POPULATION SAMPLING TECHNIQUES

When we are interested in studying a population, it is often not feasible or possible to study the entire population, particularly if it is large or hard to access. Therefore, we may choose to study a sample of the population.

A *sample* consists of a smaller, finite number of "units" (e.g., people, cases, events, sites, organizations, counties, etc.) that are extracted from a larger population of interest (e.g., a population or group of program participants, events, cases, agencies, counties, or state residents).

Ultimately, your decisions regarding your sampling techniques should be informed by your: evaluation questions, evaluation design (i.e., experimental, quasi-experimental, or non-experimental/descriptive), and proposed evaluation methods. Your sampling techniques should also be informed by ethical decisions, such as: who you plan to include in your sample; who you plan to exclude from your sample and why; and to what degree the size and representativeness of your sample matters.

TYPES OF SAMPLING TECHNIQUES

Probability sampling techniques use random selection (i.e., probabilistic methods) to help you select units from your population for inclusion in your sample.

The goal of probability sampling is to achieve objectivity in the selection of samples in order to potentially make statistical inferences (i.e., generalizations) from the sample that apply to the wider population of interest.

Simple Random Sampling	There is an equal chance or probability that any unit within the population could be selected for inclusion in the sample (often using a random number table or generator).
Stratified Random Sampling	There is an equal chance or probability of selecting each unit from within a particular stratum (group) of the population when creating the sample (e.g., males vs. females).
Systematic Random Sampling	There is an equal chance or probability that any unit within the population could be selected for inclusion in the sample; the first unit us generally selected a complete random (e.g., using a random number table or generator) but units are selected in an ordered way (e.g., every 9th unit) based on a sampling fraction (the selected sample size divided by the population size).

Non-probability sampling techniques depend on the subjective judgment of the researcher or evaluator to select units from the population for inclusion in the sample.

Goals for non-probability sampling vary, but often include a desire to more deeply understand the intricacies of the sample and/or the topic of interest; generalizing to a larger population is often not a primary consideration.

Convenience Sampling	Units that are selected for inclusion in the sample are simply the easiest to access within the population
Proportional Quota Sampling	Goal is to create a sample in which the groups that are being studied are proportional to their representation in the population being studied *Example: In a school population of 1000 students, 40% are male and 60% are female. A quota sample of 100 students, would have 40 students that are male and 60 students that are female.*

Purposive Sampling	Describes a group of various sampling techniques that rely on the judgment of the researcher when it comes to selecting the units (e.g., people, cases/organizations, events, etc.) that are to be studied. These include (but are not limited to): *heterogeneous sampling* (creating a sample with units that reflect a wide range of perspectives regarding the topic you're interested in studying); *homogenous sampling* (creating a sample with units that share the same or very similar characteristics or traits); *typical case sampling* (a technique used when you are interested in the normality/typicality of the units), and *extreme or deviant case sampling* (sampling technique used to focus on cases that are special or unusual, typically with regard to notable outcomes, failures or successes).
Self-Selection Sampling	Units – either individuals or organizations – choose to participate in the research project or evaluation of their own accord. The key component is that the individuals or organizations volunteer to take part in the research rather than being approached by the researcher or evaluator directly.
Snowball Sampling	A sampling and recruitment method in which existing study subjects or a small group of known contacts helps to recruit future subjects from among their acquaintances. Snowball sampling (also known as chain sampling, chain-referral sampling, and referral sampling) is often used when members of a population are hard to reach or locate.

PROS AND CONS OF PROBABILITY AND NON-PROBABILITY SAMPLING

	Pros	Cons
Probability Sampling	• Can allow researchers and evaluators to make statistical inferences about a larger population	• Can be very expensive • May not be appropriate for certain evaluation or research designs, or may be impossible or unnecessary for others (e.g., natural experiments)
Non-Probability Sampling	• Can allow researchers and evaluators to better understand the intricacies of the sample and/or the topic of interest • Often easier, faster, and cheaper compared to probability sampling techniques • Can be used for evaluation or research designs where probability sampling is impossible, unnecessary, unethical, or excessively expensive	• Often cannot be used to make generalizations about a larger population due to issues with bias and validity

References:
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