

How to Construct a Histogram

Bar graphs are used when your variable is a categorical variable. However, if your variable is a quantitative variable, a histogram is preferred. A **histogram** is a graphic presentation of a frequency distribution. It is especially useful (compared to a frequency distribution) because it shows the shape of the distribution of values. We used the computer program called SPSS to generate the histogram of starting salary (shown in Figure 15.3 on page 438). Notice that, unlike bar graphs, the bars in histograms are set next to each other with no space in between.

If you ever need to construct a histogram by hand, just follow these four steps:

- 1) Make a frequency distribution.
- 2) Put the variable values from the frequency distribution (i.e., the first column in Table 15.2 or Table 15.3) along the bottom (i.e., the horizontal axis) of the histogram in ascending order.
- 3) On the vertical axis, make a scale that starts with zero and goes to the largest observed frequency (i.e., the largest number in column two in Table 15.2 or Table 15.3).
- 4) Draw a bar for each of the values listed on the horizontal axis. Draw each bar so that its height corresponds to its frequency and so that it touches the bar(s) on its side(s). The bars will now show you the frequencies and show you the shape of the distribution.

A histogram is a lot like a frequency distribution turned on its side, with bars added to