Sampling Methods

Sampling is a research technique that eliminates the need for surveying 100 percent of the population being studied. Sampling is based on the priciple that a sufficiently large number drawn randomly from a population will be representative of the total population. A number of sampling methods are available that you can learn more about in research and statistics courses. Here is a brief overview of some of those sampling methods:

- **Simple random sampling** produces a random sample using a random number generator program. This is the easiest sampling technique. To determine the career plans of a college student body, a researcher could generate a list of random numbers, using software capabilities, and then select the students to be included in the survey. Because the entire student body is included in the computer system, each student would have an equal opportunity to be selected.
- **Stratified random sampling** involves dividing the population into subgroups so that each subgroup is proportionately represented in the sample. In surveying the student body using this method, you might divide the population into student classifications: for example, seniors, juniors, sophomores, and freshmen. Suppose the total student body of 10,000 is composed of 30 percent freshmen, 27 percent sophomores, 23 percent juniors, and 20 percent seniors. If you want to survey 1,000 students, you would randomly select students from each classification until you have 300 freshmen, 270 sophomores, 230 juniors, and 200 seniors. Stratified samples are useful for comparing responses between subgroups.
- **Systematic random sampling** is useful when the researcher has access to a listing of elements or persons within the population to be studied. For instance, a membership list of all members of an organization could give rise to a systematic random sample. The process involves selecting every nth listing for inclusion in the study. For instance, if the total membership of an organization is 1,000, and a sample of 100 is desired, the value of n would be 10. Thus, every tenth name would be selected for inclusion in the study. In this way, the sample will be drawn from throughout the entire membership list.
- **Convenient sampling** is merely a sample selected by the convenience of the researcher, with no assurance that it is representative of the population under study. Convenient sampling is not scientific and therefore not recommended for research gathering; it is, nevertheless, frequently used because it is easy and yields quick results. A professor, for example, might want to identify students' opinion on the adequacy of academic advising available in her university. For convenience, she might choose to survey students in her own classes. The opinions obtained would be questionable as to whether they accurately reflected the opinions of the entire student population, since no procedure was followed to select a random sample. Businesses, too, make frequent use of convenient sampling by conducting “straw polls” of employees, consumers, or other specific groups.