

One Way Between Participants ANOVA

A. Arranging your data

Click on the 'Variable View' window.

Give your variables names here. Maximum eight characters and no spaces.

Give your variables proper labels here.

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	Group	Numeric	8	2	Group	None	None	8	Right	Scale	Input
2	Rt	Numeric	8	2	Reaction Times	None	None	8	Right	Scale	Input
3											
4											
5											
6											
7											
8											
9											
10											

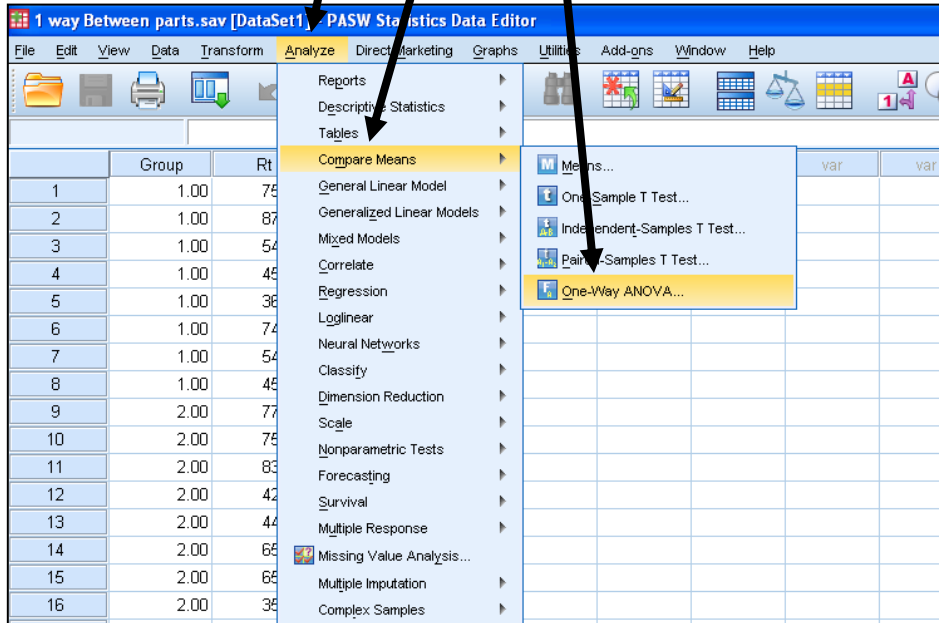
Click on the 'Data View' window.

As this is a between participants design, you need to define the between participants factors. Below it is 1, 2 and 3.

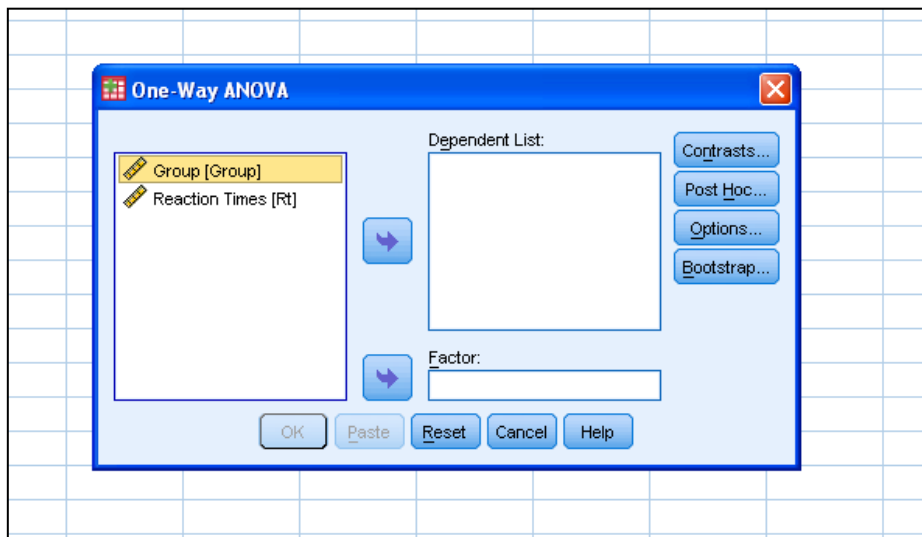
	Group	Rt	var	var	var	var	var
1	1.00	754.00					
2	1.00	874.00					
3	1.00	543.00					
4	1.00	457.00					
5	1.00	367.00					
6	1.00	743.00					
7	1.00	545.00					
8	1.00	455.00					
9	2.00	777.00					
10	2.00	754.00					
11	2.00	832.00					
12	2.00	422.00					
13	2.00	444.00					
14	2.00	655.00					
15	2.00	654.00					
16	2.00	354.00					
17	3.00	243.00					
18	3.00	268.00					
19	3.00	554.00					
20	3.00	532.00					
21	3.00	357.00					
22	3.00	222.00					
23	3.00	254.00					

B. Running the ANOVA

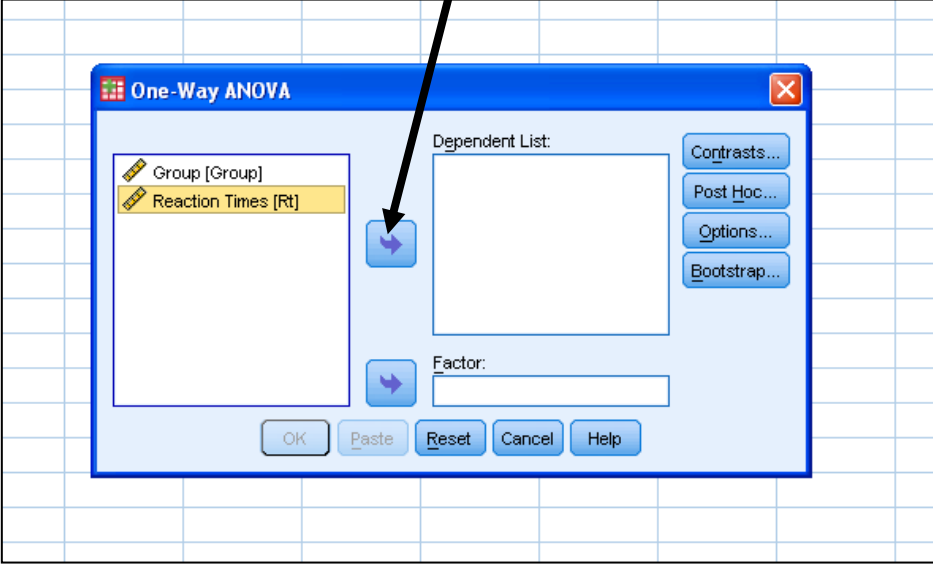
Go to 'Analyze' across the top. 'Compare Means' and 'One-Way ANOVA'



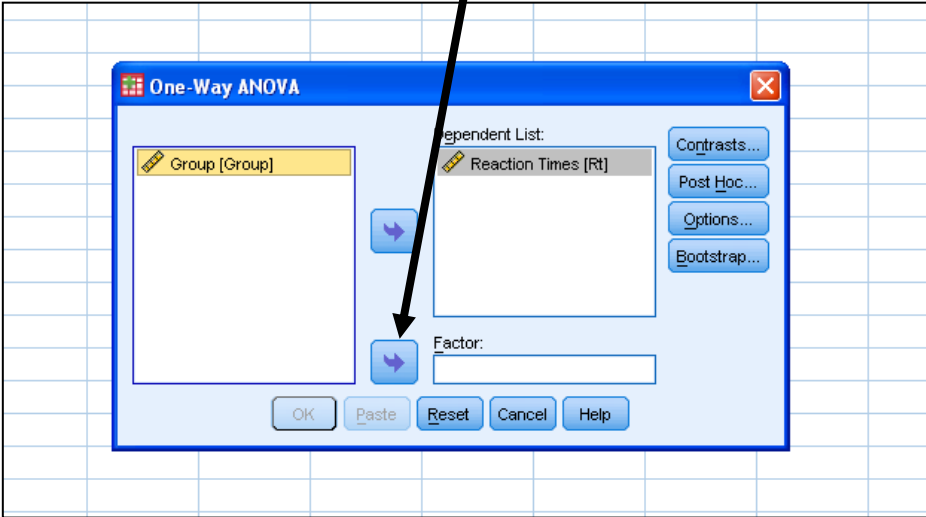
You will then see a box appear which looks like the one below



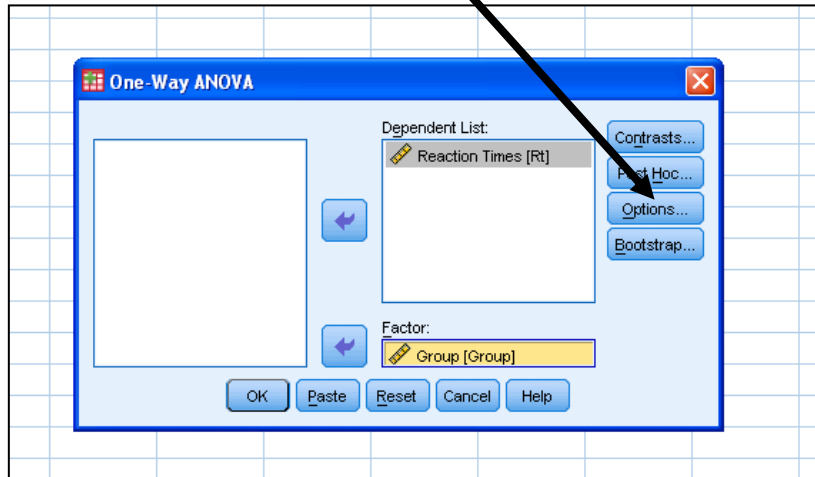
The name of your dependent variable is Reaction Time (RT). Highlight this, and click on the arrow to move it over to the Dependent Variable box.



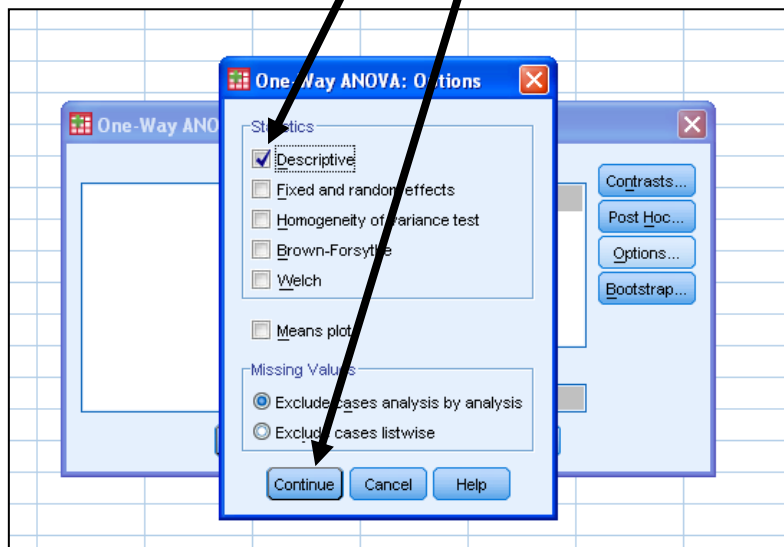
The names of the Factor or IV is Group. Highlight this and click the arrow to move across to 'Factor'



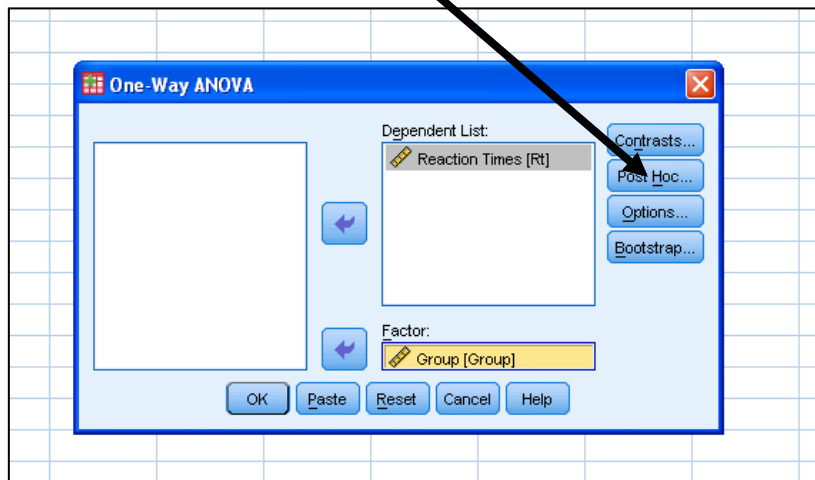
Click the **'Options'** box



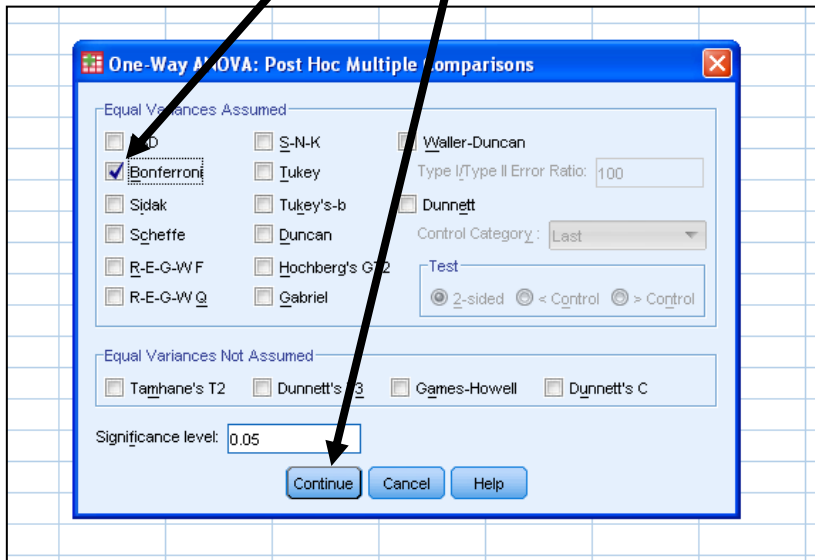
Check the **'Descriptive'** box and click **'Continue'**



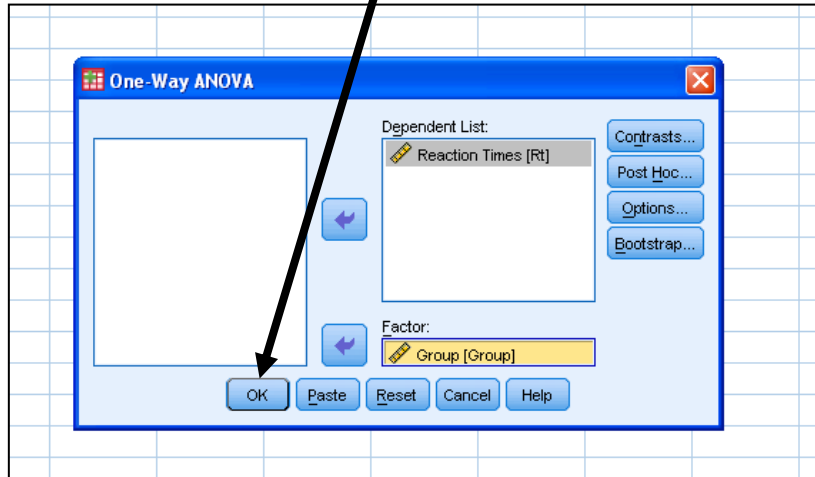
Click the 'Post Hoc'



Check the box for 'Bonferroni' and click on 'Continue'



Back to this screen and click on 'OK'



The Output

On this part of the output, you can see the differences in the means between the groups'

Reaction Times

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	8	592.2500	177.60208	62.79182	443.7709	740.7291	367.00	874.00
2.00	8	611.5000	181.37885	64.12711	459.8635	763.1365	354.00	832.00
3.00	8	348.0000	130.13509	46.00970	239.2043	456.7957	222.00	554.00
Total	24	517.2500	199.44058	40.71064	433.0336	601.4664	222.00	874.00

The next table shows you the results of the ANOVA
Inspect the F value and the sig.

Reaction Times

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	345229.000	2	172614.500	6.364	.007
Within Groups	569631.500	21	27125.310		
Total	914860.500	23			

The final table, gives the results of the post hoc comparisons.
 Inspect the column labelled 'Sig' to determine differences
 between the groups

Post Hoc Tests

Multiple Comparisons

Reaction Times
 Bonferroni

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-19.25000	82.34882	1.000	-233.4681	194.9681
	3.00	244.25000*	82.34882	.022	30.0319	458.4681
2.00	1.00	19.25000	82.34882	1.000	-194.9681	233.4681
	3.00	263.50000*	82.34882	.013	49.2819	477.7181
3.00	1.00	-244.25000*	82.34882	.022	-458.4681	-30.0319
	2.00	-263.50000*	82.34882	.013	-477.7181	-49.2819

*. The mean difference is significant at the 0.05 level.