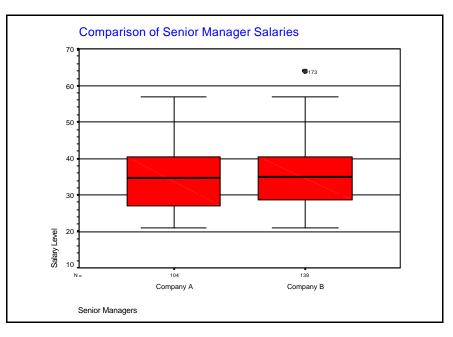# Chapter 7: Summarising Your Data – Frequency Tables and Charts.

Discussion Points

1. Grouping data for reporting purposes is very convenient, but wherever possible it should be avoided in questionnaires as you will reduce the ability to analyse the responses because grouped data is ordinal and not interval, even though the groupings may be of interval data ranges. The way in which you group the data after collecting it will very much depend on what you are trying to demonstrate and also the relative frequencies across groups. It is difficult to be pedantic about this, but here are some points to consider in relation to the scenarios presented for discussion at the end of this chapter. I am afraid that this was something of a trick question. Without the actual data and its distribution already known, you cannot even enter into any meaningful discussion about grouping. However, you should have had a meaningful discussion about cut-off points.
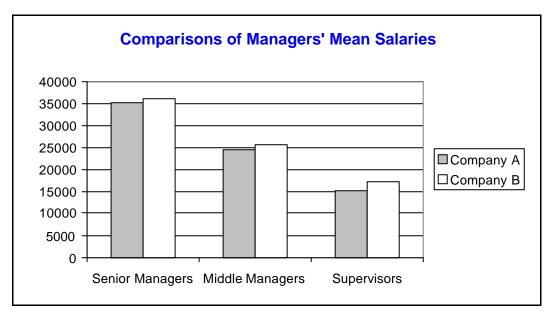
    Only (b) – the weekly shopping bill – represents a continuum. So your groups may look something like: £0-£4.99, £5-£9.99 etc. Both the number of visits to the cinema and the number of cars leaving a production line can only be integers.

2. Again this is a difficult discussion to make in the absence of real data. One of the things you would probably want to look at would be a comparison of salaries for similar groups of workers. SPSS will allow you to generate comparative boxplots as shown below that lets you make direct visual comparisons.

Comparison of Senior Manager Salaries

This shows that the salary levels of senior managers in two companies are broadly similar. This kind of comparative chart is very effective. You could, of course opt for comparing histograms or bar charts because boxplots will be understood by a relatively small number of readers, while histograms and bar charts are better understood by a lay readership.

Comparisons of Managers' Mean Salaries

While this approach allows comparisons of single measures, it is more limiting because it does not show other quantities as described in chapter 8. However, it is a good method of displaying data in a way that is easily understood.

A 'stem and leaf' plot has a similar problem to the boxplot. It provides very detailed information but will not be easily understood by a lay readership. What has been described here is the difference between using graphs and charts to explore data as part of the analysis process by the researcher and as part of the process of reporting your findings to a lay readership. For the latter, you will probably have to sacrifice detail for ease of interpretation. After all, the purpose of graphs and charts in a report is to make the data more easily understood. Other possible graphs and charts will include line graphs and pie charts. These were not described in the chapter because it focused on the use of analytical charts rather than those for data reporting. There is a difference between the two.