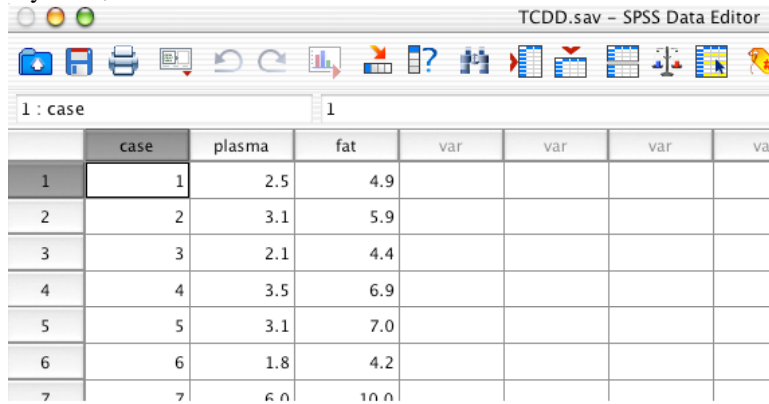# SPSS Information Sheet 3
Frequency Distributions and Histograms

When we have a data set with a variable that has numerical values, we may wish to make a frequency distribution or, more likely, a histogram of the data from that variable in order to explore the shape of the data — center, spread, skew, gaps, unusually high or low values, etc. SPSS will not really make frequency distributions but it will make frequency tables and histograms easily.

We will use the data from Problem 2.16 which gives parts per trillion of dioxin (2,3,7,8-TCDD) in blood and fat tissue for 20 Massachusetts Vietnam war veterans, gotten as a result of exposure to Agent Orange.
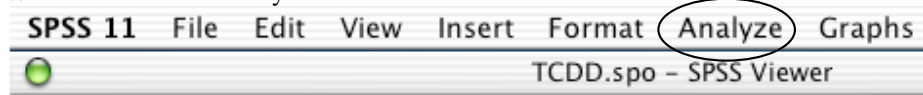
Frequency Table
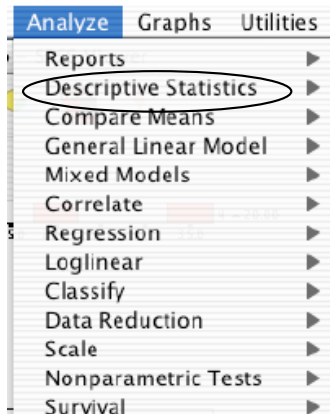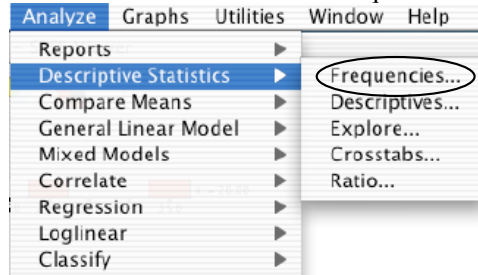To make a frequency table, we first enter the data as described in other handouts:
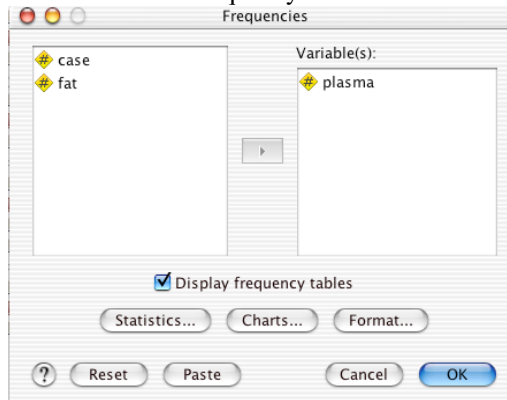

We then choose the Analyze menu:

and from it we choose the "Descriptive Statistics" sub-menu:

This opens a sub-menu window from which we can choose a Frequencies sub-menu:

This opens a window that allows us to define a frequency table:

In this we choose a variable or variables for which to make a frequency table. In this case I have chosen the plasma concentration of dioxin (TCDD) for the 20 veterans. The default is to "Display Frequency Tables" so we need choose nothing further. We click OK (or its equivalent. This creates .spo output of a frequency table:


This table displays values, their frequencies, their percentages, and the cumulative percentage. It should be saved and then cut and pasted into a document. Here we select the table (as indicated by the box around it and arrow pointing to it) and then select "Copy Object" under the Edit menu. We can then paste it into a document:

PLASMA

|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.6	1	5.0	5.0	5.0
	1.8	2	10.0	10.0	15.0
	2.0	1	5.0	5.0	20.0
	2.1	1	5.0	5.0	25.0
	2.5	2	10.0	10.0	35.0
	3.0	1	5.0	5.0	40.0
	3.1	2	10.0	10.0	50.0
	3.3	1	5.0	5.0	55.0
	3.5	1	5.0	5.0	60.0
	4.1	1	5.0	5.0	65.0
	4.6	1	5.0	5.0	70.0
	4.7	1	5.0	5.0	75.0
	6.0	1	5.0	5.0	80.0
	6.9	1	5.0	5.0	85.0
	7.2	1	5.0	5.0	90.0
	20.0	1	5.0	5.0	95.0
	36.0	1	5.0	5.0	100.0
	Total	20	100.0	100.0	

Histograms

To make a histogram, we choose Histogram from the Graphs menu:
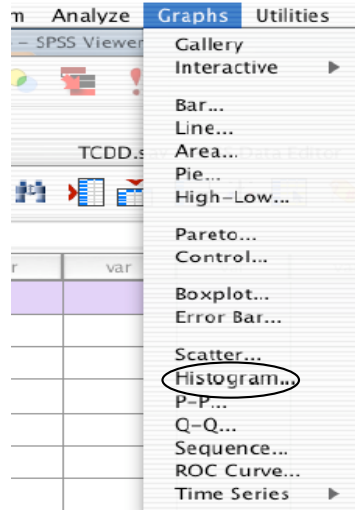
This opens a window that allows us to choose which variables we wish to make histograms of:
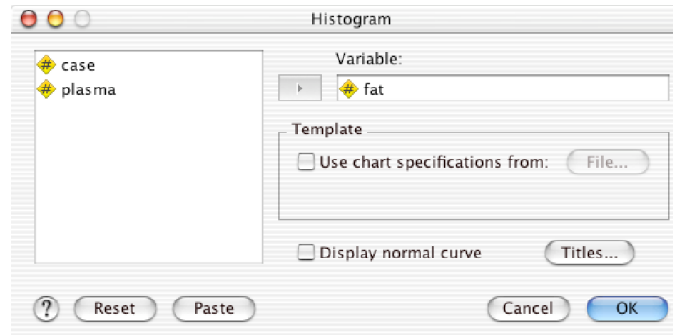
and, after having chosen, we click OK (or its equivalent). This will produce one or more histograms in the .spo output window (which should be saved). These can be moved to a document using Copy Object under the edit window and then pasting:
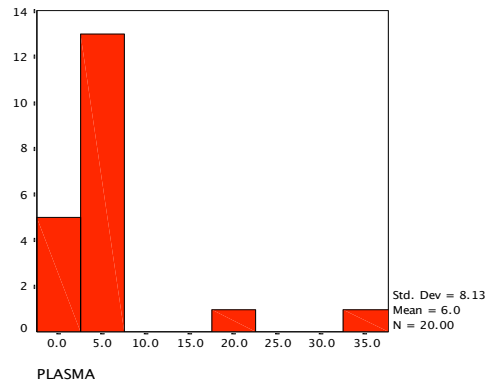
A double click allows the Chart Editor window to be used to alter the appearance of the histogram.

Exercises

1. Enter the data for Problem 2.14 in an SPSS Data Editor and save it as insect.sav on a floppy disk or hard drive.
2. Print the data from the Editor window.
3. Make a Frequency Table of the Thion variable from the data.
4. Make a Histogram of the Thion variable.
5. Write one paragraph describing the shape of the data for the Thion variable.
6. Make a Word document with the frequency table, histogram and your paragraph and turn it in along with a printo of the data from Step 2.