



## Chapter 8: Summarising Your Data – Measures of Central Tendency and Dispersion

### *Discussion Point*

If the survey were carried out on another randomly selected sample of people, it would be nice to think that the distribution of scores would be identical. Of course, as was discussed in chapter 2, sampling is not perfect and we have to assume that there will always be sampling errors. Therefore, it would be rather surprising if identical results were obtained. What is of more interest is whether or not the differences are within acceptable limits with regard to supporting any hypothesis we would like to put forward. This is the subject of chapter 9.

There is insufficient information in the Discussion Point text to be able to make such a judgement and we would need to apply one or more of the tests described in chapter 9. However, there are certain things we can say:

- Firstly, we would expect to see differences because we are dealing with an entirely different group of people and the composition of the sample may be quite different even though care is taken to ensure that bias in the sampling process is reduced to an absolute minimum. Because everyone within the target population has an equal chance of being selected, you cannot predict with any certainty how the sample will be constituted.
- Secondly, the mean value of scores in this second sample is much higher than the median value. The distribution of scores is skewed. In fact, there is a very definite positive skew to the distribution (i.e. the mean is greater than the median. What this tells me is that the sample may be biased by a number of high scoring individuals. I would want to examine the members of this sample, perhaps creating a boxplot or stem and leaf plot to identify likely outliers. A closer examination of these cases may lead me to exclude them from the survey because they may be unrepresentative of the group. However, I would need strong justification to do this.