

“Sampling Strategies”

Kandace J. Landreneau, RN, PhD, CCTC, Post-Doctoral Research Fellow, University of California-San Francisco, Walnut Creek, CA, Research Committee Member

What is a sample?

A sample is a subset of your population by which you select to be participants in your study.

What is sampling?

Sampling is simply stated as selecting a portion of the population, in your research area, which will be a representation of the whole population.

What are sampling strategies?

The strategy is the plan you set forth to be sure that the sample you use in your research study represents the population from which you drew your sample. For example, if your study included the living donors then the strategy you chose to enter them would help support that they are representative of all living donors. As an introduction, there are terms associated with sampling: population, sample, sampling frame, eligibility criteria, inclusion criteria, exclusion criteria, representativeness, sampling designs, sampling bias, sampling error, power analysis, effect size, and attrition. Types of sampling include convenience, accidental, snowball, quota sample, purposive sampling, simple random sampling and cluster sampling,. The parts of the sampling process and terms used by researchers sometimes overlap and any researcher will find it helpful to become familiar with the terms listed above. Within this fact sheet, we will focus only on sampling strategies.

In quantitative studies, the representativeness is the important quality of a sample. A question you should ask yourself is: ‘Does this sample represent the key characteristics of the population we are studying?’ Specific sampling procedures are less likely to result in biased samples than others, yet there is not a guarantee of a representative sample. Researchers operate under conditions in which error is possible. As a quantitative researcher, we are to minimize or control for errors.

In certain types of sampling strategies, it is possible to estimate through statistical procedures the margin of error in the data obtained from samples. You will wish to choose a sampling design that would the least amount of associated error. The major groups of sample designs are probability sampling and non probability sampling:

Probability sampling – includes some form of random selection in choosing the elements. Greater confidence can be placed in the representativeness of probability samples. This type of sampling involves a selection process in which each element in the population has an equal and independent chance of being selected. Four main methods include: 1) simple random, 2) stratified random, 3) cluster, and 4) systematic.

Non-probability sampling – the elements that make up the sample, are selected by nonrandom methods. This type of sampling is less likely than probability sampling to produce representative samples. Even though this is true, researcher can and do use non-probability samples. The three main methods are: 1) convenience, 2) quota, and 3) purposive.

When you have decided your sampling design and your sample size, you then make a sample plan. Your sampling strategy consists of the steps you delineate in your sampling plan.

Most *quantitative* studies follow these steps: 1) Select the target population, 2) Select the accessible population, 3) State the eligibility criteria, 4) Outline the sampling plan, and 5) recruit the sample.

Most *qualitative* studies might evolve this way: 1) a general idea of where and with what population to start and by soliciting a few cases through convenience procedures, 2) successive sample units are selected based on what has already been selected, 3) informants are often used to help in selection of sample members, 4) the sample will be adjusted according to conceptualizing, 5) sampling continues until saturation is achieved, and 6) the final sample may include confirming or disconfirming cases.

Additional sampling “terminology”:

Sampling bias: This involves problems in your sampling, which reveals that your sample is not representative of your population.

Sampling error: This error occurs when there is a fluctuation of the statistical value from one sample to another when it is calculated from your same population.

Sampling frame: This is the list of the elements in your population and from this your sample is drawn.

Summary

In any study, the sample you choose is critical to the overall research process. You may have a great question, but based on your sample are you able to make inferences regarding the differences (or maybe the lack of differences) you found from your analysis? As you read other studies or develop your own study, pay careful attention to how the sample was drawn. If the sample is biased, then are the results valid? You set forth prior to the start of any study to lay out specific rules for selection of your sample so that you can limit the amount of bias in your sample so that generalizations can be made.

References

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