

population is the entire group being studied

sample is the group of people taken from that population.

Advantages and Disadvantages:

A population, if surveyed, will give you really accurate results, but ...

* If everyone in a population *is* surveyed, then it's called a **census**.

□ results may be biased if only a sample is surveyed. could be misled if the group does not accurately represent the population.

Sampling Techniques:

Random Sample

* In a simple, random sample, all selections are equally likely.

E.g.: Drawing 5 names from a hat holding 30 names and surveying those 5 people.

Pros: Easy to do. Fair to all involved.

Cons: Could get a poor representation of the population.

i.e. All 5 names drawn could be close friends who share the same opinion on everything.

Stratified Sample

- * The population is divided into groups with similarities, then a random sample is taken of each group.
- * The number sampled from each group is proportional to the size of the group.

E.g.: A school is divided into 4 groups by grade.

There are 300 grade nines, 350 grade tens, 270 grade elevens and 320 grade twelves. Proportion of each group chosen → 10%

- Thirty grade nines are surveyed, 35 grade tens, 27 grade elevens and 32 grade twelves.

Pros: A fair representation of the population.

Cons: Takes more work to set up, can still be biased.
i.e. If the survey is about driving permits, the grade eleven and twelve students may respond differently.

Cluster Sample

- * The population is divided into groups.
- * A random number of groups is chosen. (It could be just one group).
- * All members of the chosen group(s) are surveyed.

E.g.: A VP enters the cafeteria and randomly selects two tables. All students at those two tables are surveyed.

Pros: Easy to do.

Cons: Often over-represent some opinions and under-represent others.

Convenience Sample

* A selection from the population is taken based on availability and/ or accessibility.

E.g.: To survey woodworkers in Ontario, we ask people at several lumber yards and home improvement stores scattered about the province.

Pros: A good way to gain ideas when you're starting to research an idea.

Cons: You have no idea how representative your sample is of the population.

Voluntary Sampling

* People volunteer to take part in a study.

E.g.: Psych 101 students at Trent University are given an additional 2% at the end of the year if they volunteer for any two upper-year psychology surveys and/ or studies.

Voting on Canadian Idol.

Pros: Often useful for psychological and/ or pharmaceutical trials.

Cons: People often vote twice