#### Choosing Descriptive Statistics: A Decision Map Present Table or Table Frequency entire graph? Distribution Table distribution Nominal or ordinal Graph Bar Graph Scale of measurement? Interval or ratio Histogram or Polygon No Interval Skewed, Mean or ratio open-ended, or undetermined Yes scores? Ordinal Median Scale of Central tendency measurement? Nominal Mode Summarize entire distribution Standard Mean Deviation What measure Median Variability Semi-Interquartile Range or Range of central tendency? No Mode Nominal scale? Yes None Location relative to the mean z-Score Describe individual Standing relative to other scores score Percentile Ranks

Figure 10.7 Decision tree to select a descriptive statistic.

### Choosing a Parametric Test: A Decision Map for Making Inferences About Population Means or Mean Differences

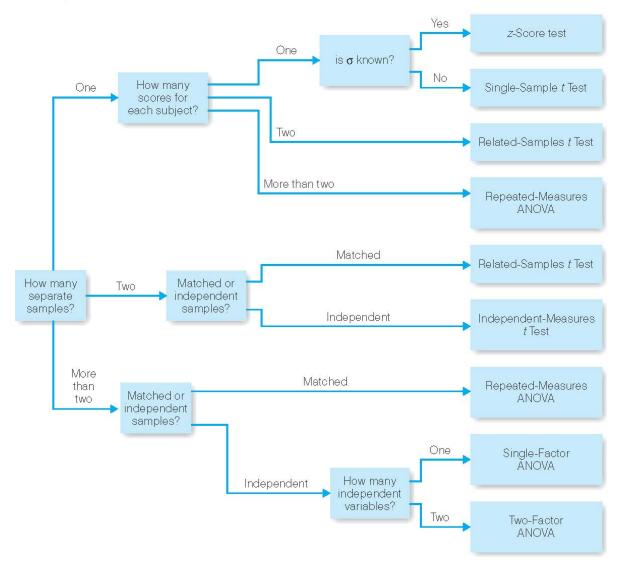


Figure 10.8 Decision tree to select a parametric statistic to evaluate group differences.

# Choosing a Nonparametric Test: A Decision Map for Making Inferences About Populations or Population Differences

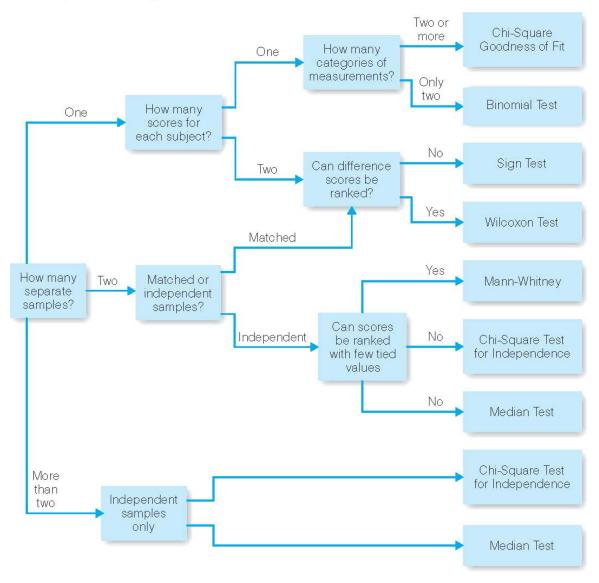
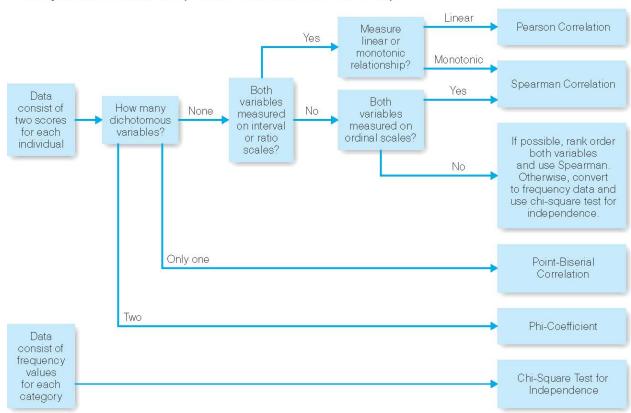


Figure 10.9 Decision tree to select a nonparametric statistic to evaluate group differences.



### Choosing a Measure of Relationship Between Two Variables: A Decision Map

Figure 10.10 Decision tree to select a statistic to measure the relationship between two variables.

## **Using Statistical Software**

Computers have greatly increased the efficiency with which research data can be analyzed. Researchers rarely calculate statistics by hand. Typically, data are entered into some form of spreadsheet. Statistics can then be calculated by database software (such as Excel, Access, Lotus123, or Quattro pro) or by statistical software (such as SPSS, SAS, SYSTAT, or STATVIEW). The particular software that you use as a student researcher will depend on which software is available at your university and which software is familiar to your instructor. Each software program has advantages and disadvantages. Although we do not want to recommend a particular program, we do suggest that you learn at least one of them.

The statistical output that we present in the next several chapters is presented in generic form rather than the format of a particular software package. Whichever package you use, you should be able to locate the same information in the output.