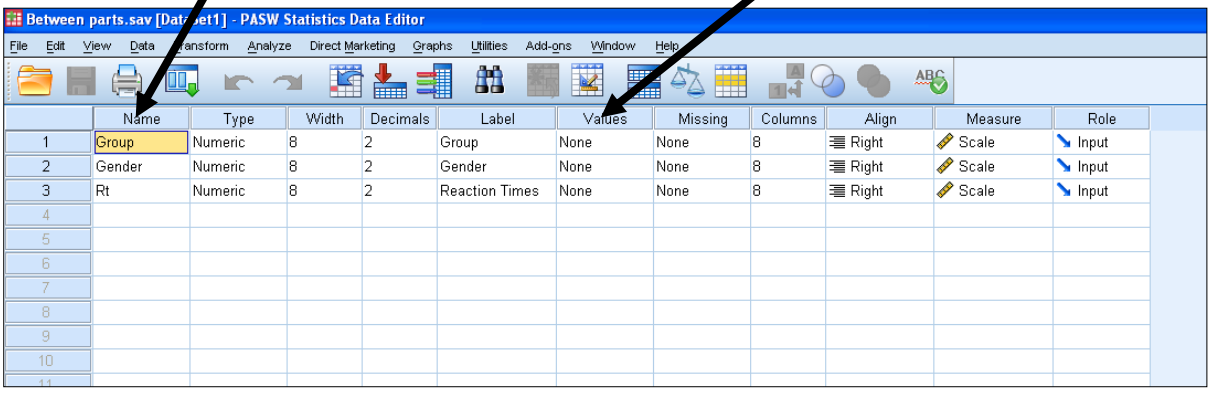
Between Participants ANOVA

A. Arranging your data

Click on the 'Variable View' window.

Give your variables names here. No spaces allowed.

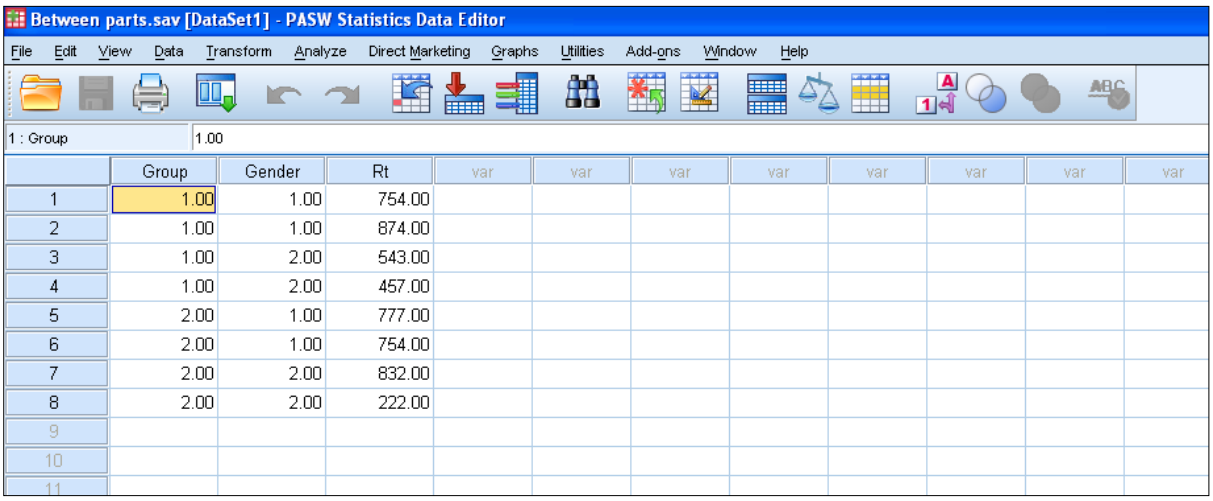
Give your variables values here. For example Gender is 1 male, 2 female.



	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	Group	Numeric	8	2	Group	None	None	8	Right	Scale	Input
2	Gender	Numeric	8	2	Gender	None	None	8	Right	Scale	Input
3	Rt	Numeric	8	2	Reaction Times	None	None	8	Right	Scale	Input

Click on the 'Data View' window.

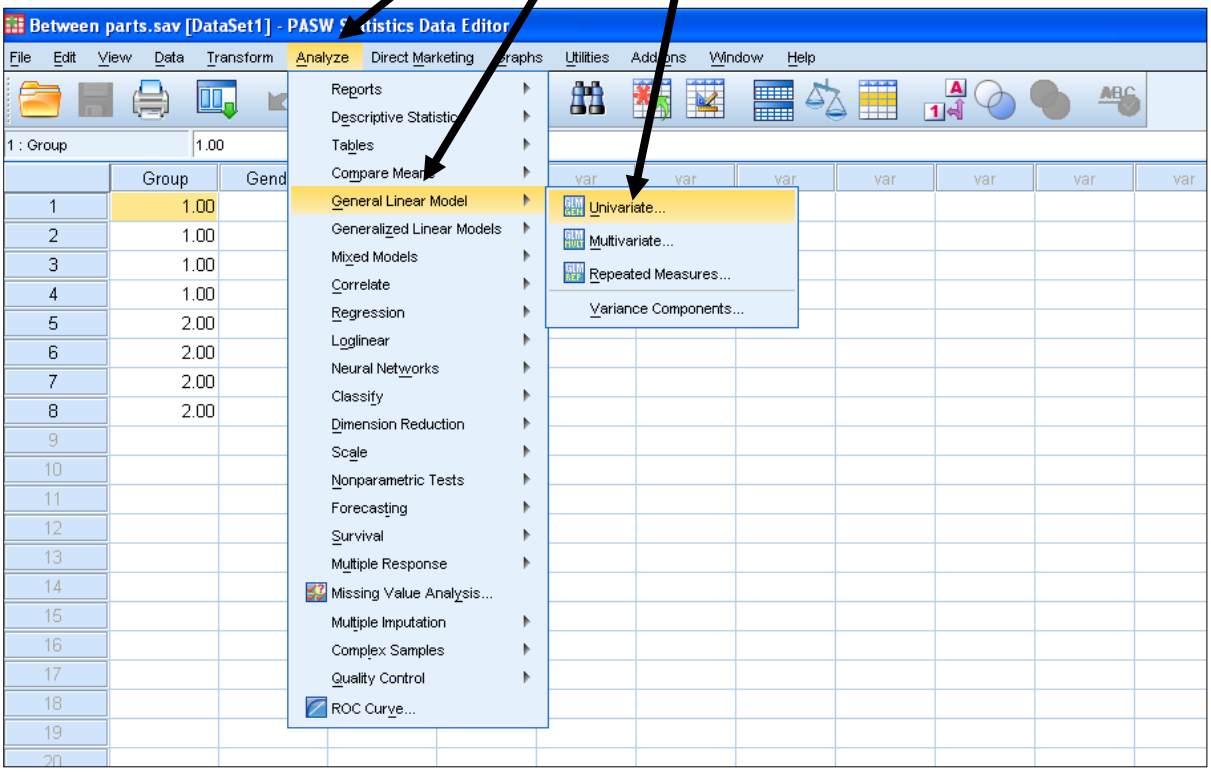
As this is a between participants design, you need to define the between participants factors first. Below it is 1 and 2 for group and also 1 and 2 for gender



	Group	Gender	Rt	var	var	var	var	var	var	var	var
1	1.00	1.00	754.00								
2	1.00	1.00	874.00								
3	1.00	2.00	543.00								
4	1.00	2.00	457.00								
5	2.00	1.00	777.00								
6	2.00	1.00	754.00								
7	2.00	2.00	832.00								
8	2.00	2.00	222.00								

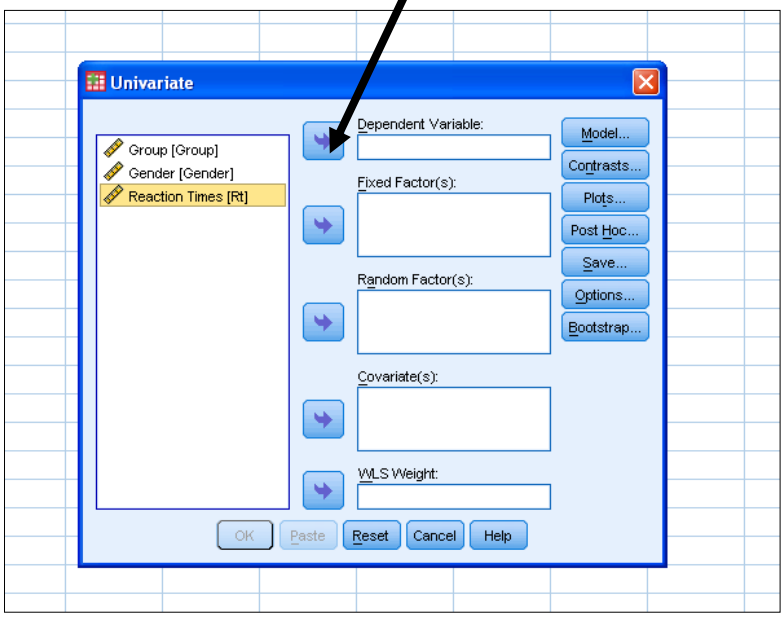
B. Running the ANOVA

Go to **'Analyse'** across the top. **'General Linear Model'** and **'Univariate'**

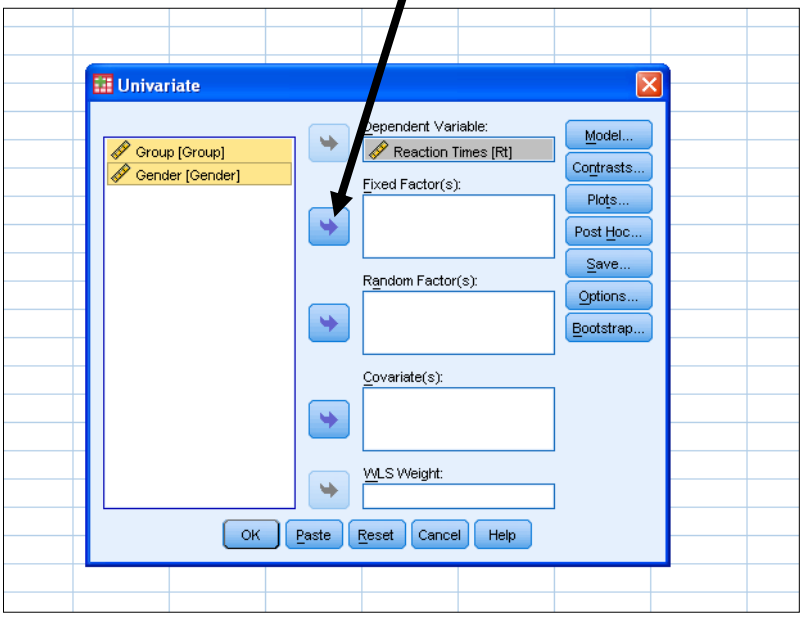


You will then see a box appear which looks like the one below

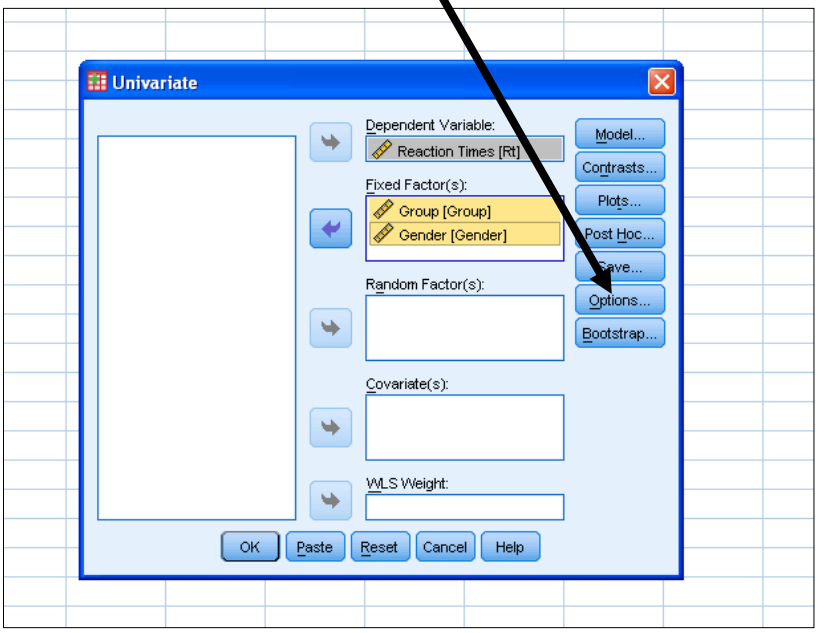
The name of your dependent variable is Reaction Time (RT). Highlight this, and click on the arrow to move it over to the Dependent Variable box.



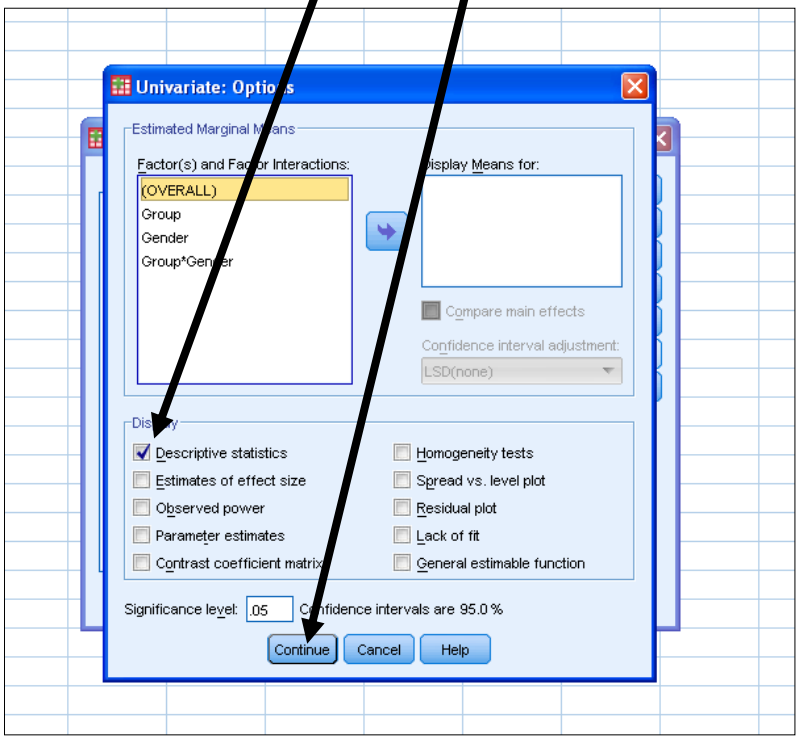
The names of the Fixed Factors or IVs are Group and Gender. Highlight these and click the arrow to move across



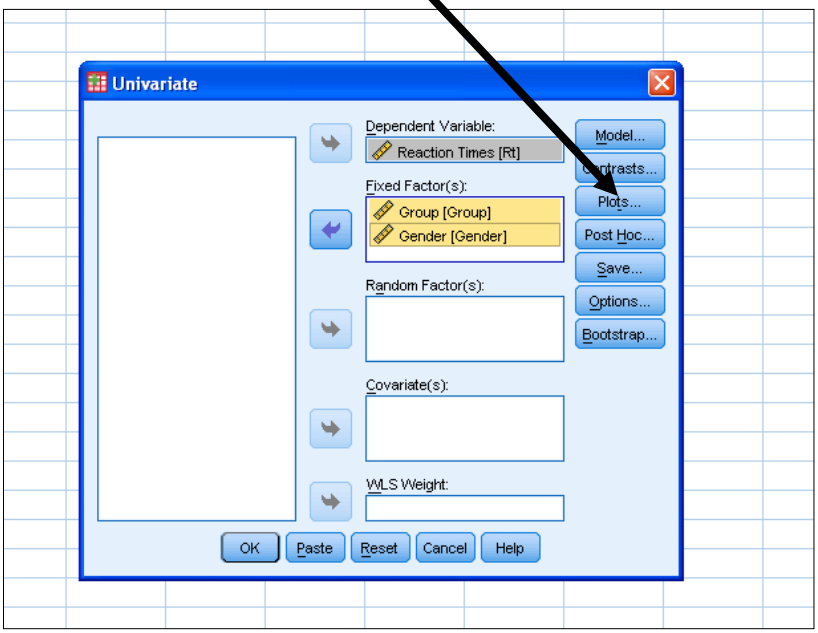
Click the 'Options' box



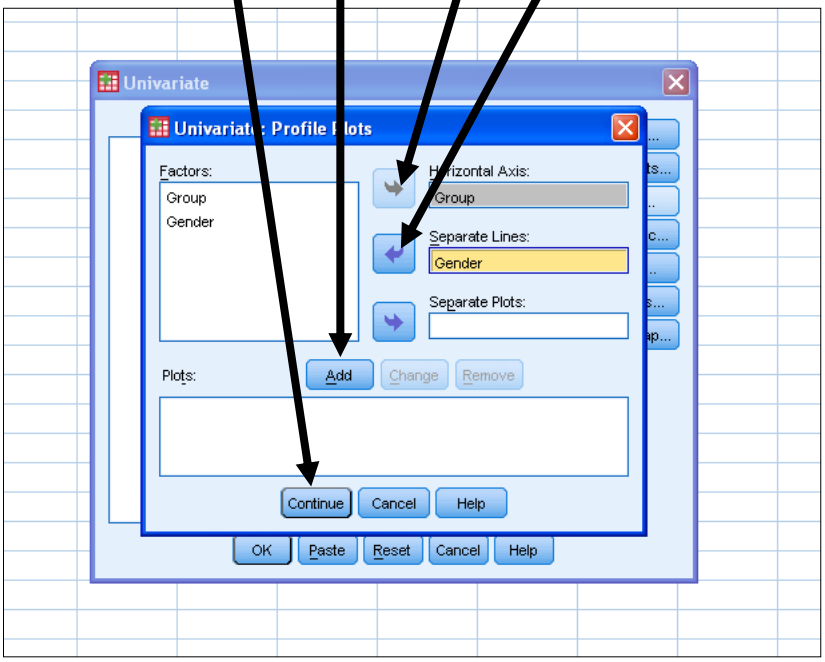
Highlight the variables for which you want the means displayed and move them across with the arrow button. Click 'Continue'



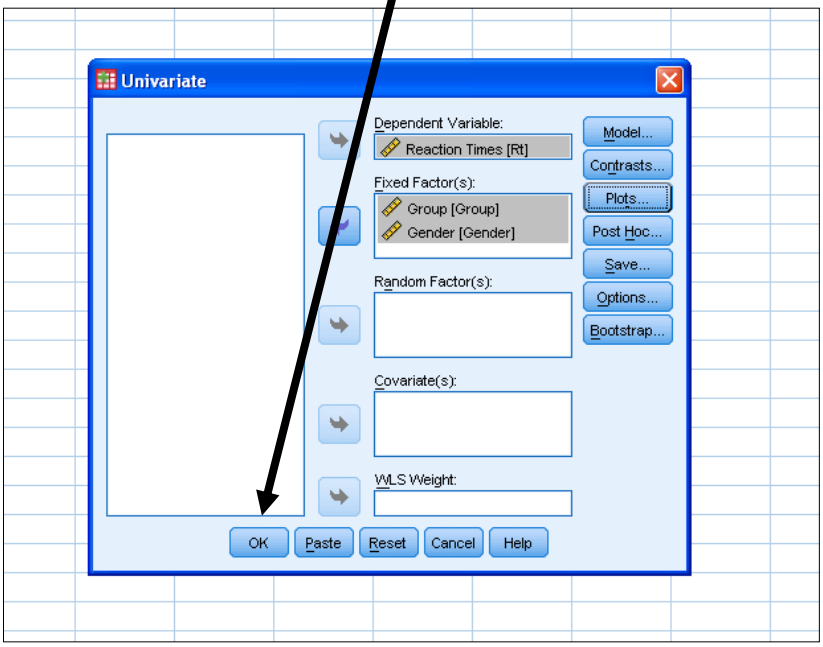
Click the 'Plots' box



Move *Group* to the 'Horizontal Axis' box and *Gender* to the Separate Line' box. Click 'Add' and 'Continue'



Back to this screen and click on 'OK'



The Output

On this part of the output, look at the table of means, labelled 'Descriptive Statistics'

Descriptive Statistics

Dependent Variable:Reaction Times

Group	Gender	Mean	Std. Deviation	N
High	Male	814.0000	84.85281	2
	Female	500.0000	60.81118	2
	Total	657.0000	191.04450	4
Low	Male	765.5000	16.26346	2
	Female	527.0000	431.33514	2
	Total	646.2500	284.72018	4
Total	Male	789.7500	57.20358	4
	Female	513.5000	251.97685	4
	Total	651.6250	224.53822	8

The next table shows you the between subjects effects type) and an interaction (colour*type).

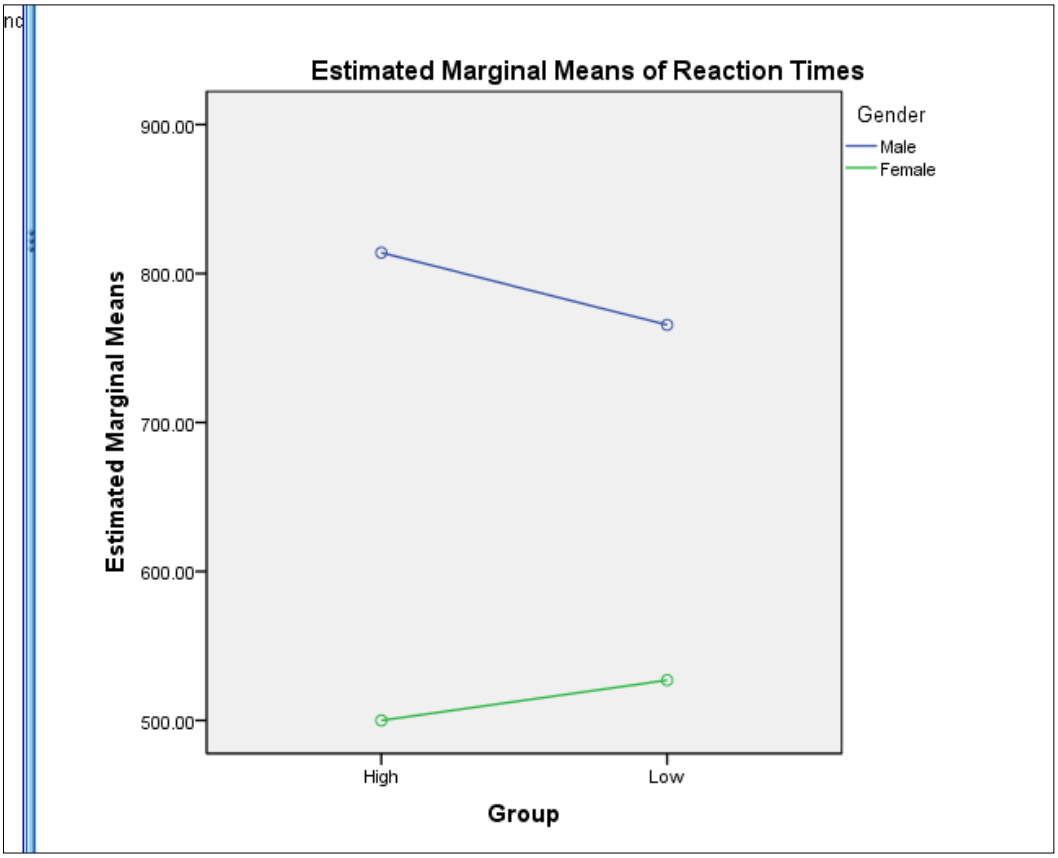
Look for the two main effects, which are group and gender, and the interaction effect

Tests of Between-Subjects Effects

Dependent Variable:Reaction Times

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	155709.375[a]	3	51903.125	1.053	.461
Intercept	3396921.125	1	3396921.125	68.899	.001
Group	231.125	1	231.125	.005	.949
Gender	152628.125	1	152628.125	3.096	.153
Group * Gender	2850.125	1	2850.125	.058	.822
Error	197212.500	4	49303.125		
Total	3749843.000	8			
Corrected Total	352921.875	7			

a. R Squared = .441 (Adjusted R Squared = .022)



At the bottom of the output you should find a plot, which gives a graphical indication of the results