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1.2 Identifying Sampling Methods

In each of the following examples, identify the sampling method being used.

1. A sample of 2,000 was sought to estimate the average achievement in science of fifth graders in a city's public schools. The average fifth grade enrollment in the city's elementary schools is 100 students. Thus, 20 schools were randomly selected and within each of those schools all fifth graders were tested.

Cluster Sampling is being used because clusters were identified (i.e., schools) and all fifth graders within the cluster (i.e., school) were sampled.

2. A researcher has a population of 100 third grade children from a local school district from which a sample of 25 children is to be selected. Each child's name is put on a list, and each child is assigned a number from 1 to 100. Then the numbers 1 to 100 are written on separate pieces of paper and shuffled. Finally, the researcher picks 25 slips of paper and the numbers on the paper determine the 25 participants.

Simple Random Sampling is being used. Researchers have a list of all individuals in the population and are able to random select from that population.

3. A sociologist conducts an opinion survey in a major city. Part of the research plan calls for describing and comparing the opinions of four different ethnic groups: African Americans, Asian Americans, European Americans, and Native Americans. For a total sample of 300, the researcher selects 75 participants from each of the four predetermined subgroups.

Stratified Sampling or Quota is being used. Here the population is organized into strata or groups according to ethnicity. A specific number of individuals are selected from each group to be a part of the study. We don't know from this example if a random method was used. If it was, then the researchers were using stratified sampling. If not, then they were using quota sampling. In this situation, the sample may under- or overestimate the numbers of individuals for each ethnicity in comparison to the actual population.

4. A researcher is interested in political attitudes of individuals within a particular state. The researcher uses the following procedure to obtain a sample: (a) a random sample of counties is drawn, (b) within the counties selected, districts are randomly drawn, (c) within each district, blocks are randomly sampled, (d) within blocks selected, buildings are randomly drawn, and (e) all residents within the buildings selected comprise the sample.

Multistage cluster sampling is being used. Here you can see that there are multiple steps used to narrow the sample. You see in the last step that ALL residents within the building have been selected.

5. Instructors teaching research methods are interested in knowing what study techniques their students are utilizing. Rather than assessing all students, the researchers randomly select 10 students from each of the sections to comprise their sample.

Stratified Sampling is being used. The students are organized based on section and the same number of students from each section is being sampled. It is possible that some sections may be larger than others; thus, our sample may under- or overestimate certain section.

6. A researcher is interested in maximum-security inmates. She groups maximum-security prisons by state, randomly selects 10 states, and, from those 10, selects three prisons. She includes all the inmates in those three prisons in her sample.

Multi-stage cluster Sampling is being used. Here you can see that there are multiple steps used to narrow the sample. You see in the last step that ALL inmates within the prisons have been selected.

Describe how you would select people to take your survey in the following situations with the listed method (when provided):

7. Say you wanted to survey professors at KSU about their publication records. You want to be sure to include professors from each department, even the very small ones. **Stratified**
8. You want to select a sample of KSU students using simple random sampling, how would you do this? **Would need a record of all students for it to be random.**