Research Methods 2

Week 3: Exercise Sheet 1, numerical summaries

This sheet asks you to perform a series of statistical calculations using Minitab and leaves you to find out how to do these for yourself. Some of you may prefer this opportunity to explore Minitab and its help system yourself, and this will certainly improve your skills with the program. However, as this is the first exercise where you have used Minitab to perform some statistical analyses, some of you may appreciate some hints as you proceed. These can be found by clicking on the appropriate links.

Question 1.

Download the Minitab worksheet for this week (the worksheet is called WEEK3.mtw: there is a link on the main page for this week) and save it at a known location on your disc. Open the file in Minitab. The easiest way to do this is to start Minitab by double-clicking on the file you have just downloaded and clicking OK when asked if you want to add the worksheet to the current project).

The first column, named '**Ques1**', contains the haemoglobin concentrations (in g/dl) of 35 healthy young males. Use Minitab to sort the data into ascending order [would you like a hint?]. Find the median and the lower and upper quartiles by finding the 18^{th}, 9^{th} and 27^{th} values of the sorted data. Why are 18, 9 and 27 used?

Question 2.

Confirm your answers to Question 1 by asking Minitab to compute the median and quartiles directly [would you like a hint?].

Question 3.

Place a copy 'Ques1' in column C2 of the data window [would you like a hint?]. Scroll down the data window and replace the last item in C2 (which should be 18.2) with 81.2. Now use the method from Question 2 to compute the medians and quartiles for both 'Ques1' and C2. What do you notice? What has happened to the items named Mean and StDev? (these quantities will be discussed in detail next week, for now simply observe the differences between their values for the two columns.)

End of Question sheet 1