

Introduction to SPSS 16.0

Faiez Mossa

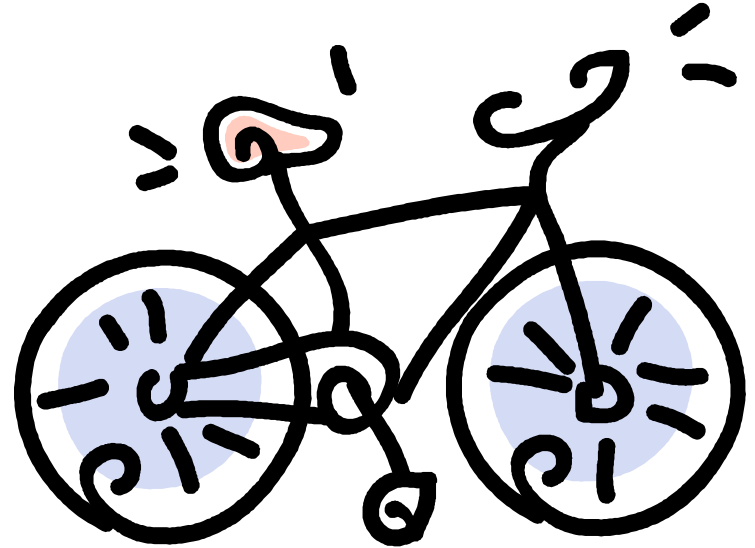
2nd Class

Outline

- Review of Concepts (stats and scales)
- Data entry (the workspace and labels)
 - By hand
 - Import Excel
- Running an analysis- frequency, central tendency, correlation

Types of Variables

- What are variables you would consider in buying a second hand bike?
 - Brand (Trek, Raleigh)
 - Type (road, mountain, racer)
 - Components (Shimano, no name)
 - Age
 - Condition (Excellent, good, poor)
 - Price
 - Frame size
 - Number of gears



Types of Scales

- Nominal- objects or people are categorized according to some criterion (gender, job category)
- Ordinal- Categories which are ranked according to characteristics (income-low, moderate, high)
- Interval- contain equal distance between units of measure- but no zero (calendar years, temperature)
- Ratio- has an absolute zero and consistent intervals (distance, weight)

Parametric vs Non-parametric

- Parametric stats are more powerful than non-parametric stats- for real numbers- T test
- Non-parametric stats are not as powerful but good for category variables - Mann-Whitney U (likert)

The Workspace

Variables

Cases

Value labels

SPSS Data Editor [DataSet1] - SPSS Data Editor

File Edit View Data Transform Analyze Graphs Utilities Add-ons Window Help

weight mens fast birge vomit purge hyper

1	1	1	1	4	4	4	1
2	1	1	1	4	4	4	2
3	1	1	1	4	4	4	3
4	1	1	1	4	4	4	2
5	3	1	1	4	4	4	2
6	1	1	1	4	4	4	2
7	1	1	1	4	4	4	2
8	1	1	1	4	4	4	3
9	1	1	1	4	4	4	2
10	1	1	1	4	4	4	2
11	1	1	1	4	4	4	1
12	1	1	1	4	4	4	1
13	1	1	1	4	4	4	2
14	1	1	1	4	4	4	2
15	1	1	1	4	4	4	2
16	1	1	1	4	4	4	3
17	2	1	2	4	4	4	3
18	1	1	1	4	4	4	2
19	1	1	1	4	4	4	3
20	1	1	1	4	4	4	2
21	1	1	1	4	4	4	2
22	1	1	2	4	4	4	2
23	1	1	2	4	4	4	2
24	1	1	1	4	4	4	2
25	1	1	1	4	4	4	2
26	1	1	2	4	4	4	3

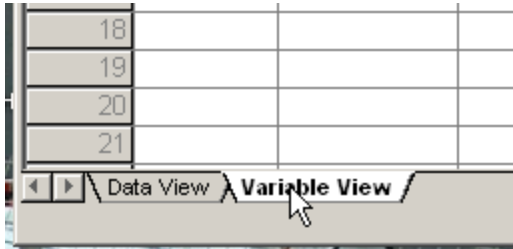
Data View / Variable View /

SPSS Processor is ready

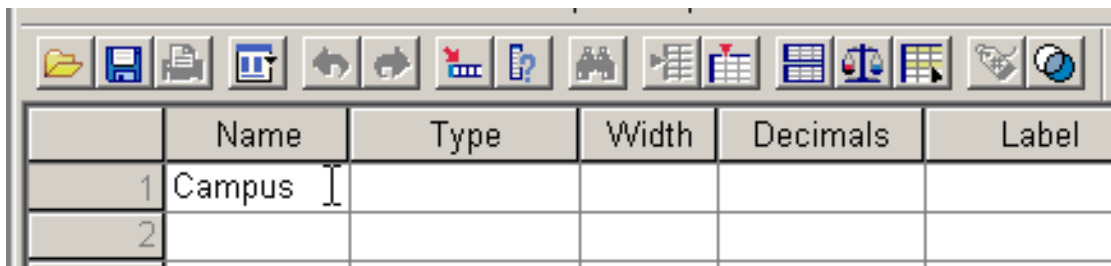
Toggle between
Data and Variable
Views

Data Entry (by hand)

1. Click Variable View



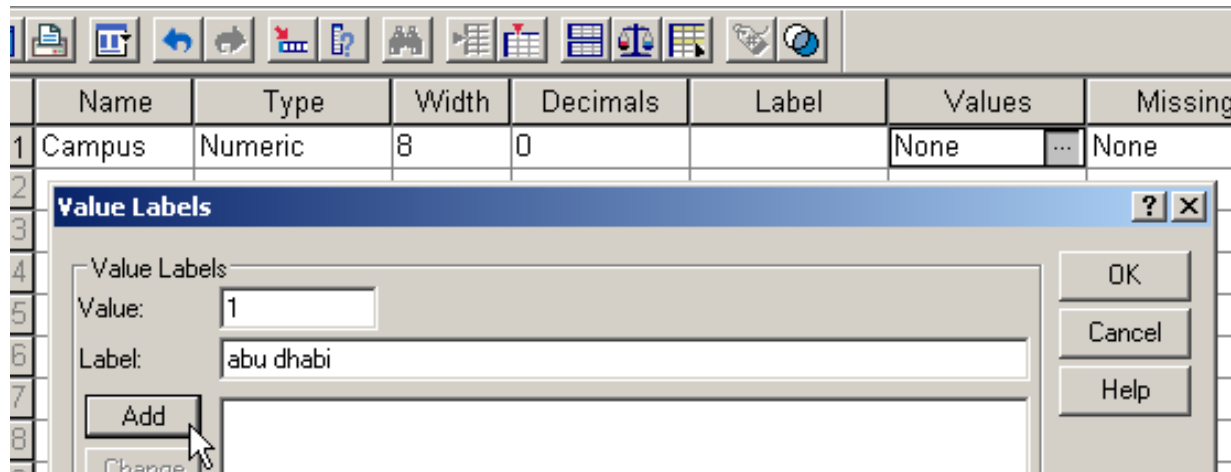
2. Click the Row 1, Name cell and type Campus (no spaces allowed in name)

A screenshot of the SPSS Variable View table. The table has six columns: Name, Type, Width, Decimals, and Label. The first row is selected, and the text 'Campus' is entered in the Name cell. The second row is empty.

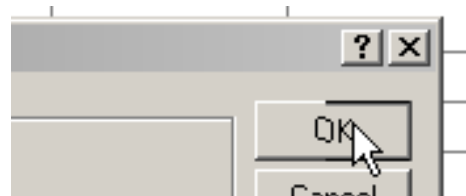
	Name	Type	Width	Decimals	Label
1	Campus				
2					

Data Entry (by hand)

3. Click the Row 1, Values cell and type 1 for the value and abu dhabi for the label- click Add

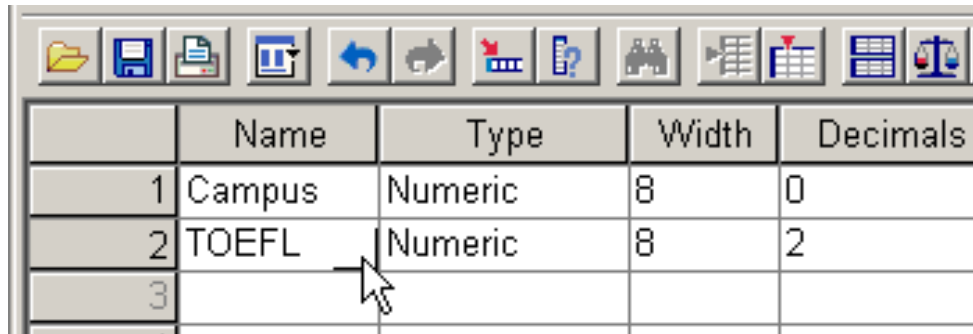


4. Type 2 for the value and dubai for the label- click Add and then OK



Data Entry (by hand)

5. Click the Row 2, Name cell and type TOEFL



The screenshot shows a data entry window with a toolbar at the top containing icons for file operations, navigation, and data manipulation. Below the toolbar is a table with the following structure:

	Name	Type	Width	Decimals
1	Campus	Numeric	8	0
2	TOEFL	Numeric	8	2
3				

A mouse cursor is pointing at the 'Name' cell in Row 2, which contains the text 'TOEFL'.

6. Click the Row 2, Label cell and type Paper based TOEFL Scores

Decimals	Label	Values	Missing
0		{1, abu dhabi}..	None
2	Paper based TOEFL Scores	None	None

Data Entry (by hand)

7. Click the Row 3, Name cell and type IELTS

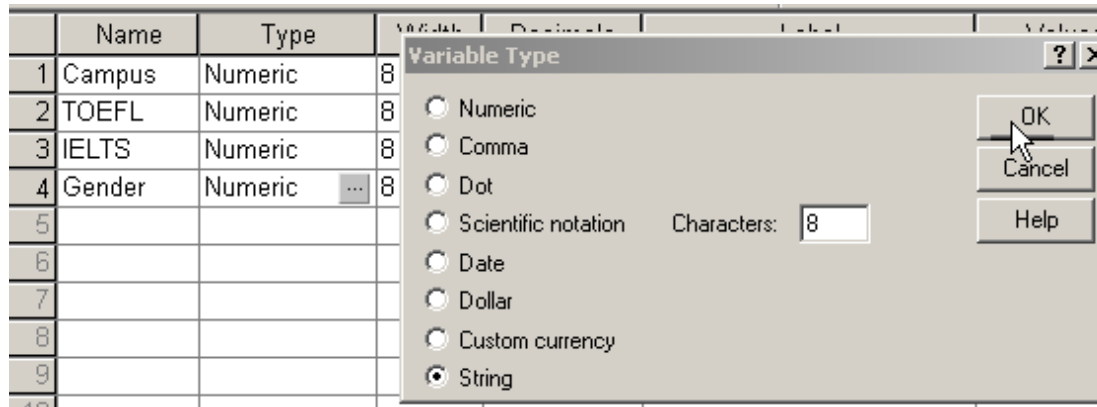
2	TOEFL	Numeric	8
3	IELTS	Numeric	8
4			

8. Click the Row 4, Name cell and type Gender

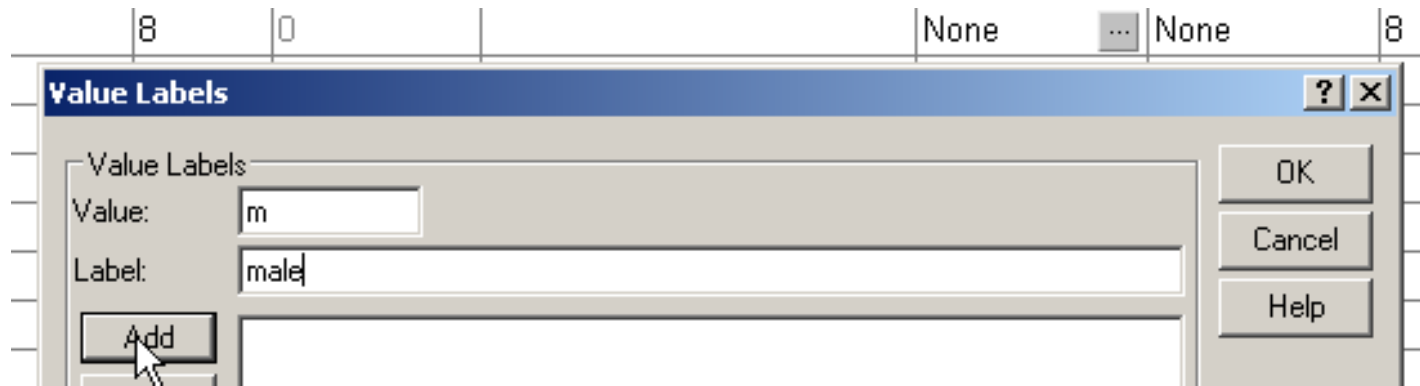
3	IELTS	Numeric	8
4	Gender	Numeric	8
5			

Data Entry (by hand)

9. Click the Row 4, Type cell and click String and click OK

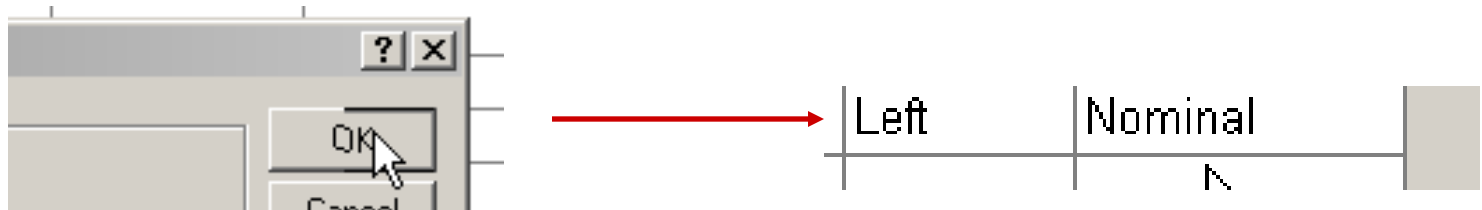


10. Click the Row 4, Values cell and type m for the value and male for the label- click Add

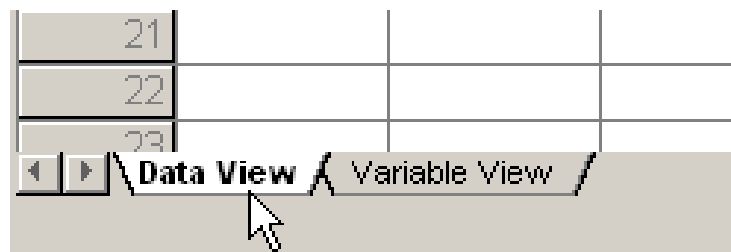


Data Entry (by hand)

11. Type f for the value and female for the label- click Add and then OK (notice the measure is now nominal)



12. Click Data View in the bottom left corner to start entering the data



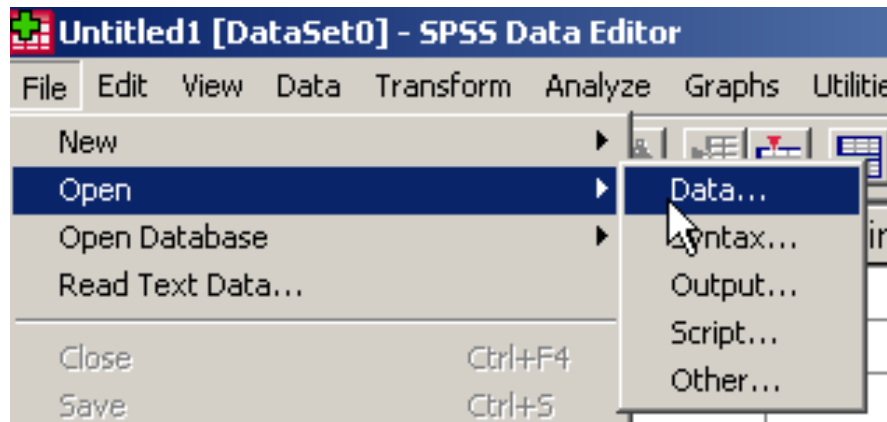
Data Entry (by hand)

13. Click on the cells and enter the data (either type numbers or select from the dropdown menu)

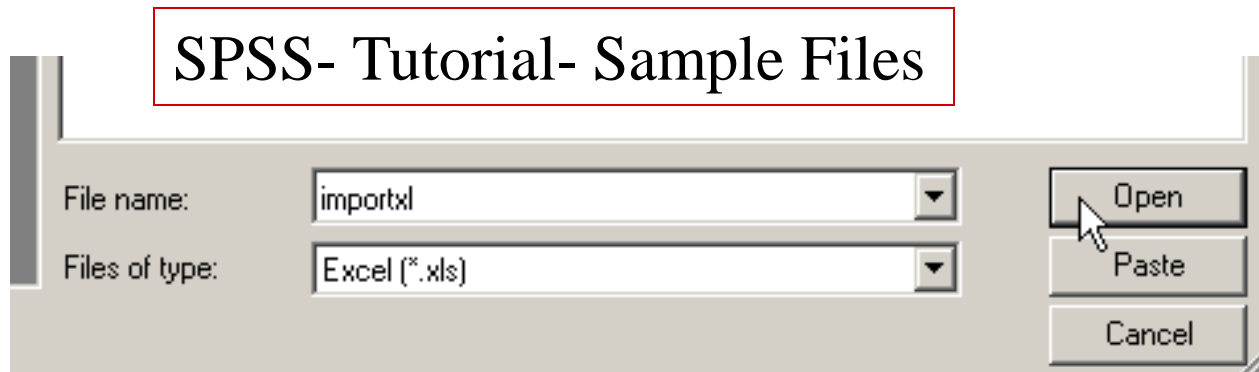
	Campus	TOEFL	IELTS	Gender	
1	abu dhabi	502.00	5.00	male	
2	dubai	500.00	5.00	male	
3	dubai	388.00	4.00	male	
4	abu dhabi	433.00	4.50	female	
5	dubai	433.00	4.50	male	
6	dubai	567.00	7.00	female	
7	abu dhabi	600.00	7.00	female	

Data Entry (import from Excel)

14. Click Open- Data...

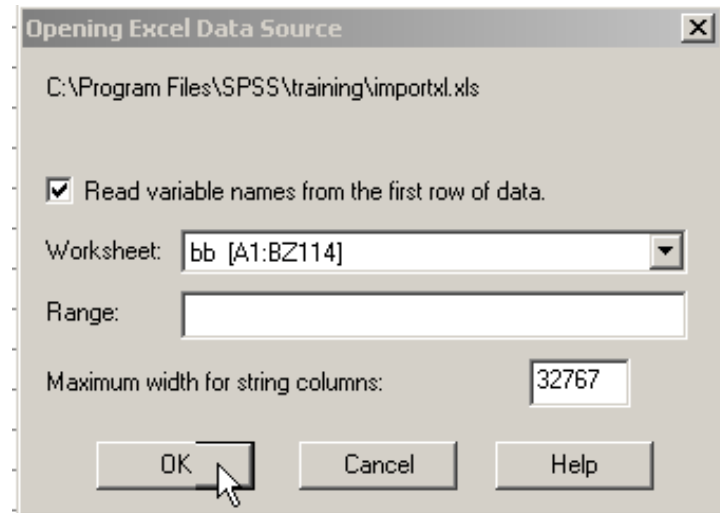


15. Change Files of type to Excel, then browse and open the file.



Data Entry (import from Excel)

16. Select the worksheet, the range (if desired), and if to read variable names- click OK

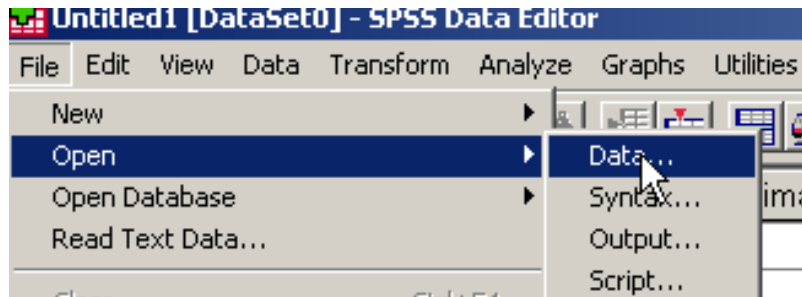


The data and variable names will appear

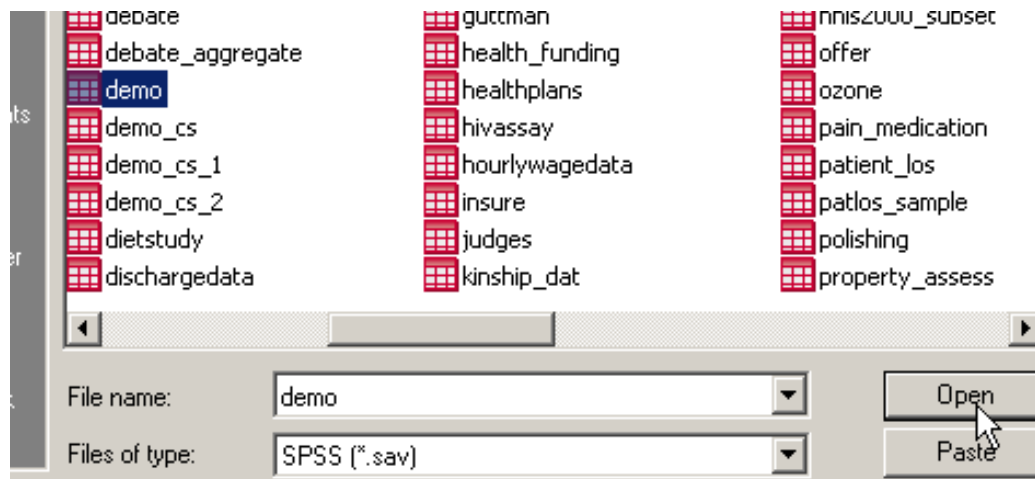
	Campus	Experience	Major	V4	V5
1	1	2	1	1	6
2	1	1	.	.	6
3	1	6	3	2	9
4	1	4	2	2	0
5	1	1	4	1	9
6	1	5	1	1	0
7	1	4	2	2	2
8	2	4	3	1	1

Running Analyses

17. With SPSS open, select file- Open- Data

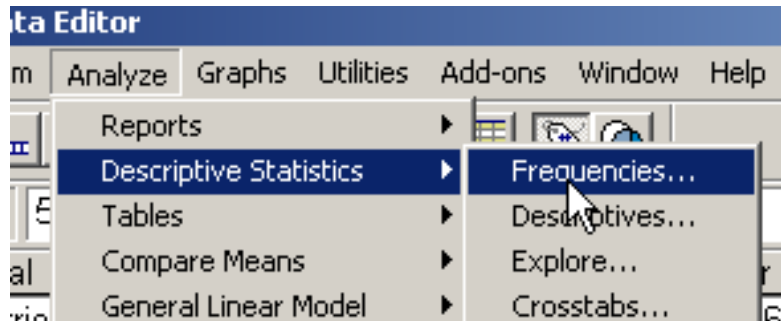


18. Navigate to SPSS- Tutorial- sample_files- select demo, click Open

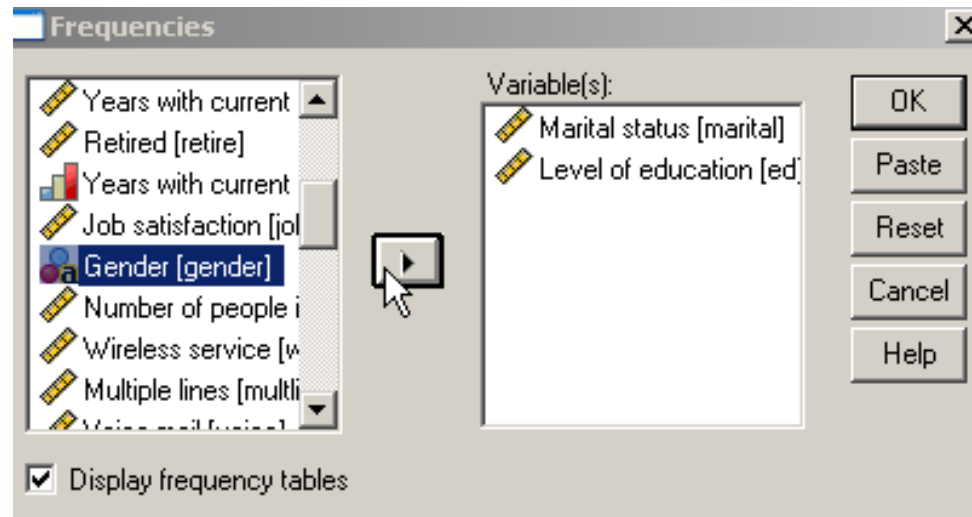


Running Analyses (Frequency)

19. Select Analyze- Descriptive Stats- Frequencies

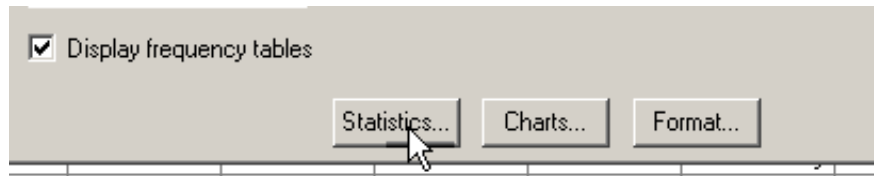


20. Select the desired variables and click the arrow to move them to the right side

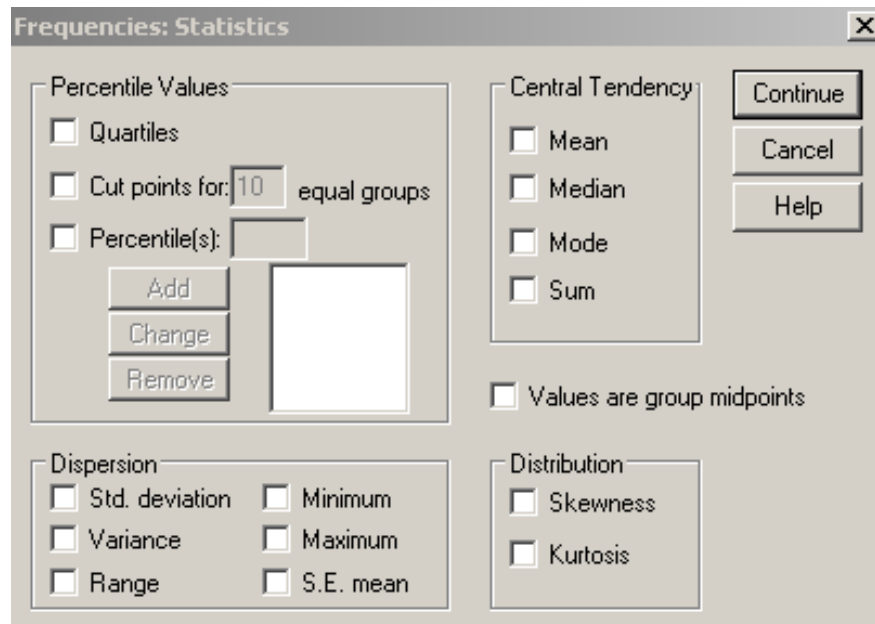


Running Analyses (Frequency)

21. Click Statistics

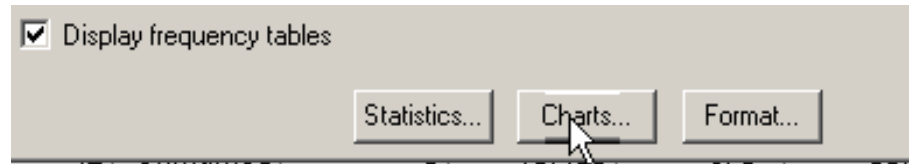


22. Select any stats that you want to see, click Continue

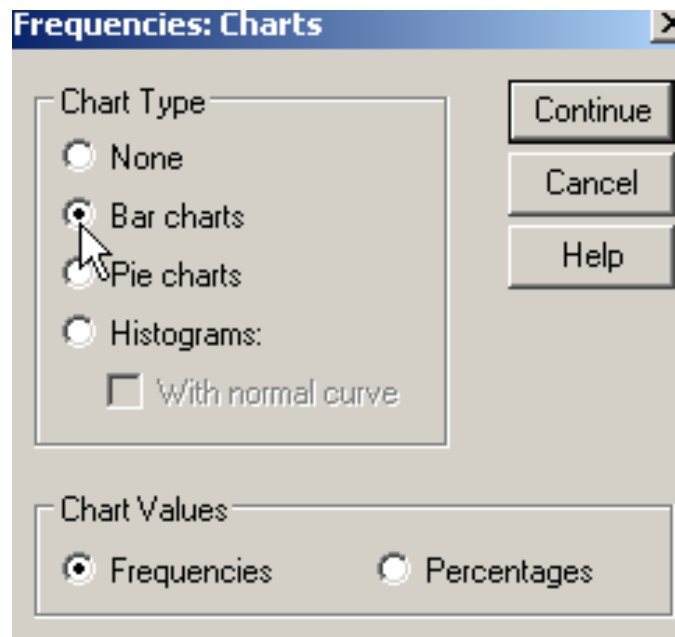


Running Analyses (Frequency)

23. Click Charts

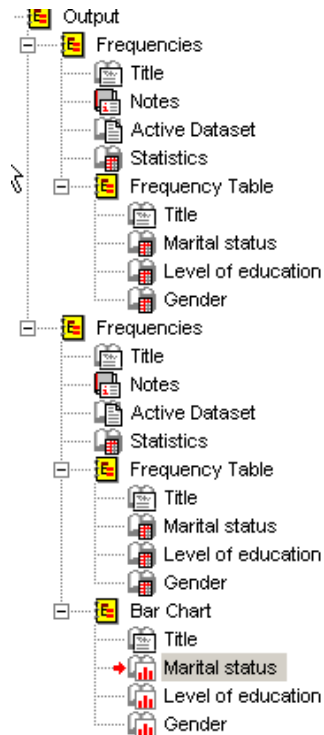


24. Select the type of chart you want, click Continue, then OK



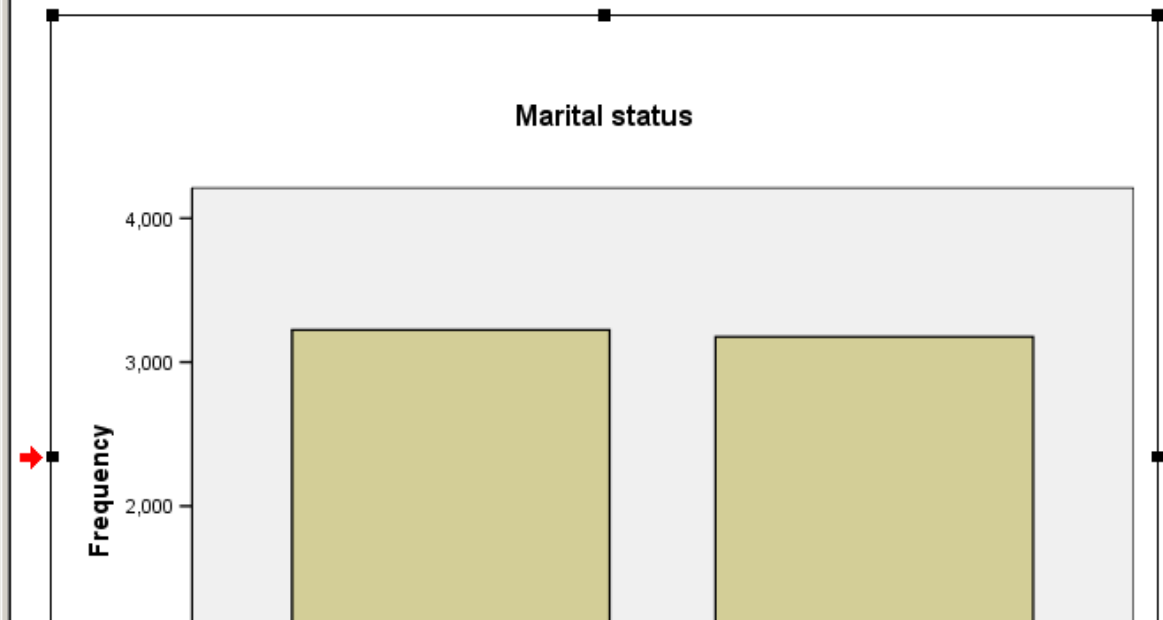
Running Analyses (Frequency)

Result Tables and Graphs will appear



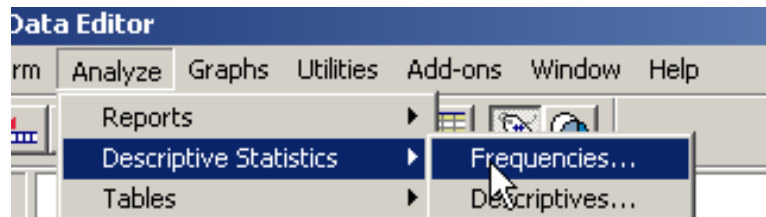
Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	3179	49.7	49.7	49.7
	Male	3221	50.3	50.3	100.0
Total		6400	100.0	100.0	

Bar Chart

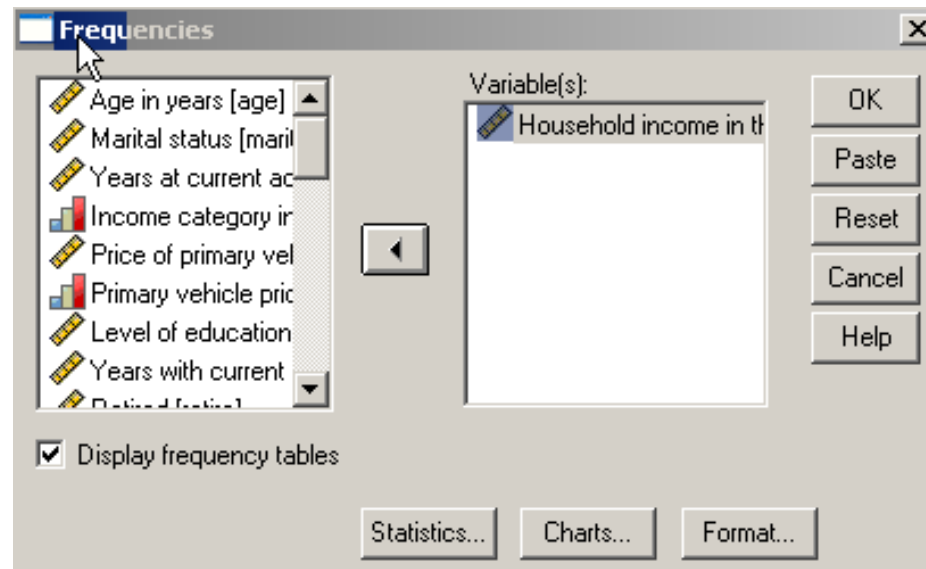


Running Analyses (Central Tendency)

25. Select Analyze- Descriptive Stats- Frequencies

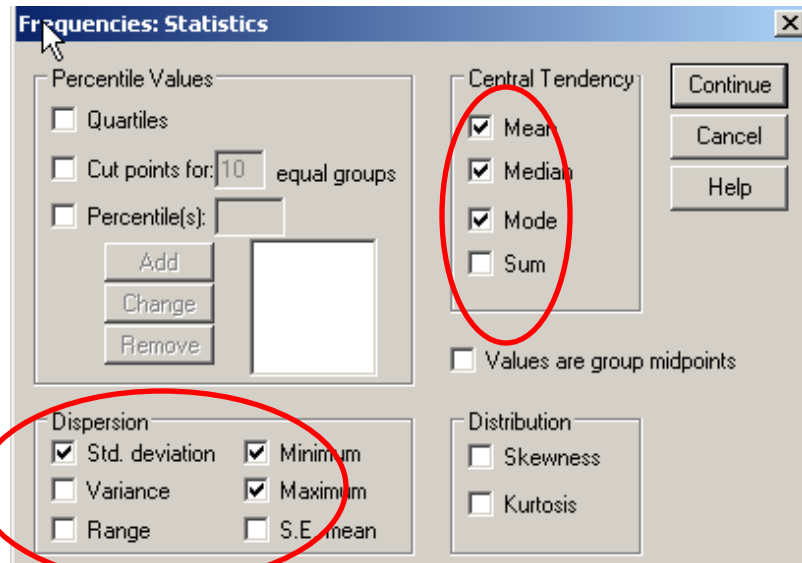


26. Select the desired variables (household income) and click the arrow to move them to the right side



Running Analyses (Central Tendency)

27. Select some measures of central tendency and dispersion- click Continue then OK



Results will appear

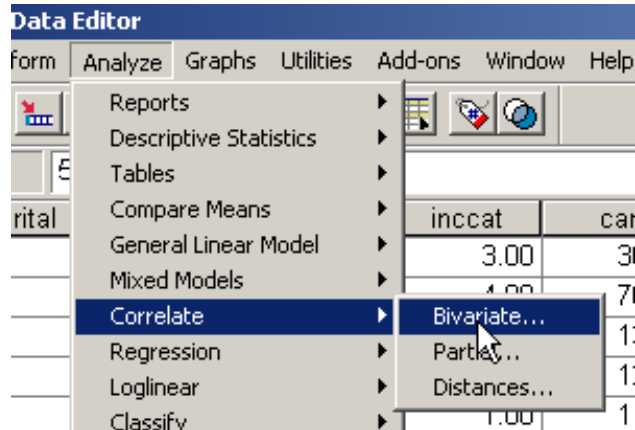
Statistics

Household income in thousands

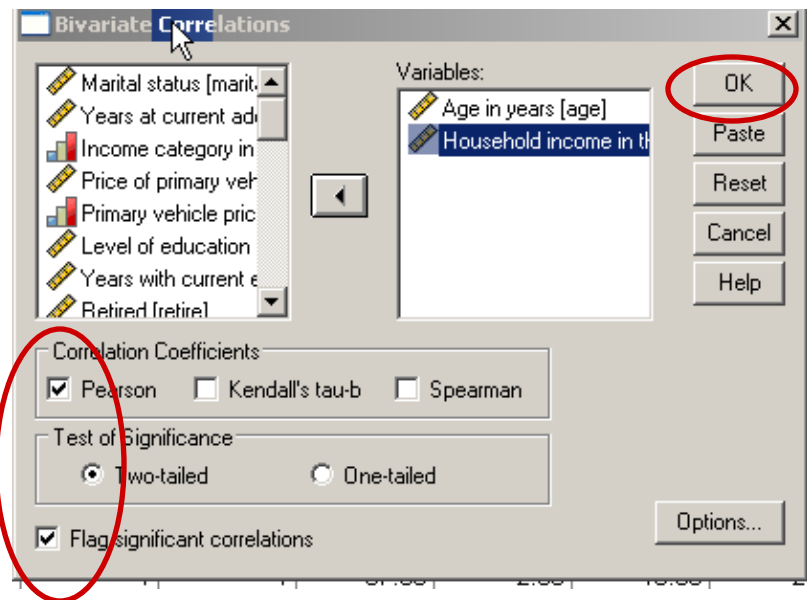
N	Valid	6400
	Missing	0
Mean		69.4748
Median		45.0000
Mode		25.00
Std. Deviation		78.71856
Minimum		9.00
Maximum		1116.00

Running Analyses (Correlation)

28. Click Analyze- Correlate- Bivariate



29. Move the two variables of interest to the right side (age & income), click OK



Running Analyses (Correlation)

30. Results appear and tell us that the relationship is weak to moderate and results are not due to chance

Correlations

		Age in years	Household income in thousands
Age in years	Pearson Correlation	1	.335**
	Sig. (2-tailed)		.000
	N	6400	6400
Household income in thousands	Pearson Correlation	.335**	1
	Sig. (2-tailed)	.000	
	N	6400	6400

** . Correlation is significant at the 0.01 level (2-tailed)

Resources

- Texas A & M- a huge selection of helpful movies
<http://www.stat.tamu.edu/spss.php>
- UCLA- SPSS 12.0 Starter Kit (useful movies, FAQs, etc)
<http://www.ats.ucla.edu/stat/spss/sk/default.htm>
- Indiana University- Getting Started (useful instructions with screenshots)
<http://www.indiana.edu/~statmath/stat/spss/win/>
- University of Toronto- A Brief Tutorial (screenshots, instructions and basic stats)
<http://www.psych.utoronto.ca/courses/c1/spss/page1.htm>
- Central Michigan- Tutorials and Clips (movies, screenshots, instructions- slow loading but good)
<http://calcnet.mth.cmich.edu/org/spss/toc.htm>
- SPSS Statistics Coach and Tutorial (under Help) as well as the ZU library
- Online Statistics Textbook
<http://www.statsoft.com/textbook/stathome.html>