Part 1: Data Management

The Sort Cases Command
Menu: Data→Sort Cases
Using the sample data by following the path as below:
Program Files-IBM-SPSS-Statistics-23-Samples-English-Survey_sample.sav

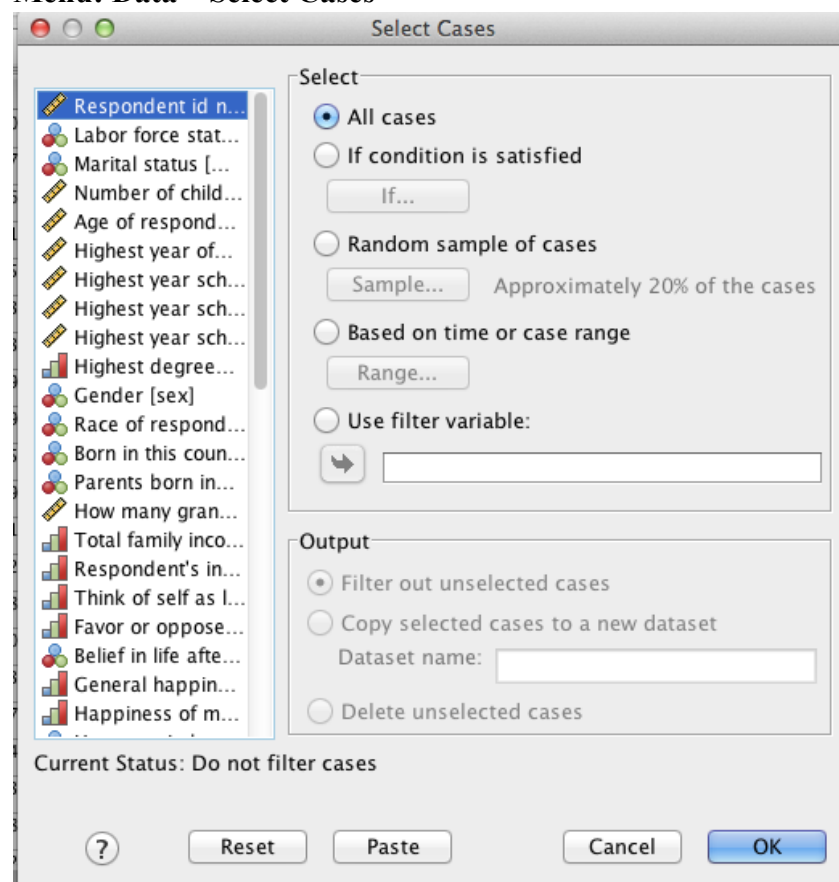You may want to list the respondents by age.

Step by Step:
Select *Age of respondent(age)* from the variables on the left, click the arrow button to put it to **Sort by** box.
You may select **Sort Order**
Click ok

The Select Cases Command

Menu: Data→Select Cases

1. Option 1- randomly selecting cases

Select **Random sample of cases**, click on **Sample**, indicate you want approximately

20% of all cases.

Now look at the Data View of the file, and you will see that many cases are crossed out (approximately 80%).

(You may get the frequency of any of the vairables to find out how many cases are kept.)
To bring back the unselected cases into the analysis, just open the Select Cases window and choose **All cases**.

2. Option 2: Selecting cases that satisfy a condition
    Click on **If condition is satisfied** button, then click on the **If…** button.
Suppose you wish to select only the female respondents. Get the window below:
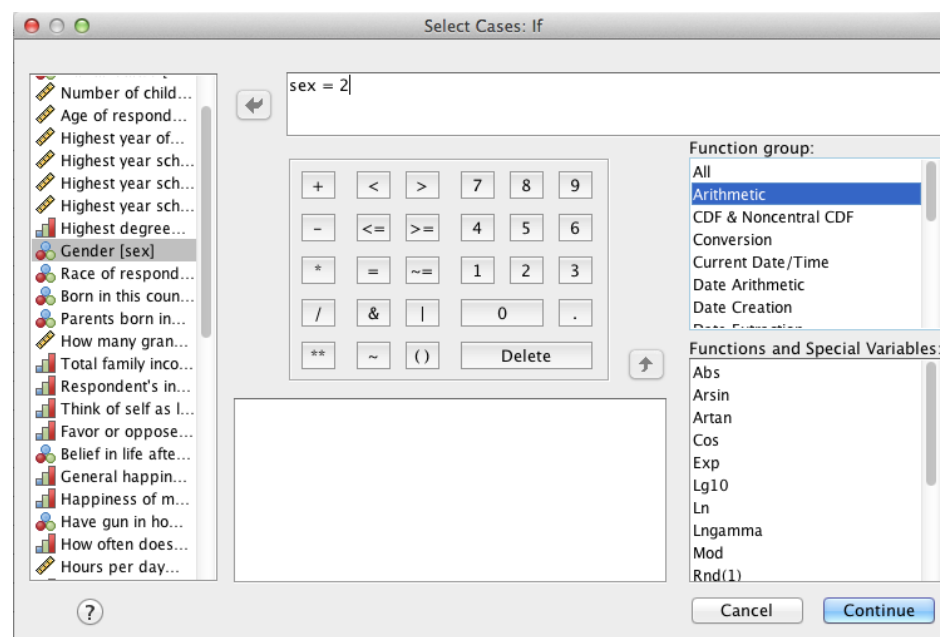
Place the *Gender(sex)* variable in the box on the top, and click on = from the components, and type 2 in order to formulate an expression: sex=2

Click on **Continue** to come back to the last dialogue window and click on **OK**. The cases that meet the condition will be selected.
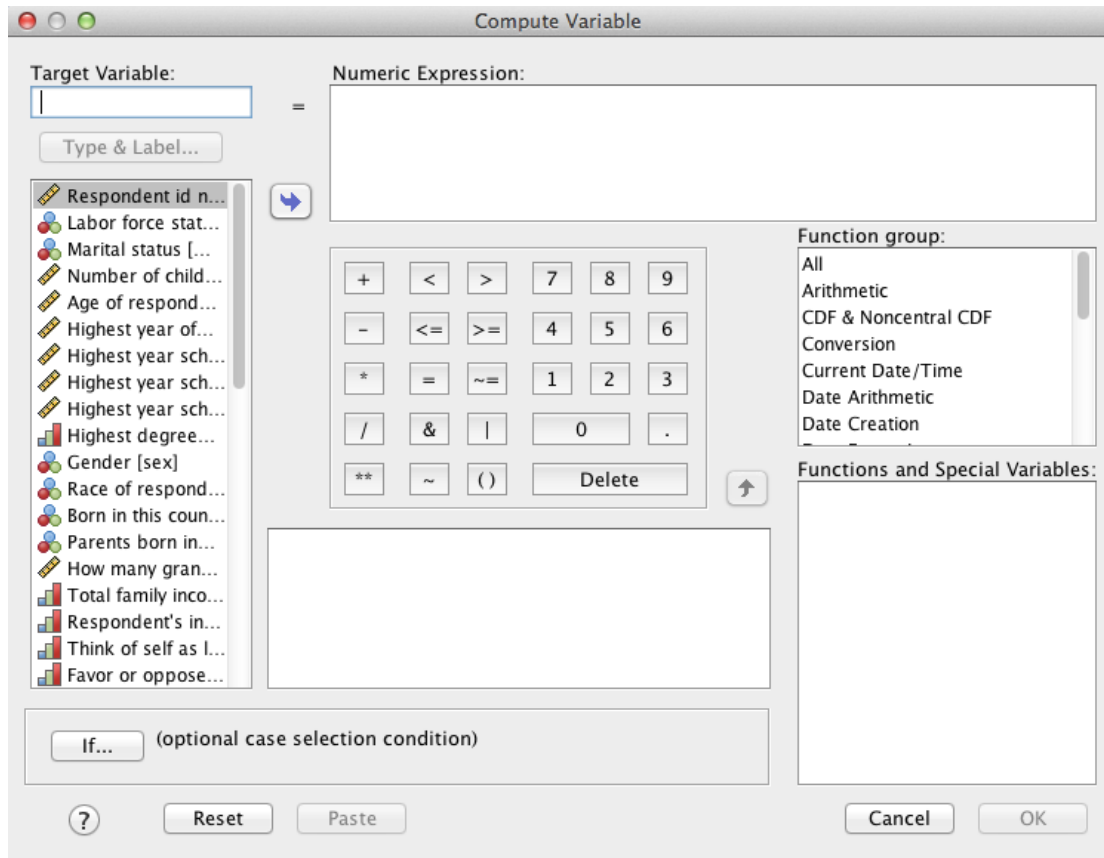

The Compute command
Menu: Transform→Compute Variable

Use the dataset *driving task.sav*
You want to get the average errors for daytime and nighttime task.

Step by step:

Compute Variable

Target Variable:

=

Type & Label...

Respondent id n...
Labor force stat...
Marital status [...
Number of child...
Age of respond...
Highest year of...
Highest year sch...
Highest year sch...
Highest year sch...
Highest degree...
Gender [sex]
Race of respond...
Born in this coun...
Parents born in...
How many gran...
Total family inco...
Respondent's in...
Think of self as l...
Favor or oppose...

Numeric Expression:

+	<	>	7	8	9
-	<=	>=	4	5	6
*	=	~=	1	2	3
/	&	|	0	.
**	~	( )	Delete

Function group:
All
Arithmetic
CDF & Noncentral CDF
Conversion
Current Date/Time
Date Arithmetic
Date Creation

Functions and Special Variables:

If...   (optional case selection condition)

?   Reset   Paste   Cancel   OK

1. In the **Target Variable** box: enter the name for your new variable, e.g. *average*

Click **Type &Label** to assign the label to this variable

2. **Function group** select **All**
Scroll down, select **Mean**, double click to allow it appear on the top box of Numeric Expression: MEAN(?,?)

3. Select *errors in daytime task (Daytime)* from the left variables, double click
Select errors in night-time task (Nighttime) from the left variables, double click, and you will get this:
Target Variable: Numeric Expression:
Average   = MEAN(Daytime,Nighttime)

4. Click **Paste**, in the syntax window you should get the following command:

DATASET ACTIVATE DataSet1.
COMPUTE average=MEAN(Daytime,Nighttime).
EXECUTE.

Now run this command and you will get a new variable *average*.

<u>**The Recode command**</u>
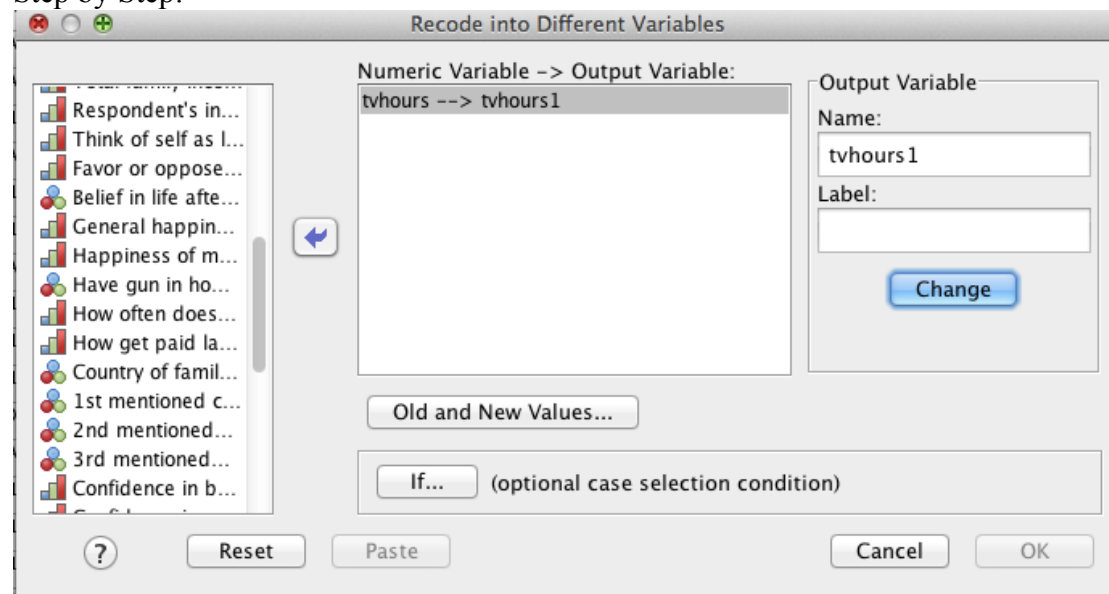**Menu: Transform→ Recode into Different Variables**…

Use the dataset *survey_sample.sav*
You want to group the values of the hours per day watching TV in your sample into two groups:

Old Value	New Value	New label
0,1,2	1	2 hours or less
3 and above	2	3 hours and more

Step by Step:

1. Select the variable *Hours per day watching TV (tvhours)* from the list of variables on the left, and place it into the box **Numeric Variable-> Output Variable**.

2. Type a new name in the **Name** box of Output Variable. We will call it *tvhours1*.

Give it also a Label. Type *Hours per day watching TV into two groups*

Click on Change. The new name will appear next to the old name in the central box.

3. Click on the **Old and New Values button**. This is where you are going to define the three categories you want for your new variable. Get the window as follows:

1) Click on the button **Range, LOWEST through value**, and type 2

2) Type 1 in the Value box, then click the **Add** button. You should now see the phrase Lowest thru 2à2 appearing in the **Old-àNew** box.

3) Click **Range, Value through HIGHEST**, and type 3

4) Type 2 in the Value box, then click the Add button. You should now see the phrase 3 thru Highest --> 2

4. Click on Continue. Got back to the previous dialog box.

5. Click on PASTE. This command created and pasted in the syntax window should be:

DATASET ACTIVATE DataSet1.
RECODE tvhours (Lowest thru 2=1) (3 thru Highest=2) INTO tvhour2.
EXECUTE.

Run this command. You have now created the new variable *tvhours1*.

This new variable does not have value labels yet. Nothing tells you what 1, 2 stand for. To add value labels, click on Variable View of the data Editor, and scroll down to the end of the list of variables. Your new variable should now be listed. Click on the righ-hand side of the cell corresponding to the values of *tvhours1*, the dialog box now appears. Type in the value labels.
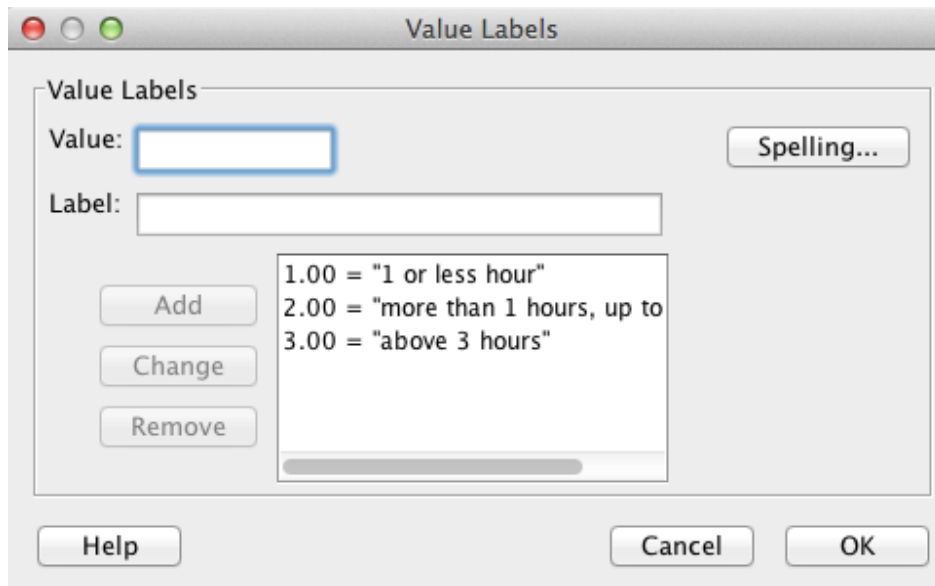
The Aggregate Command

Menu: Data- Aggregate

You want to know the average hours of watching TV of the families with different levels of family income.

Step by Step:

Select *Total family income*—click the arrow it to put it to **Break Variable**
Select *Hours per day watching TV*—click the arrow to put it to **Summaries of Variables**
The default is to calculate the Mean, but You can change it by clicking Function
Select "create a new dataset containing only the aggregated variables'

Click OK

Exercise 1:

Program Files-IBM-SPSS-Statistics-23-Samples-English-Survey_sample.sav
Please create a new variable by recoding the variable *Think of self as a liberal or conservative (polviews)*. The old variable has 7 categories (1=Extremely liberal, 2=liberal, 3=slightly liberal, 4=moderate, 5=slightly conservative, 6=conservative, 7=extremely conservative) except three missing values (0,8,9). You want to recode the 7 categories into three: 1=liberal, 2=moderate, 3=conservative.

Part 2: STATISTICAL TESTS

Independent T test

1. Click Analyze > Compare Means > Independent-Samples T Test...
2. You will be presented with the Independent-Samples T Test dialogue box, as shown below:
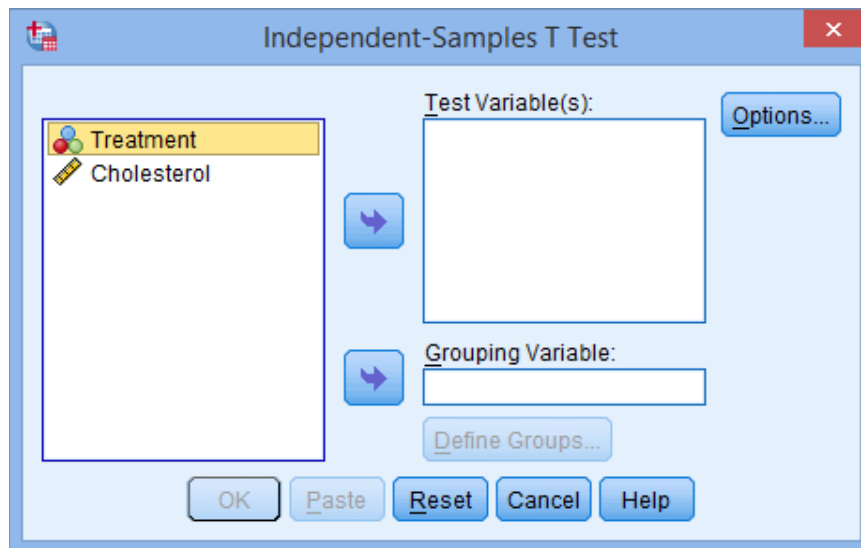
3. Transfer the dependent variable into the Test Variable(s): box, and transfer the independent variable, into the Grouping Variable: box, by highlighting the relevant variables and pressing the ➡ buttons.

4. You then need to define the groups. Click on the Define Groups... button. You will be presented with the Define Groups dialogue box, as shown below:

5. If you need to change the confidence level limits or change how to exclude cases, click the Options... button.

6. Click the OK button.

Paired Sample T Test

1. Click Analyze > Compare Means > Paired-Samples T Test... on the top menu.

2. You will be presented with the Paired-Samples T Test dialogue box, as shown below:
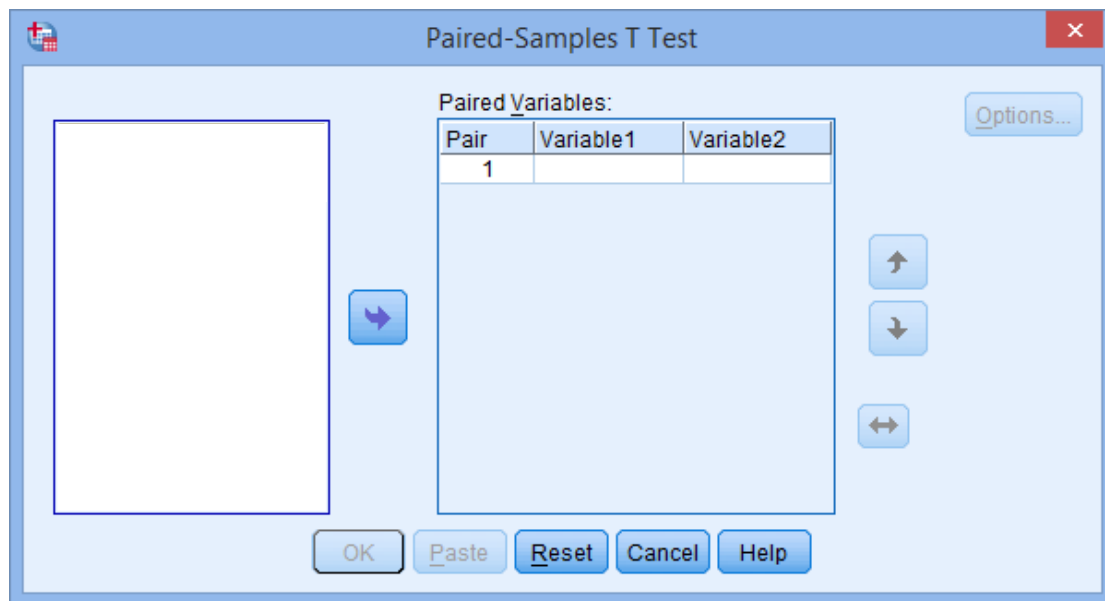
3. Transfer the variables into the Paired Variables: box. There are two ways to do this: (a) click on both variables whilst holding down the shift key (which highlights them) and then pressing the ⬇ button; or (b) drag-and-drop each variable separately into the boxes. If you are using older versions of SPSS Statistics, you will need to transfer the variables using the former method.
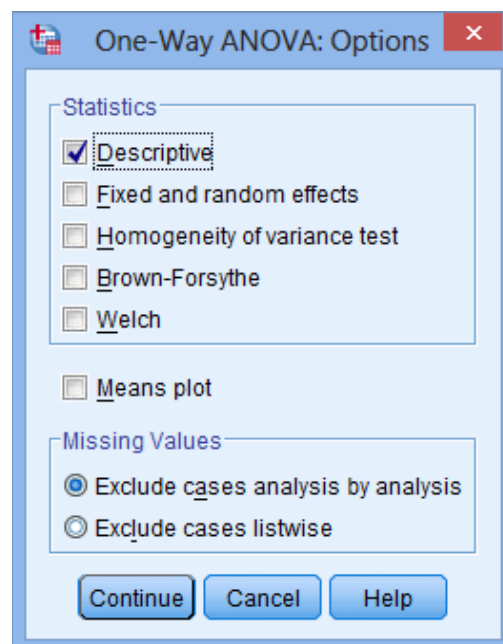
4. Click the OK button.

One way ANOVA test

1. Click Analyze > Compare Means > One-Way ANOVA... on the top menu as shown below.

2. Transfer the dependent variable into the Dependent List: box and the independent variable into the Factor: box using the appropriate ➡ buttons (or drag-and-drop the variables into the boxes)

3. Click the Post Hoc... button. Tick the Tukey checkbox as shown below:
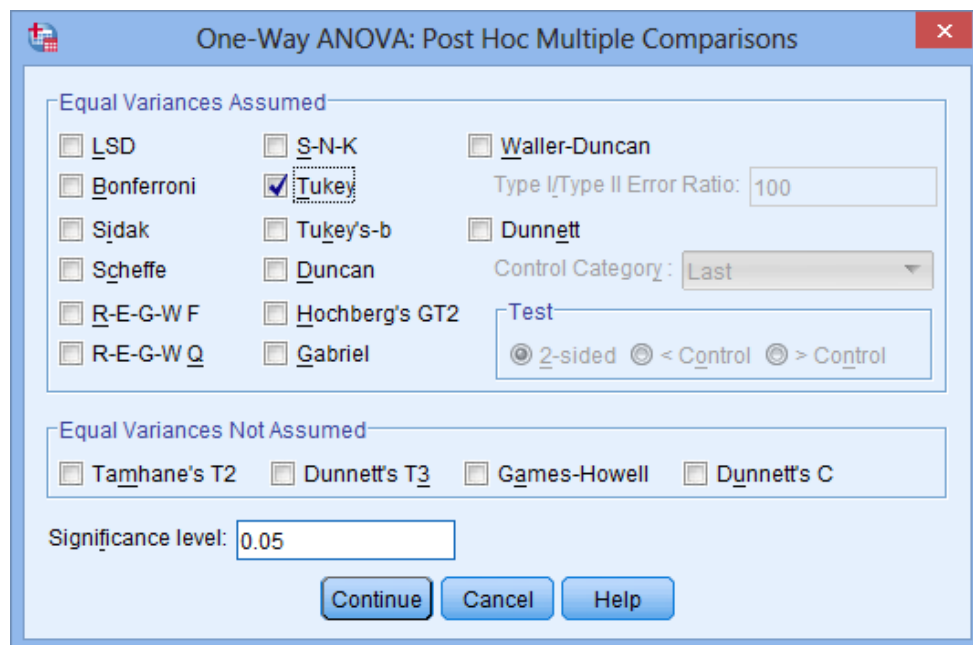
4. Click the **Options...** button. Tick the Descriptive checkbox in the –Statistics– area, as shown below:
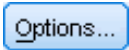

5. Click the **OK** button.

Correlation

1.   Click Analyze > Correlate > Bivariate...

2. Transfer the variables into the Variables: box by dragging-and-dropping or by clicking the

 button.

3. Make sure that the Pearson tickbox is checked under the -Correlation Coefficients- area (although it is selected by default in SPSS Statistics).
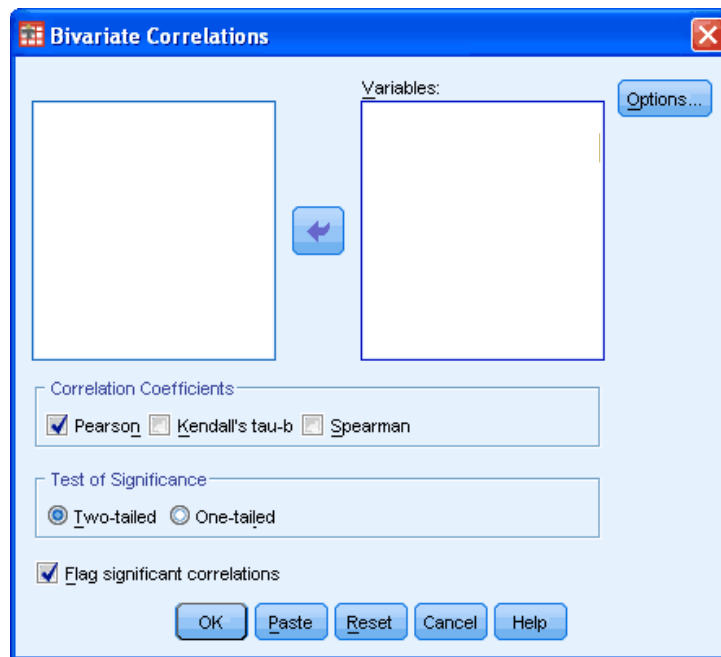
4. Click the Options... button. If you wish to generate some descriptives, you can do it here by clicking on the relevant tickbox under the -Statistics- area.

5. Click the OK button.

Linear Regression

1.   Click Analyze > Regression > Linear... on the top menu.

2. Transfer the independent variable into the Independent(s): box and the dependent variable into the Dependent: box. You can do this by either drag-and-dropping the variables or by

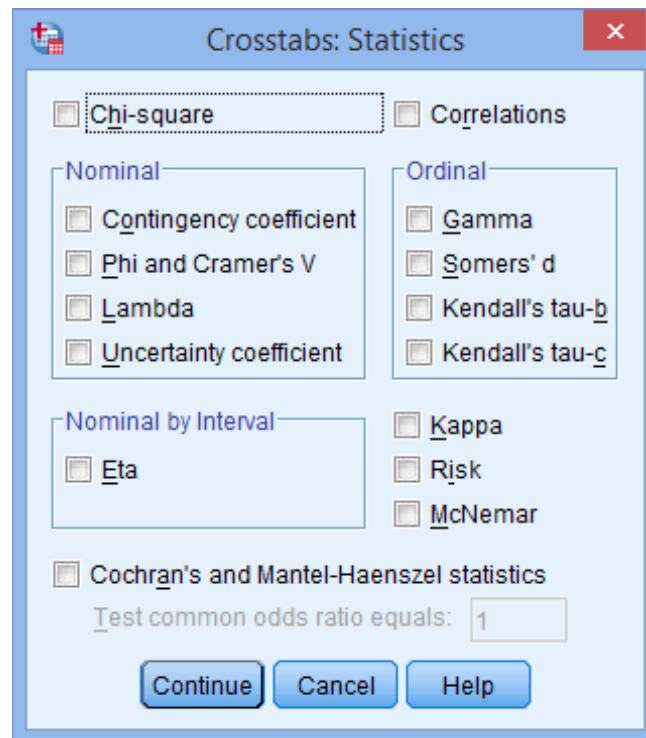using the appropriate buttons. You will end up with the following screen:
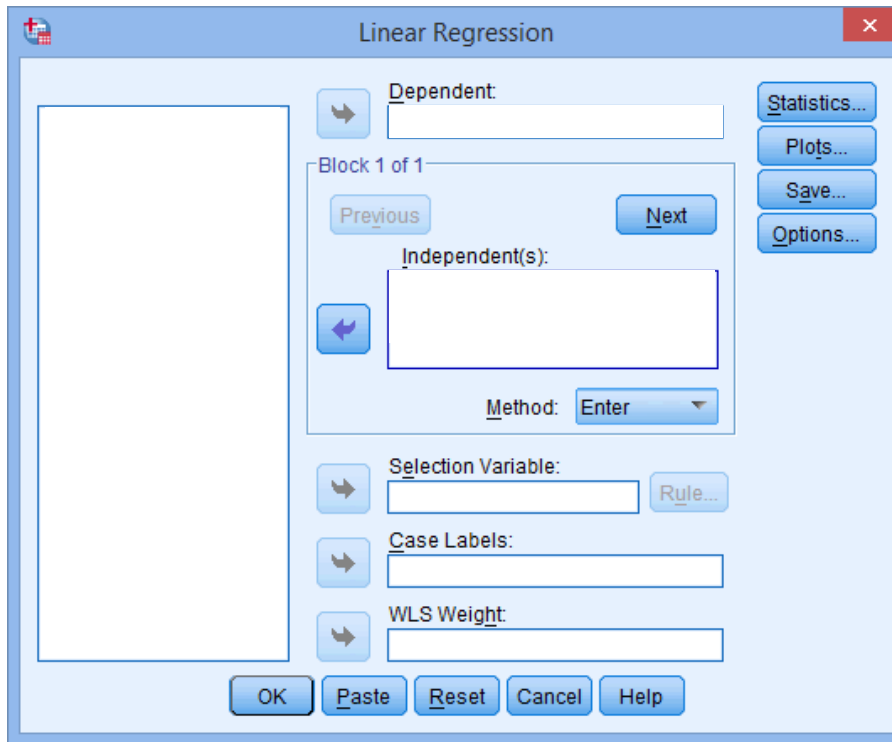
3. Click the **OK** button. This will generate the results.

Crosstab

1. Click Analyze > Descriptives Statistics > Crosstabs...
2. Transfer one of the variables into the Row(s): box and the other variable into the Column(s): box. You can either: (1) highlight the variable with your mouse and then use the relevant buttons to transfer the variables; or (2) drag-and-drop the variables. How do you know which variable goes in the row or column box? There is no right or wrong way. It will depend on how you want to present your data.
If you want to display clustered bar charts (recommended), make sure that Display clustered bar charts checkbox is ticked.

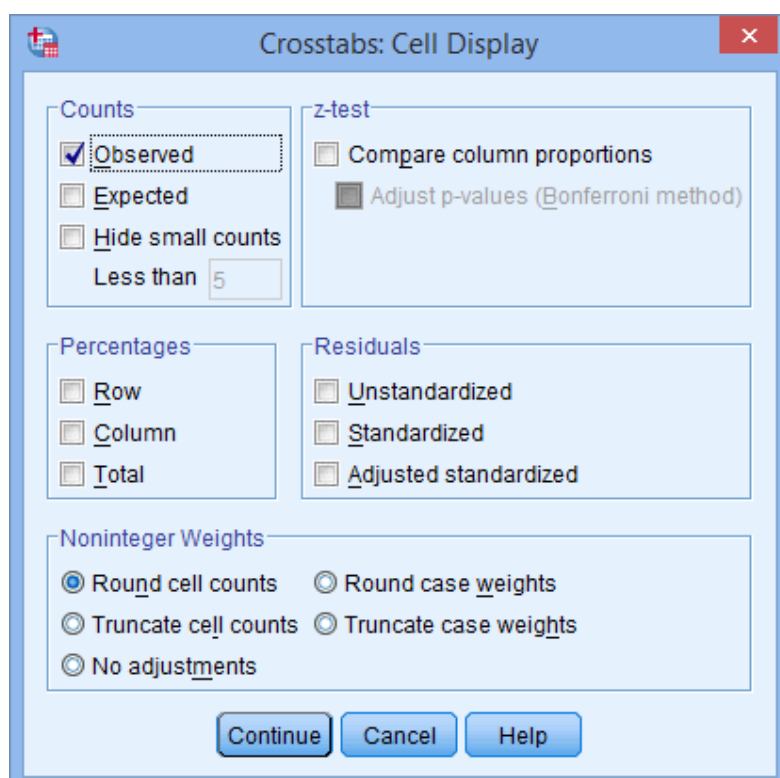3. Click on the [Statistics...] button. You will be presented with the following Crosstabs: Statistics dialogue box:

4. Select the Chi-square and Phi and Cramer's V options.

5. Click the [Cells...] button. You will be presented with the following Crosstabs: Cell Display dialogue box:

6. Select Observed from the –Counts– area, and Row, Column and Total from the –Percentages– area,

7. Click the OK button to generate your output.

2016 SPSS Workshop #2 Resources

	Categories	Questions	Resources
1	SPSS Functionalities	I want to get tutorials on the general features of SPSS	• SPSS Statistics Essential Training - Tutorial via Lynda.com. This is a subscription site, you should have access via VPL (Vancouver Public Library) if you have a library card.
			http://calcnet.mth.cmich.edu/org/spss/toc.htm- SPSS On-Line Training Workshop Central Michigan U.
			http://www.statisticshowto.com/spss-how-to-index/- Statistics How to
2	S P S S Exercises	Where can I find more exercises on SPSS in order to master the functionalities?	www.pearsonhighered.com/george. - Pearson
3	SPSS case studies	Where can I find examples of how to create statistical analysis and how to interpreted the results?	SPSS->Help->Case Studies
4	Statistics relevant to SPSS	• What statistical analyses should I run? • What are the prerequisite of running a criteria? • How to interpret my output?	• http://www.ats.ucla.edu/stat/spss/whatstat/whatstat.htm#1sampt - UCLA • http://www.cbgs.k12.va.us/cbgs-document/research/Stats%20For%20Dummies.pdf - Statistical testing basic guide) • http://www.biostathandbook.com/testchoice.html • http://bama.ua.edu/~jleeper/627/choosestat.html- Table of statistical test
			SPSS Software ->Help-> Statistics Coach
5	Research methods	I want to understand the meaning of a variety of statistical analyses, and the links between the analysis and the types of variables.	Bryman, Alan. Social research methods. Oxford university press, 2012. Chapter 15 Quantitative analysis

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Outside Resources for learning SPSS
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UBC's resources for statistical consulting:

If you have questions about statistical analysis methodology, please visit the Department of Statistics' Statistical Consulting and Research Laboratory (SCARL) http://www.stat.ubc.ca/SCARL/ website for information.