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Technical but Important: Five More Basic Principles

■ A. REVIEWING

1. In a statistics textbook, find a discussion of an association between two or three variables. For each of those variables, identify
   a. the type of variable (nominal, ordinal, interval, or ratio);
   b. whether it is single or multiple response.
   c. For continuous variables, identify
      i.   the system of measurement;
      ii. the unit of analysis;
      iii. the scale of measurement;
      iv. the appropriate number of digits and decimal places for reporting the mean value in the text and a table.
   d. For categorical variables, identify the categories for each variable.
   e. If the items requested in c and d aren't described in your book, list plausible versions of that information. For example, if you are studying family income in the United States, you would expect the system of measurement to be United States dollars, the unit of analysis to be the family, and the scale of measurement to be either dollars or thousands of dollars.

2. Read the textbook's description of the variables you listed in question A.1. Does it provide the recommended information about the distribution of that type of variable? If not, what additional information is needed?

3. Read the literature in your field to determine whether standard cutoffs or standard patterns are used to assess one of the variables in the association you listed in question A.1. Find a reference source that explains its application and interpretation.

4. Repeat questions A.1–A.3 using variables described in a journal article or book in your field of study.

■ B. APPLYING STATISTICS

1. Repeat question A.1 using variables available in your database.

2. Using the same data,
   a. calculate the frequency distribution for each variable;

b. create a simple chart of the distribution;

c. select and calculate the appropriate measure of central tendency for that type of variable;

d. Determine whether the measure of central tendency calculated in part c typifies the overall distribution. Why or why not? If not, what is a more typical value?

e. For continuous variables, identify the minimum and maximum values and the first and third quartiles of the distribution.

3. For one of the variables in your database, repeat question A.3. Then use the standard or cutoff to classify or evaluate your data. (e.g., what percentage of cases fall below the cutoff? Does your distribution follow the expected pattern for that variable?)

4. Compare the eligibility thresholds for your state's State Children's Health Insurance (S-CHIP) for the most recent year available against the Federal Poverty Thresholds (see Web sites for your state's S-CHIP program and the "Poverty" page on the *U.S. Census* Web site. What is the highest income that would qualify for free S-CHIP benefits for a family of one adult and one child? a family of one adult and two children? a family of two adults and two children?