Convenience Sample

Definition:

Convenience sampling is very easy to do, but it's probably the worst technique to use. In convenience sampling, readily available data is used. That is, the first people that the surveyor runs into.

Example:

A researcher polls people as they walk by on the street.

Non-Example:

An airline company wants to survey its customers one day, so they randomly select 5 flights that day and survey every passenger on those flights.

Cluster Sample

Definition:

Cluster sampling is accomplished by dividing the population into groups -- usually geographically. These groups are called clusters or blocks. The clusters are randomly selected, and each element in the selected clusters are used.

Example:

An airline company wants to survey its customers one day, so they randomly select 5555 flights that day and survey every passenger on those flights.

Non-Example:

A principal takes an alphabetized list of student names and picks a random starting point. Every 20th student is selected to take a survey.

Random Sample

Definition:

Random sampling is analogous to putting everyone's name into a hat and drawing out several names. Each element in the population has an equal chance of occurring. While this is the preferred way of sampling, it is often difficult to do. It requires that a complete list of every element in the population be obtained. Computer generated lists are often used with random sampling. You can generate random numbers using the TI84 calculator.

Example:

A teacher puts students' names in a hat and chooses without looking to get a sample of students.

Non-Example:

A student council surveys 100 students by getting random samples of 25 freshmen, 25 sophomores, 25 juniors, and 25 seniors.

Systematic Sample

Definition:

Systematic sampling is easier to do than random sampling. In systematic sampling, the list of elements is "counted off". That is, every kth element is taken. This is similar to lining everyone up and numbering off "1,2,3,4; 1,2,3,4; etc". When done numbering, all people numbered 4 would be used.

Example:

A principal takes an alphabetized list of student names and picks a random starting point. Every 20th student is selected to take a survey.

Non-Example:

A researcher polls people as they walk by on the street.

Stratified Sample

Definition:

Stratified sampling divides the population into groups called strata. However, it is by some characteristic, not geographically. For instance, the population might be separated into males and females. A sample is taken from each of these strata using either random, systematic, or convenience sampling.

Example:

A student council surveys 100 students by getting random samples of 25 freshmen, 25 sophomores, 25 juniors, and 25 seniors.

Non-Example:

A teacher puts students' names in a hat and chooses without looking to get a sample of students.