

Descriptive statistics

Descriptive statistics are used to explore the data collected, as shown in chapter 3, and to summarise and describe those data.

Descriptive statistics may be particularly useful if one just wants to make some general observations about the data collected; for example, the number of males and females, the age range and average (mean) age or the average length of residence in a community. Other statistics, such as standard deviation and variance, give more information about the distribution of each variable.

Frequency distributions

A frequency distribution is a display of the frequency of occurrence of each score value. The frequency distribution can be represented in tabular form or, with more visual clarity, in graphical form. For continuous variables, measured on ratio or interval scales, histograms or frequency polygons are appropriate. For categorical variables, measured on nominal or ordinal scales, bar charts are suitable.

Measures of central tendency and variability

The three main measures of central tendency are mode, median and mean. The measures of variability include range, interquartile range, standard deviation and variance. All of these measures of variability are more appropriate for interval or ratio data. You can also examine the normality of the distribution through the **Frequencies** procedure.

Working example

One hundred tennis players participated in a serving competition. Gender and number of aces were recorded for each player. The data file can be found in *Work4.sav* on the website that accompanies this title and is shown in the following figure.