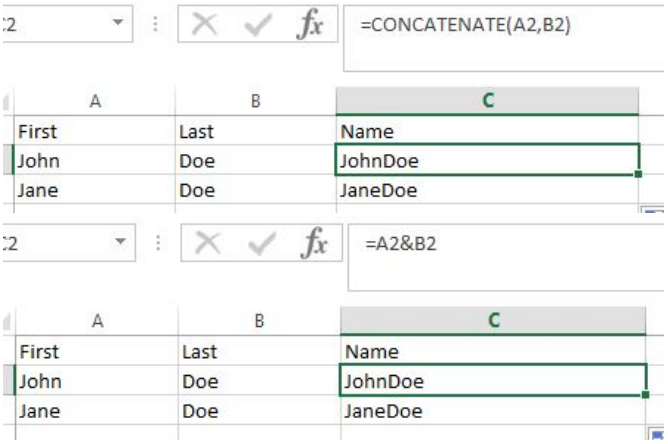


Concatenate (or &)

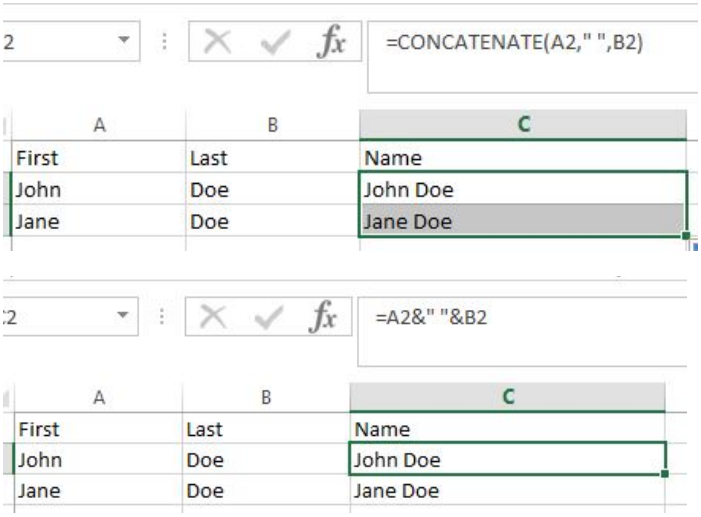
=CONCATENATE([cell$_1$],[cell$_2$],[cell$_n$])

=[cell$_1$]&[cell$_2$]&[cell$_n$]

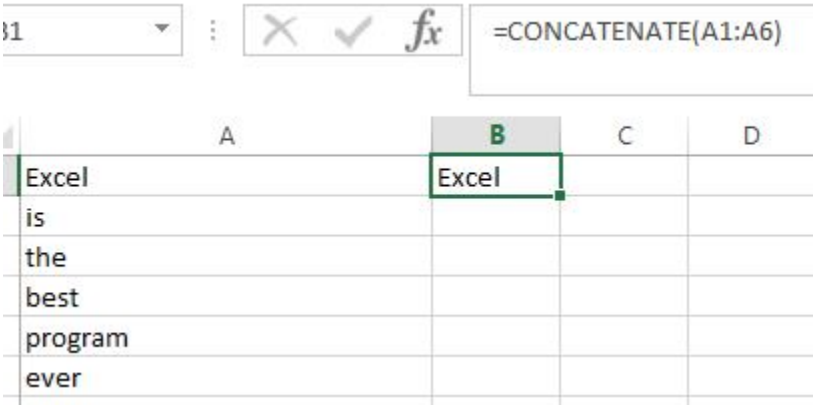
The two formulas above will return the exact same result. What they do is combine the contents of two cells into a single cell.



Protip$_1$: you can insert spaces, punctuation, or anything else into your CONCATENATE/& formulas by wrapping what you want inserted in quotation marks and placing them where you want them in the fomulas.



Protip$_2$: you cannot concatenate cells that are in the same column, it will only return the contents of one cell

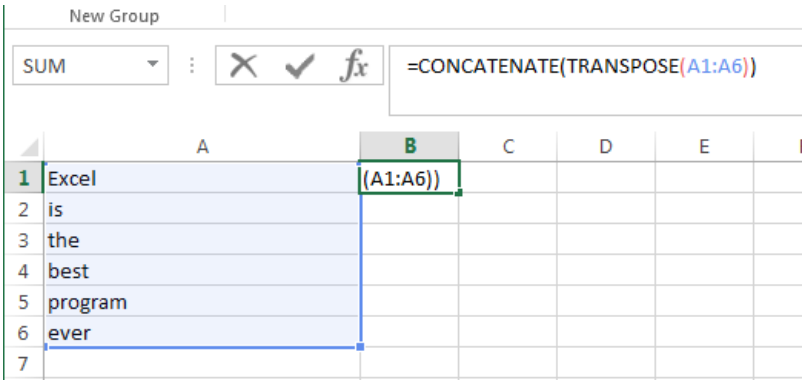


If you want to combine all of those words into a single string, then you need to nest the TRANSPOSE formula inside of CONCATENATE using the following steps:

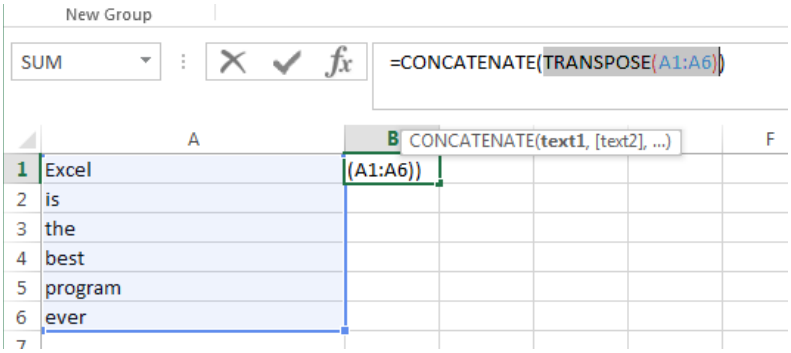
Step 1

Write out the nested formula but DO NOT press Enter yet

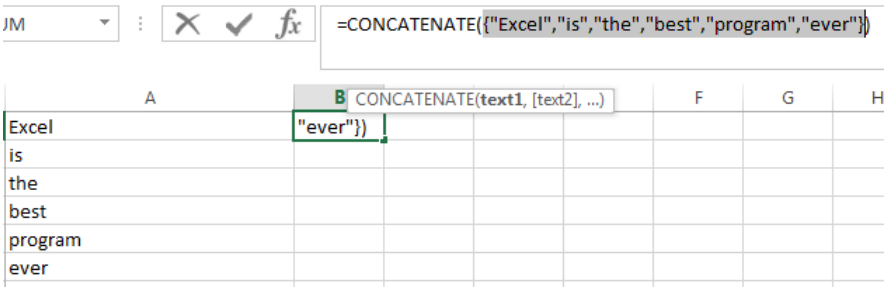
=CONCATENATE(TRANPOSE([cells you want combined])



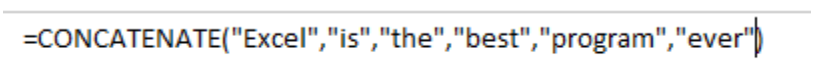
Highlight the TRANSPOSE function and parentheses inside of the CONCATENATE parentheses



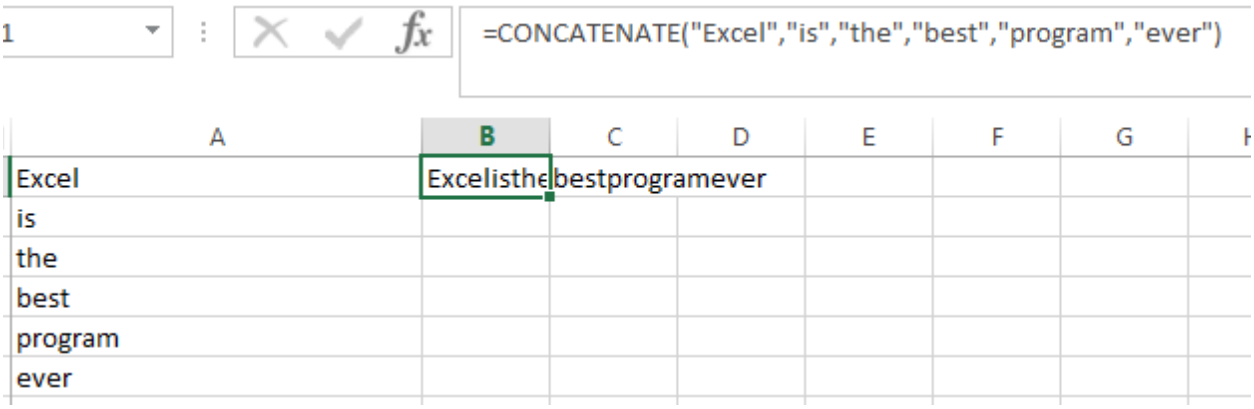
On the keyboard type (without quotations) ‘Ctrl =’ (read: control, equals) but still DON’T PRESS ENTER



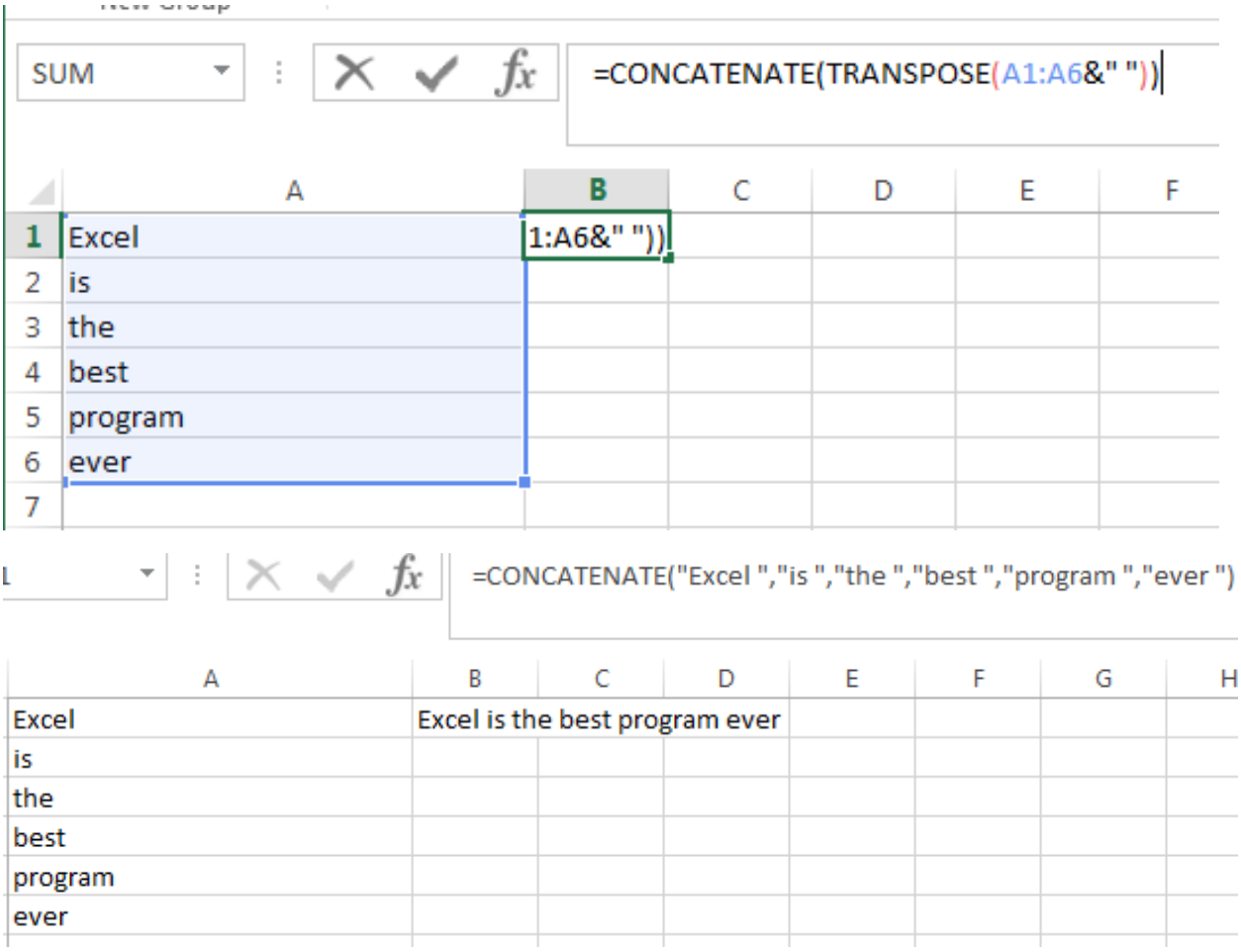
Click in the formula box and delete the squiggly brackets {} from the ends



Press Enter and see the final product



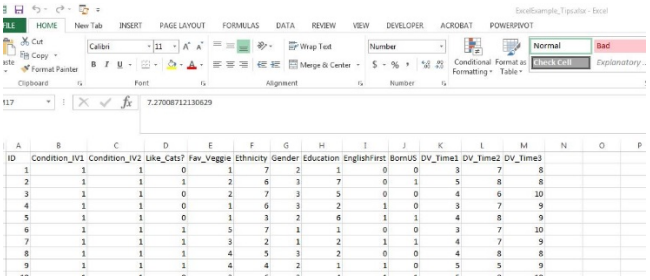
Protip$_{2a}$: to add spaces (or whatever) to your final concatenated product of nesting CONCATENATE and TRANSPOSE, use the & formula inside of the TRANPOSE formula and follow all the rest of the steps from Protip$_2$



SPSS

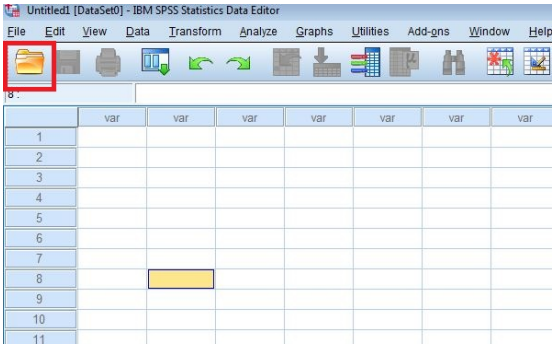
Opening an Excel Sheet in SPSS

You can easily open up data that was saved in Excel into SPSS. Here, I have an Excel Sheet that was created for this document called ExcelExample_Tips.xlsx that I want to open in SPSS to conduct analyses.

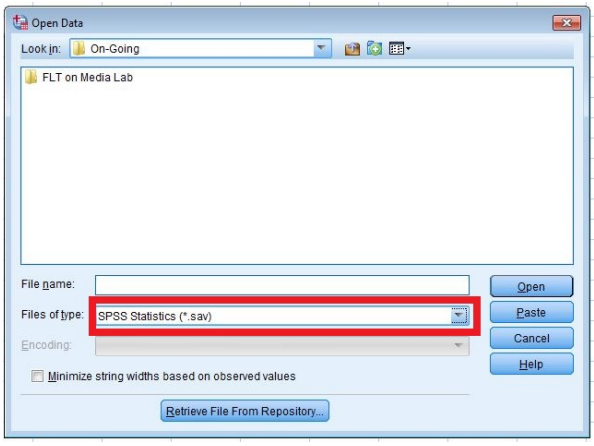


ID	Condition_IV1	Condition_IV2	Like_Cats?	Fav_Veggie	Ethnicity	Gender	Education	EnglishFirst	BornUS	DV_Time1	DV_Time2	DV_Time3
1	1	1	0	1	7	2	1	0	0	3	7	8
2	1	1	1	2	6	3	7	0	1	5	8	8
3	1	1	0	2	7	3	5	0	0	4	6	10
4	1	1	0	1	6	3	2	1	0	3	7	9
5	1	1	0	1	3	2	6	1	1	4	8	9
6	1	1	1	5	7	1	1	0	0	3	7	10
7	1	1	1	3	2	1	2	1	1	4	7	9
8	1	1	1	4	5	3	2	0	0	4	8	8
9	1	1	1	4	4	2	1	1	0	5	5	9

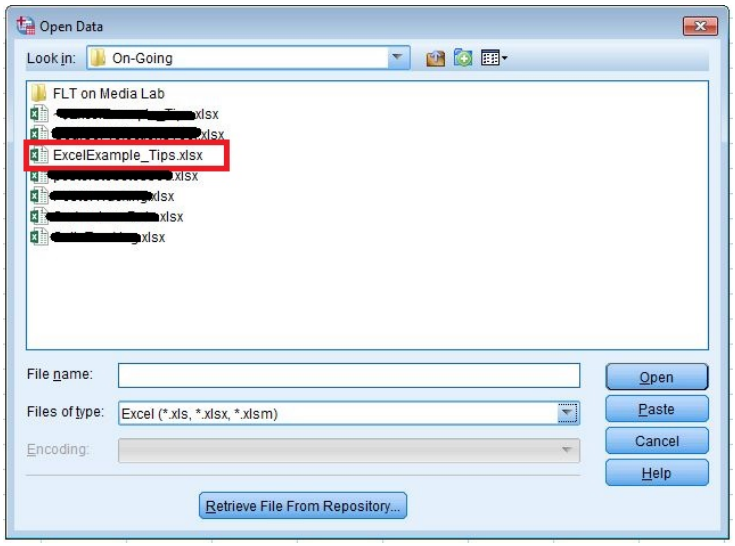
First, open up SPSS and delete all of the start-up dialog boxes so you are looking at a blank datasheet. Click the ‘Open’ button and find the folder where your datasheet lives (in my case it is: P:\Departments\Psychology\shared\Technician Info\Technician Projects by Semester\Spring 2016\On-Going.



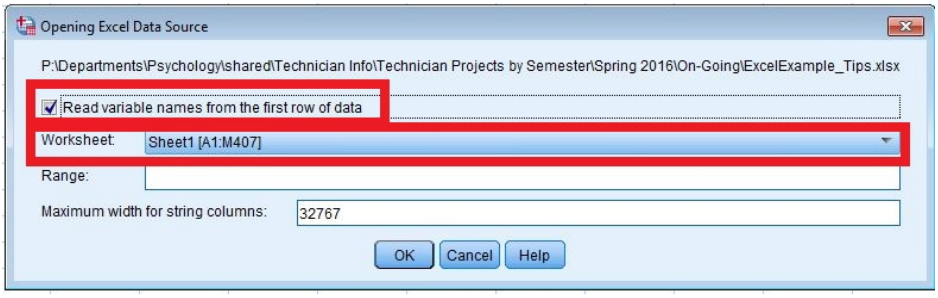
Don’t be alarmed that your folder appears empty when you first get there, even though you know that files live there.

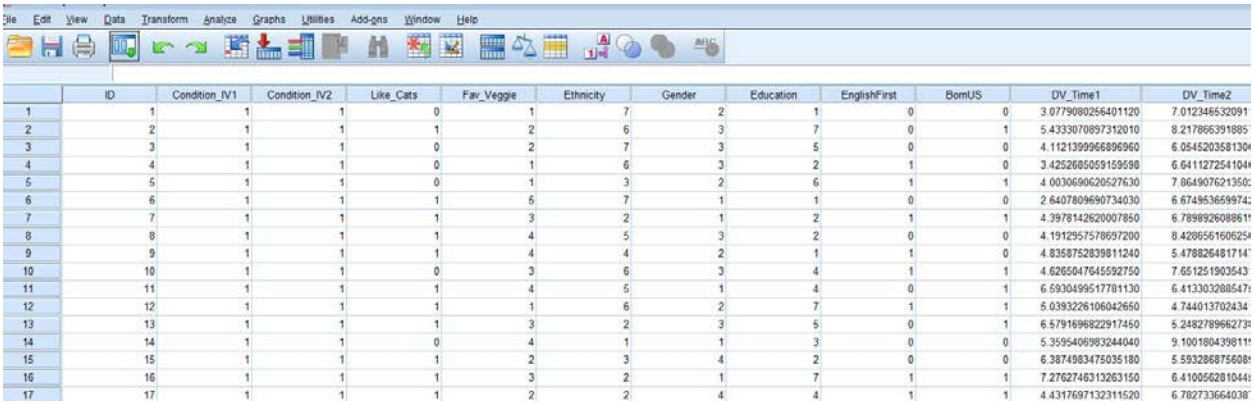


You will need to change ‘Files of Type’ to “Excel (*.xls, *.xlsx, *.xlsm).” Voila, now you can see files, including the one we are looking for “ExcelExample_Tips.xlsx.” [Note: other file names have been redacted for privacy.]

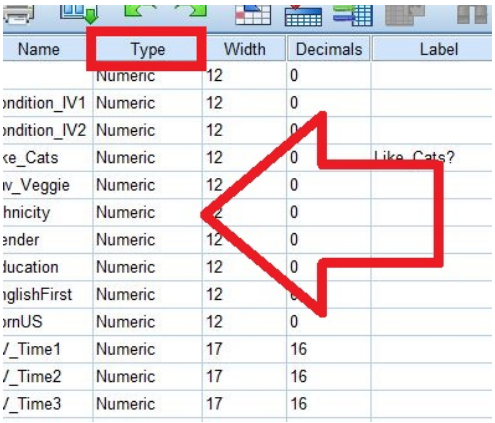


Because our data has headers be sure that the checkbox next to ‘Read variable names from the first row of data’ is checked. If your workbook has more than one sheet, be sure that the one that you want shows up in the ‘Worksheet:’ drop down box. Press ‘OK’ and your data will open in SPSS.





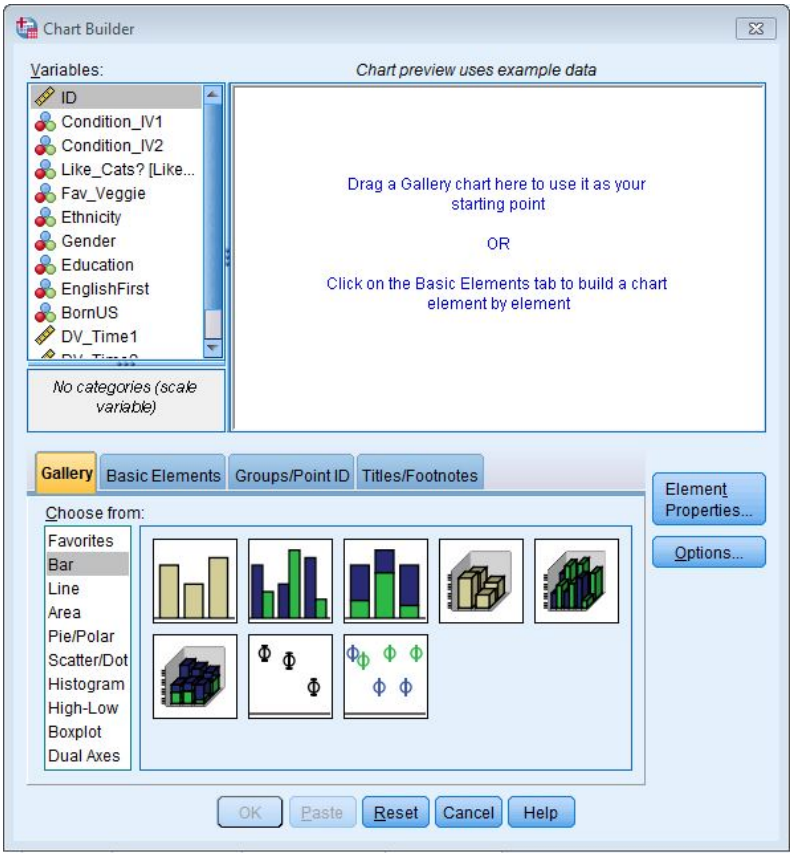
Sometimes there is a problem with variable types when opening Excel files in SPSS, though. When you open your dataset go to variable view and be sure that each ‘Type’ is ‘Numeric.’



Name	Type	Width	Decimals	Label
	Numeric	12	0	
ndition_IV1	Numeric	12	0	
ndition_IV2	Numeric	12	0	
e_Cats	Numeric	12	0	Like_Cats?
v_Veggie	Numeric	12	0	
hnicity	Numeric	12	0	
ender	Numeric	12	0	
ducation	Numeric	12	0	
glishFirst	Numeric	12	0	
rnUS	Numeric	12	0	
/_Time1	Numeric	17	16	
/_Time2	Numeric	17	16	
/_Time3	Numeric	17	16	

Creating and formatting Figures in SPSS

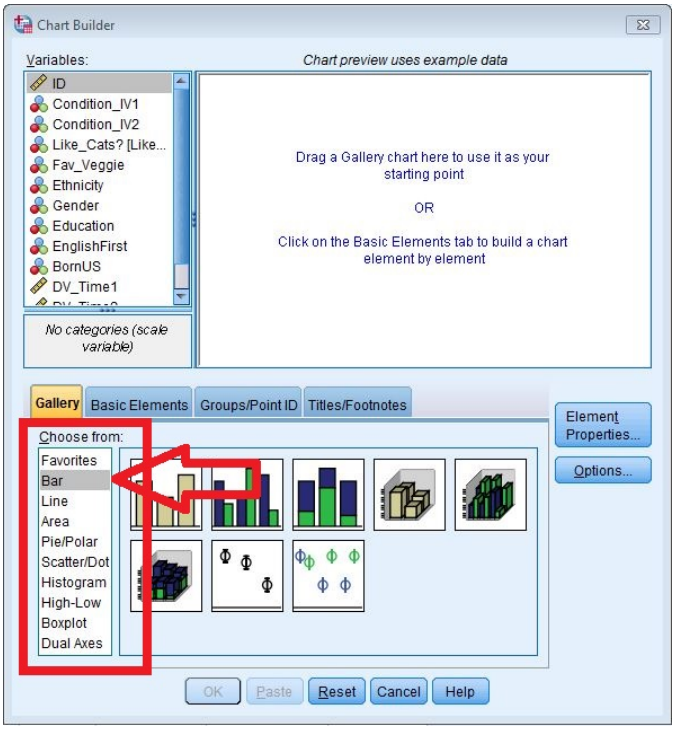
As mentioned in the section on creating Figures in Excel, it is much easier and better to use SPSS because you can create one from raw data. To do this, click on 'Graphs/Chartbuilder' and click 'OK' when the first dialog box appears. Here is what the Chartbuilder looks like:



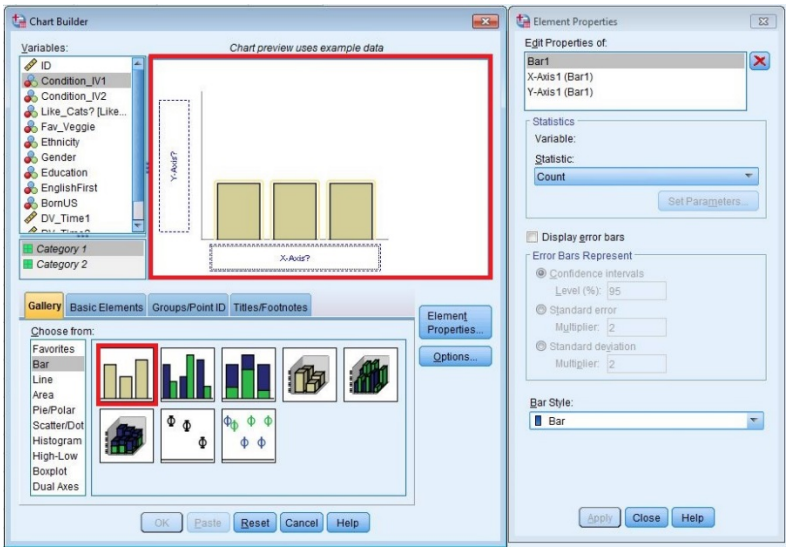
Of course, there are so many different options to choose from it can appear overwhelming. However, the most common and likely chart type you will need is 'Bar.' A Bar graph is used for data collected from distinct groups. Sometimes you might need choose a Line graph is used for data that change over time. Sometimes, if the data in your IV are continuous, but separated into groups, you would use a 'Histogram' instead of a Bar graph. This will focus on Bar graphs.

Creating a Bar graph with One IV and one DV

First, in the bottom half of the Chart Builder, select ‘Bar in the ‘Choose from:’ list.

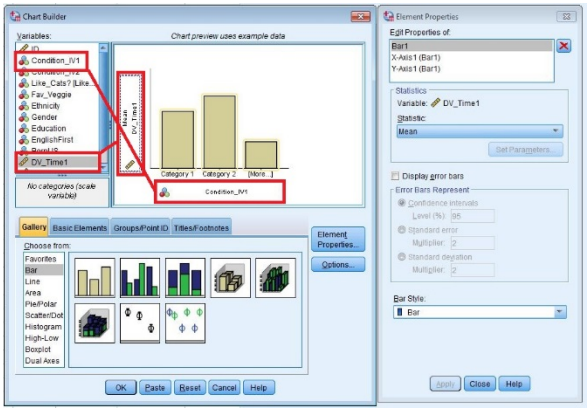


When you do, you will see that there are several different options to choose from. Because you only are interested in displaying data with one IV, you should select the simplest chart option in the top left of the box. Either double click on it or click it and drag it into the blank box above.

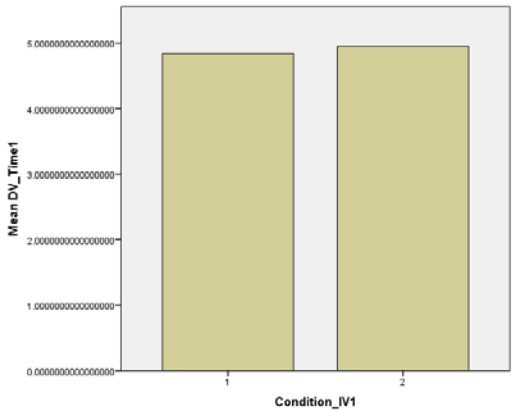


You will see, too, that a new dialog box, ‘Element Properties,’ opens up. More on this in the ‘Formatting charts in SPSS section.’

Now, you can click on the variables that you want in your graph and drag them into their respective places. Remember: IVs go on the X-Axis and DVs go on the Y-Axis.

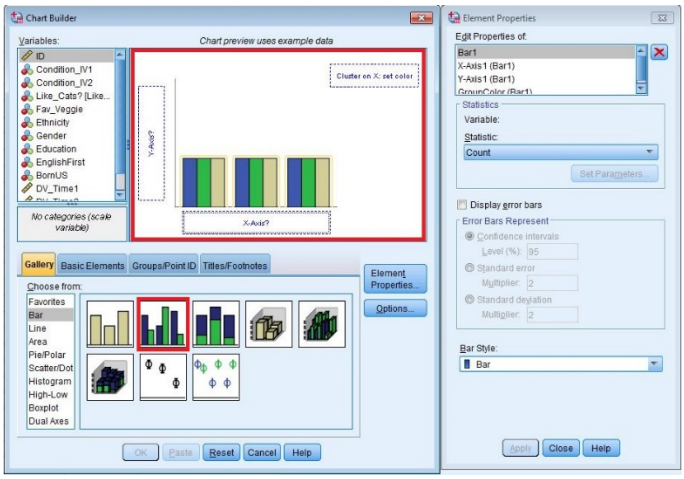


Click 'OK' and see your fancy new chart (that's actually kind of ugly – again, more on that later).

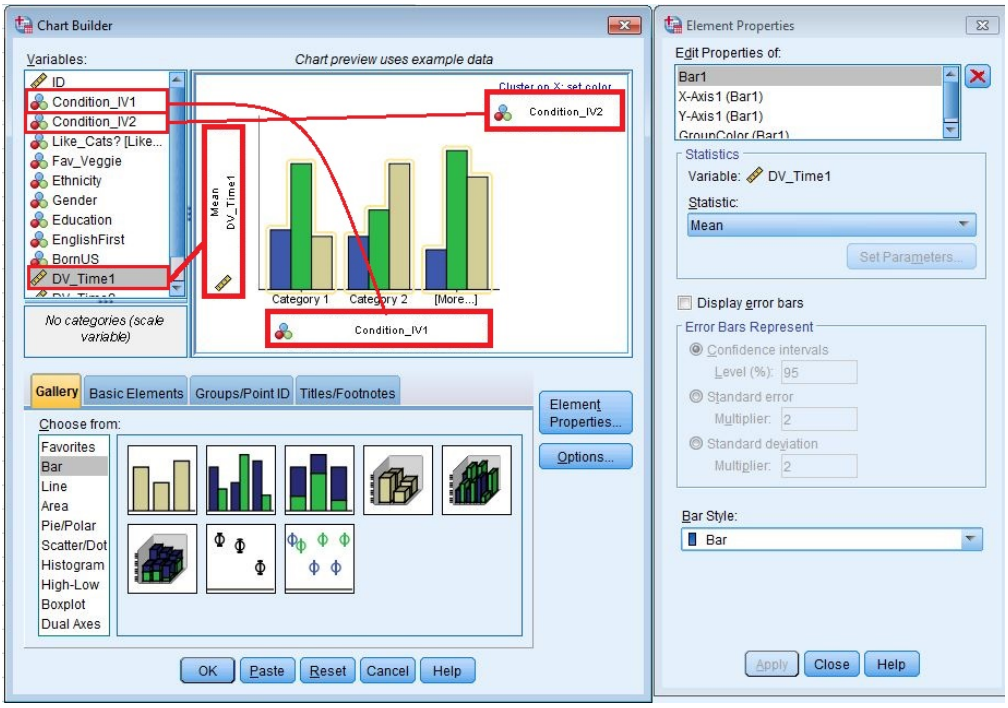


Creating a Bar graph with One IV and one DV

Here, instead of choosing the simplest chart, choose the one with different colored columns. Each column is a different IV. Using the steps above ('Graphs/Chart Builder' – 'Choose From' Bar'), drag the two IV chart into the blank chart area.



Now, drag your variables over (DV on Y-Axis, IV_1 on X-Axis, and IV_2 on 'Cluster on X').



Again, click 'OK' and see your chart.

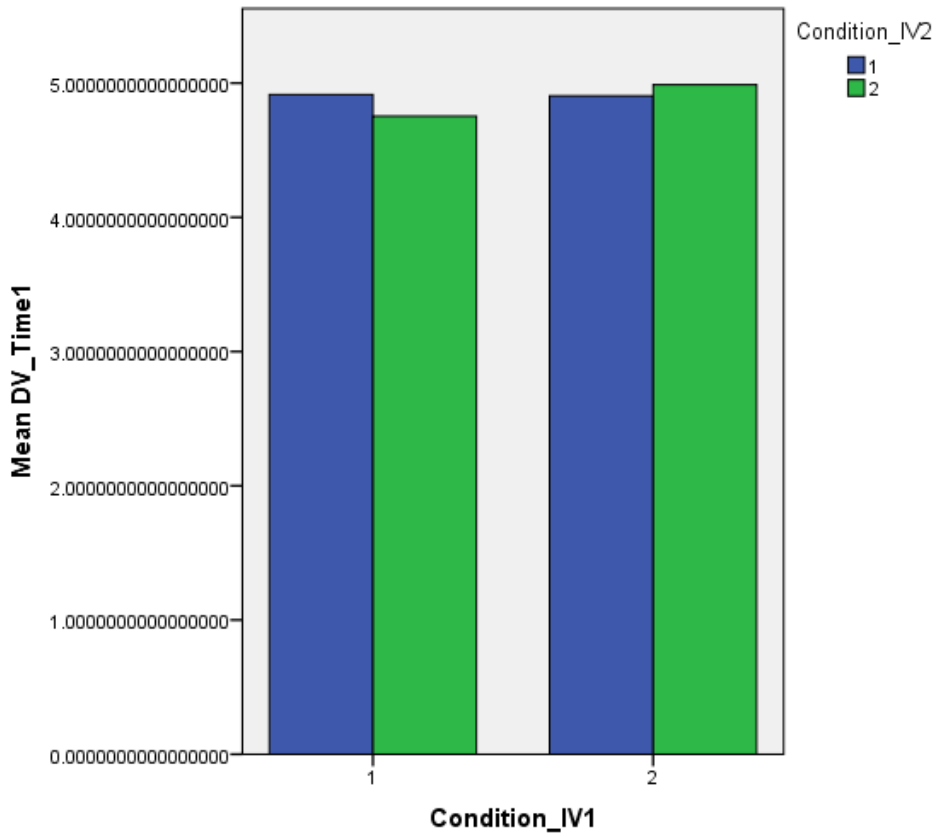
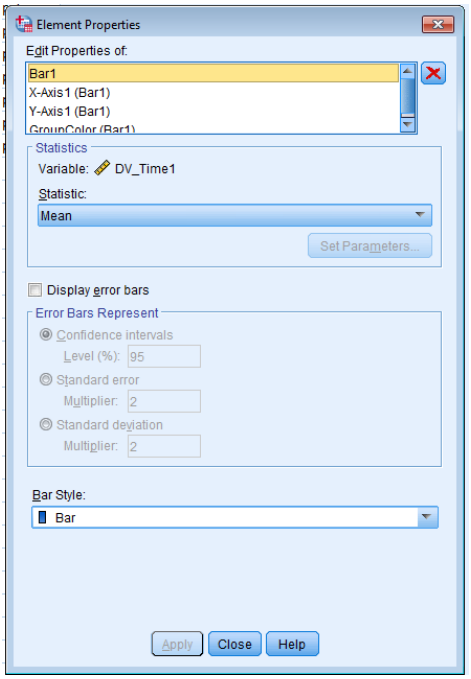
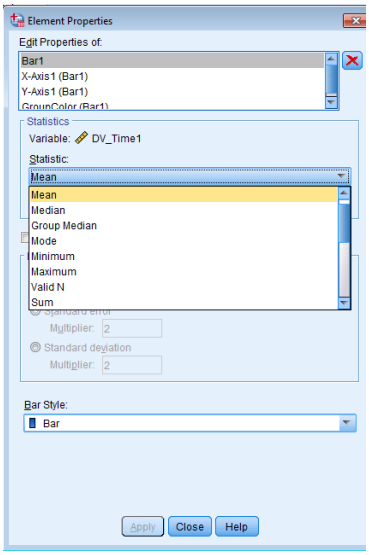


Chart Properties and Formatting

When you choose a chart to create the element properties dialog box immediately becomes available. There are several things that are important in this box.

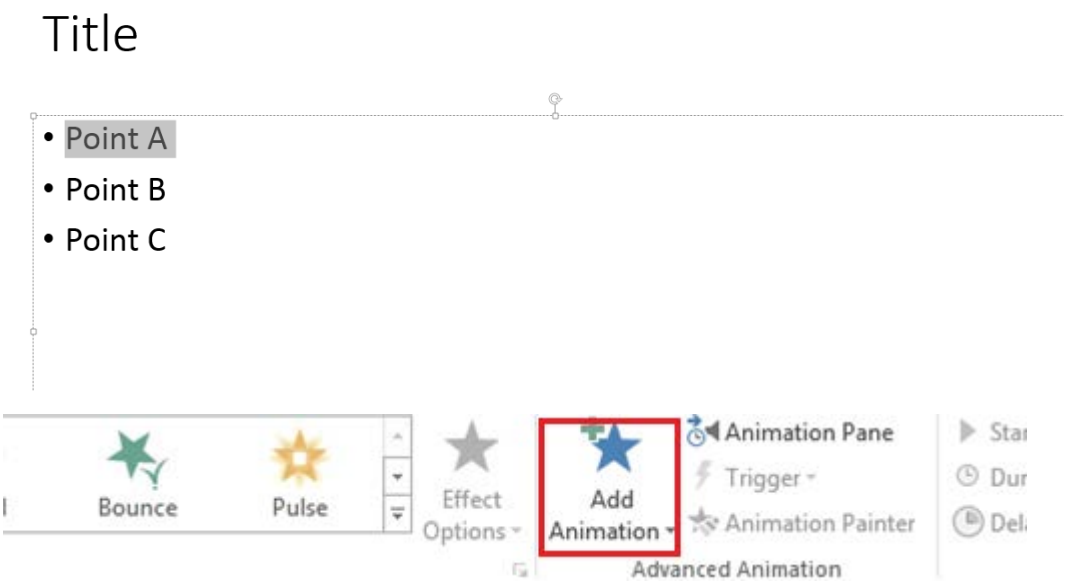




PowerPoint

How do I present information one-sentence-at-a-time on PowerPoint presentations?

Once you have the information on your slide, highlight your first bullet.



Next, go to the Animations menu and click on the "Add Animation" button, and select how you would like the bullet to appear (appear or fade are common ones).

Additionally, if you click on the "Animation Pane" button, you will be able to manage the order of animations as well as change which animation is used.

How do I ensure that my PPT slides are readable?

There are several points to keep in mind when designing PPT slides.

- Make sure the **font size is large enough**. Using a small font will make it difficult for the audience to read what you have on the slide. If you are using one of the provided templates, keep the font sizes that are the default.

- Make sure there is **high contrast** between the background of the slide and the text or images on the slide. If the colors are too close to one another, it can be hard to make out the text or image. If you are using a provided template, the contrast between the text and background should already be set.
- Make sure nothing is getting **cut off/running off** the slide. Sometimes text or images will look like they are all on the slide, but make sure to double-check by **previewing your presentation** to make sure everything is located where is should be.
- Try **not to overcrowd** your slides with too much information. If there are large blocks of text on slides, it can make it difficult to read and the audience may pay more attention to this rather than what you are saying. Try to only put the main points on the slide and you can elaborate with any extra information verbally.

How do I ensure that my PPT slides are visually interesting/engaging?

Using PPT as part of a presentation, while helping to keep you on track during your presentation, serves as a way to visually communicate information to your audience, so it is important to take advantage of this. If you are presenting results, including a *graph or table* is more engaging than a *sentence stating there was a difference between groups*. Additionally, including **photos** or other graphics as appropriate can help to further illustrate a point you are trying to make or a connection between two concepts you are explaining.

How many slides are appropriate for a 10-minute presentation? A 20-minute presentation?

Slides are a useful tool in presentations, and should highlight points that you will expand upon. Therefore, for each slide you should be able to talk substantially about the points presented on the slide (i.e., don't just read what is written on the slide).

The most common problems are

1) Too much information
2) Too many slides

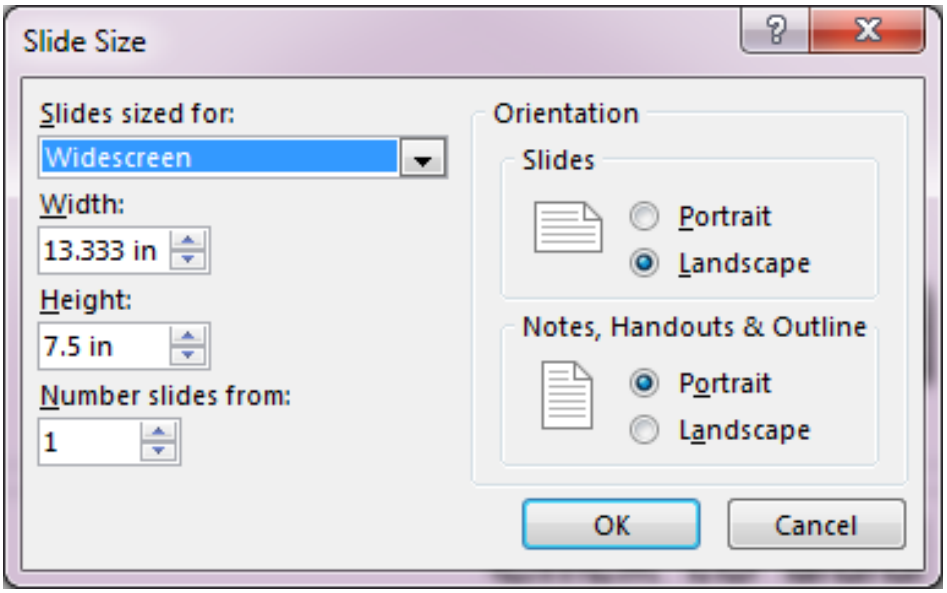
Less is more. Try to have simple, easily understandable bullet points and engaging visuals. For 10-minute presentations, aim for approximately 7-9 slides (excluding any title/acknowledgement slides). For 20-minute presentations, 15-18 slides would probably be sufficient. Of course, you will need to practice a couple of times to see how many slides are appropriate for your presentation style.

Ultimately the number of slides should depend upon how many are necessary to effectively communicate the information, but these numbers can serve as a starting point to figuring out how to break up the material.

How do I make a poster presentation on PPT?

First, you will need to adjust the size of the slide in PPT to match the actual poster size. Go to the Design menu and click on the "Slide Size" button and select "Custom Slide Size".

You are then able to correctly size your poster based upon the requirement guidelines for poster size.



There are also many templates for making posters available online that can provide a starting point when trying to format your poster.

Some points to keep in mind:

- Most posters have 3 or 4 columns of information that covers (these can be created by making text boxes for each of your sections and lining them up).
- Make sure to use large enough font so that the poster can be read 4-5 feet away (typically no smaller than size 24 fonts for body text -- should be even larger for headings and titles).
- Including tables and figures can help to make your results more understandable to the audience.

Estradiol Exacerbates Anxiety During Acute Methamphetamine Withdrawal in Female Mice

Anthony S. Rauhut, Munin Streitz, Alicia Trappanese, Charlotte Woody and Meredith A. Rauhut, Dickinson College 151.23

Abstract

Negative affective states (e.g., anxiety) associated with drug withdrawal have been suggested to promote relapse in addicts. Furthermore, women have shown a greater propensity to drug relapse compared to men, perhaps due to higher levels of the ovarian hormone, estrogen. To further examine the role of estrogen in drug withdrawal, the present experiment investigated the effect of estradiol (E_2) on open-field behavior following methamphetamine administration in female Swiss-Webster mice. After acclimation, mice underwent bilateral ovariectomy (OVX) followed by a subcutaneous implantation of a silastic capsule containing either sesame oil (OVX+Oil) or E_2 (36 µg/mL) (OVX+E_2). One week later, mice were placed in an open-field chamber for an 8-hour session. During the first 3 hours of the session, mice were permitted to run in the absence of any drug (baseline). Then, mice were injected intraperitoneally with methamphetamine (0.25, 0.5 or 1.0 mg/kg) or vehicle (physiological saline) and returned to the open-field chamber for the remaining five hours of the session. Mice were injected with vehicle or a different methamphetamine dose once a week for 4 weeks. Three measures of anxiety were assessed in the open-field chamber: distance traveled, rearing and the total time in the center of the chamber. Differences were observed on some measures of anxiety between OVX+Oil and OVX+E_2 mice during Hour 1, but not during remaining baseline hours (Hours 2-3). Furthermore, group differences were not observed during the Stimulant Phase (Hour 4) following injection of any methamphetamine dose (0.25, 0.5 or 1.0 mg/kg) or the vehicle. However, OVX+E_2 mice were less active, reared less and spent less time in the center of the open-field chamber compared to OVX+Oil during the acute withdrawal phase (Hours 5-8) following injection of the high (1.0 mg/kg), but not the low (0.25 mg/kg) or moderate (0.5 mg/kg), methamphetamine doses. These results suggest that estradiol exacerbates anxiety during acute withdrawal from a high methamphetamine dose in OVX female mice, perhaps indicating that estrogen contributes to drug relapse by worsening anxiety-related withdrawal symptoms in women.
This research was supported financially by the Psychology Department at Dickinson College.

Introduction

- While drug addiction is often thought of a "male disease," women are more likely to relapse compared to men, perhaps due to the ovarian hormone, estrogen (see Anker and Carroll, 2010 for a recent review of sex differences in drug addiction).
- In animal models, estradiol (E_2) has been shown to alter a number of addiction-related processes (e.g., drug sensitization and withdrawal).
  - E_2 has been shown to enhance the locomotor-activating effects of methamphetamine (Ohtani et al., 2001), amphetamine-related drugs (e.g., MDMA), Zhou, Cunningham, Thomas, 2003) and has been shown to increase DA release evoked by methamphetamine in the striatum (Ohtani et al., 2001) in rats.
  - E_2 has been shown to enhance activity of the hypothalamic-pituitary-adrenal (HPA) axis (Burgess and Handa, 1992), perhaps exacerbating anxiety associated with drug withdrawal.

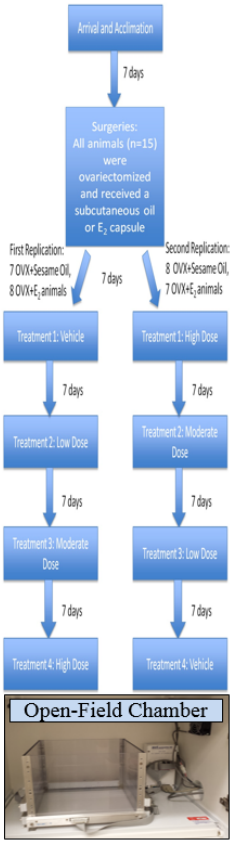
Purpose/Prediction

- The present experiment examined the ability of E_2 to alter the acute locomotor-activating and withdrawal effects of methamphetamine in female Swiss-Webster mice.
- Based on previous rat studies, we predicted that

1. E_2 will enhance the locomotor-activating effects of methamphetamine in a dose-dependent fashion.
2. E_2 will enhance anxiety associated with methamphetamine withdrawal in a dose-dependent fashion.

Dickinson

Methods



Results

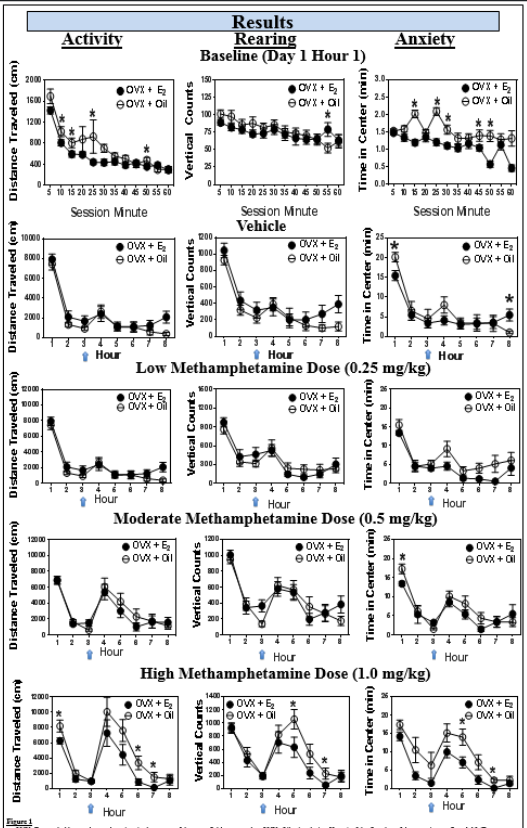


Figure 1
- OVX+E_2 traveled less and spent less time in the center of the open field compared to OVX+Oil mice during Hour 1 of the first day of the experiment, $Ps < 0.05$ (Top Panels).
- OVX+E_2 mice traveled less, reared less and spent less time in the center of the open field during acute withdrawal (Hours 5-8) from the high methamphetamine dose (1.0 mg/kg), $Ps < 0.05$ (Bottom Panels).
- Methamphetamine induced very little stereotypy in either OVX+E_2 or OVX+Oil mice; OVX+E_2 mice displayed less time in stereotypy compared to OVX+Oil mice during acute withdrawal from the high methamphetamine dose (1.0 mg/kg), $P < 0.05$ (Data Not Shown).

Results (Cont'd)

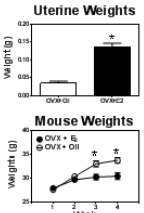


Figure 2
- Uterine weights of OVX+E_2 mice were heavier than the uterine weights of the OVX+Oil mice, $P < 0.05$.
- OVX+E_2 mice weighed less than OVX+Oil mice during the last 2 weeks of the experiment (Weeks 3 and 4, $Ps < 0.05$).

Conclusion

- At baseline, OVX+E_2 mice traveled less and spent less time in the center of the open field, suggesting that estradiol itself induces anxiety consistent with previous work (Morgan & Pfaff, 2002).
- Differences between OVX+E_2 and OVX+Oil mice were not detected during the Stimulant Phase (Hour 4) at any methamphetamine dose. This result is not consistent with other studies showing that estradiol enhances the locomotor-activating effects of methamphetamine (Ohtani et al., 2001) and amphetamine-related drugs (e.g., MDMA, Zhou et al., 2003) in rats.
- During withdrawal from the highest methamphetamine dose (1.0 mg/kg), OVX+E_2 mice traveled less, reared less, showed less stereotypy and spent less time in the center of the open field, suggesting that estradiol exacerbated anxiety during acute methamphetamine withdrawal. These result may imply that estrogen contributes to a greater relapse propensity in women compared to men (Anker and Carroll, 2010).
- Activation of the hypothalamic-pituitary-adrenal (HPA) axis by estradiol may account for the sheer-oil differences in anxiety during methamphetamine withdrawal, as estradiol has been shown to enhance HPA activity related to stressors (Burgess and Handa, 1992).
- A future experiment will examine the role of lighting conditions and assess the role of neurochemicals related to anxiety (e.g., norepinephrine, corticosterone, etc.) in contributing to the differences in acute methamphetamine withdrawal between OVX+E_2 and OVX+Oil female mice.

References

- Anker, JJ., and Carroll, ME (2010) Females are more vulnerable to drug abuse than males: Evidence from preclinical studies and the role of ovarian hormones. *Current Topics in Behavioral Neurosciences, 8*: 73-96.
- Burgess, LH., and Handa, RJ., (1992). Chronic Estrogen-Induced Alterations in Adrenocorticotropin and Corticosterone Secretion, and Glucocorticoid Receptor-Mediated Functions in Female Rats. *Endocrinology*, 131(3): 1261-1269.
- Ohtani, M., Nomoto M., and Kuroda T. (2001). Chronic estrogen treatment replaces striatal degenerative function in ovariectomized rat. *Brain Research*, 900, 165-168.
- Vaglenov, Yakimiev and Chen (1999). Sexual differences in sensitivity to methamphetamine toxicity. *J Neurol Transm Gen Sect, 93*: 67-70.
- Zhou, W., Cunningham, KA., Thomas, ML. (2003). Estrogen Effects on the Hyperactivity Induced by (+)-MDMA and Cocaine in Female Rats. *Behavioral Neuroscience, 117*(3): 84-94.

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NOTES COMMENTS