



SAMPLING METHODS

Sample sizes and methods

Cognitive Approach

When you carry out a study, you have a **target population** – which is the group of people you are doing the research into. However, you will almost always find it is not possible to study *everyone* in that group, either because some people are not willing to participate, or even just because the group is too large, for example, you cannot test every American male between the ages of 20 and 40 just because this is your target population. Therefore, you have to use what is called a **representative sample** – this simply means including members of each type of person within the target population in the correct proportion. It is important that a representative sample contains a decent number of participants in order to obtain the best results. To decide on the sample size, you need to know three things:

- the size of the **sampling frame** (those that you are choosing from)
- the **confidence interval** (how far answers are thought can be not valid or unreliable – for example, a researcher might say that the results are true within a confidence interval of ± 3 so that a score of 20 in a questionnaire truly has a score between 17 and 23)
- the **confidence level** (the percentage of the sample that is likely to represent the population)

It is common for researchers to have a confidence interval of ± 3 and a confidence level of 95%. The sample size is calculated using a complicated formula you do not need to learn. An online calculator is available at www.surveysystem.com/sscalc.htm if you wish to further investigate.

RANDOM SAMPLING gives everyone an equal chance of being chosen. Each time a participant is to be chosen to be part of the sample, everybody within the target population is available for selection and has the same chance as the next person of being used. Examples of ways to use simple random sampling include putting everyone's names in a hat and drawing them out as each participant is required, or assigning everyone within the target population a random raffle ticket and drawing out raffle ticket numbers to choose the participants

- ✓ There is no bias in the way in which participants are chosen – everybody has an equal chance and no one is systematically excluded from the sample. Therefore, the sample is theoretically likely to be representative
- ✓ It is clear to everyone how the sample was chosen – it can be easily explained and understood
- ✗ There can be difficulty in obtaining the names of everyone in the target population, which may cause bias
- ✗ Bias can arise if certain participants are chosen but cannot participate, for example if they are busy on the day in which the study is taking place, or simply if they don't want to
- ✗ The sample chosen by random sampling may not be useful, for example, if the study is investigating obedience within males and females between the ages of 20 and 40, random sampling may produce all male participants

STRATIFIED SAMPLING is used to ensure that certain groups are all represented by the sample. The researcher will decide what specific groups need to be tested within the sample, and will calculate how many people should be selected from each group using proportions. If you are investigating obedience in males and females between the ages of 20 and 40, you may separate them into four categories (males 20-29, males 30-40, females 20-29, females 30-40). If there were four times as many men as women, you would sample four times as many males

- ✓ Each group has to be represented by the sample, and so clear conclusions can be drawn outlining differences between the groups
- ✓ Stratified sampling ensures that the right number of people from each group is chosen to represent their group. With random sampling, people from each group may still be picked but not in the correct proportions
- ✗ It can be difficult to know how many to choose from each group to make the findings generalisable
- ✗ The groups chosen by the researcher may not necessarily all be the important groups. Having the groups already decided means that some people will automatically be ruled out as participants

[youtube.com/c/MegaLecture/](https://www.youtube.com/c/MegaLecture/)

+92 336 7801123

aspsychology101.wordpress.com

VOLUNTEER SAMPLING (or self-selected sampling) calls for volunteers to willingly contribute their time for the study. They may respond to a letter inviting a number of people to participate, or more commonly might respond to an advertisement, which often involves payment also

- ✓ The most ethical form of sampling because the participants come to the researcher rather than the researcher seeking them out
- ✓ Volunteers have self-selected themselves and are therefore most likely interested in the piece of research, this means that they will be less likely to give biased information or go against the researcher's instructions
- ✓ The volunteers are willing to be involved in the study
- ✗ Can take a long time to get enough willing participants because the researcher has to wait for a response to their advertisement or letter
- ✗ Because the participants have all selected themselves, they might all be similar in some way which will not provide a broad spectrum of results which is applicable to many other groups

OPPORTUNITY SAMPLING is less a mathematical method of sampling, and more of a "pick whoever is available" approach. Researchers will use whoever they can find who is willing to take part in the study. The ways in which the participants are chosen are not structured. An example might be someone doing questionnaires in a town high street. They will probably not have a specific participant in mind, but instead will just attempt to use everyone, and will happily include anyone who agrees to take part in the findings

- ✓ Can be ethical, for example, if the researcher is able to judge if the experiment will upset the potential participant or if they can work out if they will be too busy to participate in the research
- ✓ The researcher has a lot of control over who is used to participate, and access to potential participants is not limited
- ✗ There is a lot of potential bias from the researcher – they may only choose people who are similar to themselves in some way, whether it be preferring people from the same sex or people of the same age as them