

Nonprobability Sampling

The difference between nonprobability and probability sampling is that nonprobability sampling does not involve *random* selection and probability sampling does. Does that mean that nonprobability samples aren't representative of the population? Not necessarily. But it does mean that nonprobability samples cannot depend upon the rationale of probability theory. At least with a probabilistic sample, we know the odds or probability that we have represented the population well. We are able to estimate confidence intervals for the statistic. With nonprobability samples, we may or may not represent the population well, and it will often be hard for us to know how well we've done so. In general, researchers prefer probabilistic or random sampling methods over nonprobabilistic ones, and consider them to be more accurate and rigorous. However, in applied social research there may be circumstances where it is not feasible, practical or theoretically sensible to do random sampling. Here, we consider a wide range of nonprobabilistic alternatives.

We can divide nonprobability sampling methods into two broad types: *accidental* or *purposive*. Most sampling methods are purposive in nature because we usually approach the sampling problem with a specific plan in mind. The most important distinctions among these types of sampling methods are the ones between the different types of purposive sampling approaches.

Accidental, Haphazard or Convenience Sampling

One of the most common methods of sampling goes under the various titles listed here. I would include in this category the traditional "man on the street" (of course, now it's probably the "person on the street") interviews conducted frequently by television news programs to get a quick (although nonrepresentative) reading of public opinion. I would also argue that the typical use of college students in much psychological research is primarily a matter of convenience. (You don't really believe that psychologists use college students because they believe they're representative of the population at large, do you?). In clinical practice, we might use clients who are available to us as our sample. In many research contexts, we sample simply by asking for volunteers. Clearly, the problem with all of these types of samples is that we have no evidence that they are representative of the populations we're interested in generalizing to -- and in many cases we would clearly suspect that they are not.

Purposive Sampling

In purposive sampling, we sample with a *purpose* in mind. We usually would have one or more specific predefined groups we are seeking. For instance, have you ever run into people in a mall or on the street who are carrying a clipboard and who are stopping various people and asking if they could interview them? Most likely they are conducting a purposive sample (and most likely they are engaged in market research). They might be looking for Caucasian females between 30-40 years old. They size up the people passing by and anyone who looks to be in that category they stop to ask if they will participate. One of the first things they're likely to do is verify that the respondent does in fact meet the criteria for being in the sample. Purposive sampling can be very useful for situations where you need to reach a targeted sample quickly and where sampling for proportionality is not the primary concern. With a purposive sample, you are likely to get the opinions of your target population, but you are also likely to overweight subgroups in your population that are more readily accessible.

All of the methods that follow can be considered subcategories of purposive sampling methods. We might sample for specific groups or types of people as in modal instance, expert, or quota sampling. We might sample for diversity as in heterogeneity sampling. Or, we might capitalize on informal social networks to identify specific respondents who are hard to locate otherwise, as in snowball sampling. In all of these methods we know what we want -- we are sampling with a purpose.

- Modal Instance Sampling

In statistics, the *mode* is the most frequently occurring value in a distribution. In sampling, when we do a modal instance sample, we are sampling the most frequent case, or the "typical" case. In a lot of informal public opinion polls, for instance, they interview a "typical" voter. There are a number of problems with this sampling approach. First, how do we know what the "typical" or "modal" case is? We could say that the modal voter is a person who is of average age, educational level, and income in the population. But, it's not clear that using the averages of these is the fairest (consider the skewed distribution of income, for instance). And, how do you know that those three variables -- age, education, income -- are the only or even the most relevant for classifying the typical voter? What if religion or ethnicity is an important discriminator? Clearly, modal instance sampling is only sensible for informal sampling contexts.

- Expert Sampling

Expert sampling involves the assembling of a sample of persons with known or demonstrable experience and expertise in some area. Often, we convene such a sample under the auspices of a "panel of experts." There are actually two reasons you might do expert sampling. First, because it would be the best way to elicit the views of persons who have specific expertise. In this case, expert sampling is essentially just a specific subcase of purposive sampling. But the other reason you might use expert sampling is to provide evidence for the validity of another sampling approach you've chosen. For instance, let's say you do modal instance sampling and are concerned that the criteria you used for defining the modal instance are subject to criticism. You might convene an expert panel consisting of persons with acknowledged experience and insight into that field or topic and ask them to examine your modal definitions and comment on their appropriateness and validity. The advantage of doing this is that you aren't out on your own trying to defend your decisions -- you have some acknowledged experts to back you. The disadvantage is that even the experts can be, and often are, wrong.

Quota Sampling

In quota sampling, you select people nonrandomly according to some fixed quota. There are two types of quota sampling: *proportional* and *non proportional*. In **proportional quota sampling** you want to represent the major characteristics of the population by sampling a proportional amount of each. For instance, if you know the population has 40% women and 60% men, and that you want a total sample size of 100, you will continue sampling until you get those percentages and then you will stop. So, if you've already got the 40 women for your sample, but not the sixty men, you will continue to sample men but even if legitimate women respondents come along, you will not sample them because you have already "met your quota." The problem here (as in much purposive sampling) is that you have to decide the specific characteristics on which you will base the quota. Will it be by gender, age, education race, religion, etc.?

Nonproportional quota sampling is a bit less restrictive. In this method, you specify the minimum number of sampled units you want in each category. here, you're not concerned with having numbers that match the proportions in the population. Instead, you simply want to have enough to assure that you will be able to talk about even small groups in the population. This method is the nonprobabilistic analogue of stratified random sampling in that it is typically used to assure that smaller groups are adequately represented in your sample.

- Heterogeneity Sampling

We sample for heterogeneity when we want to include all opinions or views, and we aren't concerned about representing these views proportionately. Another term for this is sampling for *diversity*. In many brainstorming or nominal group processes (including concept mapping), we would use some form of heterogeneity sampling because our primary interest is in getting broad spectrum of ideas, not identifying the "average" or "modal instance" ones. In effect, what we would like to be sampling is not people, but ideas. We imagine that there is a universe of all possible ideas relevant to some topic and that we want to sample this population, not the population of people who have the ideas. Clearly, in order to get all of the ideas, and especially the "outlier" or unusual ones, we have to include a broad and diverse range of participants. Heterogeneity sampling is, in this sense, almost the opposite of modal instance sampling.

Snowball Sampling

In snowball sampling, you begin by identifying someone who meets the criteria for inclusion in your study. You then ask them to recommend others who they may know who also meet the criteria. Although this method would hardly lead to representative samples, there are times when it may be the best method available. Snowball sampling is especially useful when you are trying to reach populations that are inaccessible or hard to find. For instance, if you are studying the homeless, you are not likely to be able to find good lists of homeless people within a specific geographical area. However, if you go to that area and identify one or two, you may find that they know very well who the other homeless people in their vicinity are and how you can find them.