Notes - Sampling Methods

Sampling Methods

Definitions

_____ The whole group that is surveyed

_____ A portion of the group intended to be surveyed

sample   population

When researching a group of people, it is not practical to survey every single person. Instead we will choose a _____ of people to represent the whole group.

Choosing a sample for a research study is a very important step that can greatly affect the results of the research. If a sample is not chosen well it can _____ the conclusions or even make the results unusable.

Types of Sampling: *Cluster*

This methods takes a small group of the population and surveys every member of that group.

For example: If the teachers wanted to pick an incentive for the whole 7th grade, they could take just Mrs. Silverthorn's homeroom and survey each person in the class.

Types of Sampling: *Systematic*

This methods takes a large population and samples by a periodic interval.

For example: We could choose an incentive by asking every 7th person who walks off the bus in the morning.

Types of Sampling: *Convenience*

For this method, the researcher surveys anyone who is easily available. One way to do a convenience survey is to ask people to come to you.

For example: We could tell students on the morning announcements to come and participate in a survey.

Types of Sampling: *Random*

This is one of the best ways to conduct a survey. In a random survey, each member of the population has an equal chance of being chosen.

For example: We could put names in a hat and pull out the people who would be surveyed.

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Label the following examples according to their sampling method.
L=cluster   S=systematic   V=convenience   R=random

Ask the basketball team their favorite sport

Drawing from a set of popsicle sticks containing the names of all students in the class

Every 3rd student in the lunch room is asked if they liked the lunch

Asking one lunch table who their favorite teacher is

Ask the first 15 students you see in the hall their favorite candy

A tally next to the teacher's door asking about favorite colors

Every 4th person at the basketball game was asked who they were cheering for

A PAWS ticket is drawn to choose this week's Chipotle winner

Surveys and Bias

Biased Sample: data was collected in such a way that some members of an intended population are less likely to be surveyed

   Example: Mrs. Goldman's homeroom is completing a survey but 3 students are absent

Unbiased sample: data was collected in such a way that every individual or element in the population has an equal chance of being selected

   Example: Mrs. Goldman's homeroom is completing a survey and everybody is present

Mrs. Jones wants to know which sport 7th   graders in the district like best. There are 7th graders in 6 different schools. She can collect data in one of the following ways. Identify each with it's proper vocab term.

Ask every 7th grade student at all 6 schools

Ask 7th grade boys at 3 of the schools

Ask every other 7th grader at all 6 of the schools

biased sample   unbiased sample

population

If you were taking a survey of the different colors of leaves seen in September, which of the following would be an unbiased sample?

a.) 100 fallen leaves collected from the ground

b.) 100 leaves on tree branches

c.) 50 fallen leaves and 50 leaves on branches

d.) 50 fallen oak leaves and 50 oak leaves on branches

You want to estimate the number of 7th grade students that walk home right after school in the springtime. Which sample is unbiased?

a.) three 7th grade students randomly selected in the hallway before homeroom

b.) 7th grade members of the track team

c.) every fifth 7th grader walking down the sidewalk after school

d.) every fifth student from an alphabetical list of 7th graders