In psychological research, it is impossible to study everyone (7 billion +) so the psychologist must try and get a sample that is most representative of their target population.

**A target population** is the group of people the psychologists want to be able to generalise their findings to.

In some types of research the target population might be as broad as all humans, but in other types of research the target population might be a smaller group such as teenagers, pre-school children or people who misuse drugs

e.g. if a psychologists wanted to investigate how much TV 16-18yr olds watched, the target population would be all 16-18 year olds who watch TV. The psychologists then needs to take a sample of people who are 16-18year olds to reflect this target population.

**Sampling** is the process of selecting participants from the population. The participants in research (the sample) should be as representative as possible of the target population. The more representative the sample, the more confident the researcher can be that the results can be generalised to the target population.

More often than not there will most likely be a problem with a psychologist’s sample.

Problems with **generalisability** may include: only studying people from one area, there may be a bias in age (too many old or young), more men than women may have been used which creates gender **bias**, or they may only be reflective of one type of ethnic origin. These are all issues that psychologists need to take in to consideration when deciding how to select their participants and when analysing their results.

**Sample Size**

Psychologists try to have as large a sample as possible in order to be able to generalise to the target population confidently. The ideal sample size depends on the size of the target population. If the sample size is below 50 Ps, it is usually called idiographic. Larger sample sizes are called nomothetic.

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**Big**

**Broad**

**Confidently**

**Generalisability**

**Impossible**

**Participants (Ps)**

**Population**

**Problem**

**Psychologists**

**Research**

**Sample**

**Select**

**Small**

**Target**

**Sample Sizes of the Core Studies**

|  |  |  |
| --- | --- | --- |
| Social | Milgram  | 40 |
| Bocchiaro  | 149 |
| Piliavin  | 4550 |
| Levine  | Unknown number from 23 countries |
| Cognitive | Loftus and Palmer  | 45 |
| Grant  | 39 |
| Moray  | 28 |
| Simons and Chabris  | 192 |
| Developmental | Bandura | 72 |
| Chaney  | 32 |
| Kohlberg  | 75 |
| Lee  | 228 |
| Biological | Sperry  | 11 |
| Casey  | 59 |
| Blakemore and Cooper  | 2 kittens |
| Maguire  | 66 |
| Individual Differences | Freud  | 1 |
| Baron-Cohen  | 76 |
| Gould  | 1.75 million |
| Hancock | 52 |

**Which Core Studies are idiographic? Which are nomothetic?**

**Which areas are generally idiographic? Which are generally nomothetic?**

**Key Terms**

* Androcentric: biased towards men.
* Cultural bias: Sample is too focused on one culture, isn’t representative of all cultures.
* Estrocentric: biased towards women.
* Ethnocentric: biased towards one culture/ethnicity
* Gender bias: Sample is made of people from one gender, it is not representative of all genders.
* Idiographic = people are studied as unique entities, each with their own subjective experiences, motivations and values. There may be no attempt made to compare these to a larger group, standard or norm.
* Nomothetic = aims to produce general laws of human behaviour. These provide a ‘benchmark’ or reference against which all people can be compared, classified and measured, and so likely future behaviour can be predicted and/or controlled.
* Population validity: Can we generalise results from our sample to the target population?
* Representative: How well a sample reflects the target population.
* Sample: A small set of people taken from the target population.
* Target Population: The set of people researchers want to find out about.

|  |  |  |  |
| --- | --- | --- | --- |
| **Target Population** | **Sample** | **Representative?** | **Key Terms** |
| Nurses | 42 nurses from Watford 39 female 3 male | Yes / No because …. |  |
| The Elderly | 481 care home residents481 male | Yes / No because …. |  |
| People  | 20 psychology A-level learners17 female 3 male | Yes / No because …. |  |



Samples can be **biased**; they do not reflect the target population and this affects the conclusions we can draw from these samples.

Therefore, we need to be careful in selecting participants for our study. There are four different sampling techniques we use to do this.

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**Opportunity Sampling**

Anyone who is available at the time of your research.

e.g. I want to research into the eating habits of men. I walk around the school and survey the first 20 males I find.

**Evaluation**

* Quick and cheap to carry out, so easy to replicate.
* Good for characteristics that we can assume are the same for everyone.
* Only sampling method for some research methods (covert field experiment).
* Sample Bias (researcher might choose helpful looking people).
* Still have to ask the participant to take part, which means they could decline.

**Self-selected Sampling (volunteer)**

Participants choose themselves to take part in the study. They could be recruited through; using online email surveys, signing up or applying to take part, or responding to adverts or posters.

e.g. Who would fill out an online survey?

**Evaluation**

* Quick and practical to carry out, so easy to replicate.
* Can reach a wider variety of participants.
* Ethical, as participants have given their consent to taking part.
* Sample Bias (biased towards the type of person who volunteers for research).

**Snowball Sampling**

Participants are recruited through being friends/colleagues of existing participants.

e.g. The researcher may know five participants to take part in their research but needs more, so may ask the participants themselves to bring friends of theirs to take part in the research too.

**Evaluation**

* Quick and practical to carry out, so easy to replicate.
* Can reach a wider variety of participants.
* Ethical, as participants have given their consent to taking part.
* Sample Bias (probably similar culture as all friends).

**Random sampling**

Every member of the population has a fair and equal chance of taking part.

e.g. Everybody puts their name into a hat, draw first 25 names out of the hat for the sample.

Facebook (2012): Randomly chose 689,000 users and showed either more positive or more negative wall posts.

**Evaluation**

* The most representative sampling technique to use.
* Provides unbiased sample.
* Time consuming and often impossible.
* Still have to ask the participant to take part, which means they could decline

**Sampling with Smarties**

1. Target population

Tip all the sweets out of the tube and record how many of each colour there is in the table.

|  |  |  |
| --- | --- | --- |
| Colour | Number | % |
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1. Total number of sweets – count how many there are altogether.
2. Percentages – divide how many red ones by the total number of sweets and then multiply by 100. Complete for each colour and record next to your table.

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| --- | --- | --- |
| Colour | Number | % |
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1. Opportunity Sampling
* Put all back into the tube. Shake the tube.
* Tip out 10 sweets from the tube. These are who is available to do your research. Record the results in the table

|  |  |  |
| --- | --- | --- |
| Colour | Number | % |
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1. Random Sampling
* Put 2 of each colour back into the tube. Shake the tube.
* Pick out 10 sweets at random one at a time and record how many of each you get in the table

**Evaluation:** How close were your samples to the target population? Write down some details below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name of Method | Description | Example | Strengths | Weaknesses  |
| Random sampling | Every member of the population has a fair and equal chance of taking part. | * Everybody puts their name into a hat, draw first 25 names out of the hat for the sample.
* Facebook (2012): Randomly chose 689,000 users and showed either more positive or more negative wall posts.
 | * The most representative sampling technique to use.
* Provides unbiased sample.
 | * Time consuming and often impossible.
* Still have to ask the participant to take part, which means they could decline.
 |
| Opportunity Sampling | Anyone who is available at the time of your research | * I want to research into the eating habits of men. I walk around the school and survey the first 20 males I find.
 | * Quick and cheap to carry out, so easy to replicate.
* Good for characteristics that we can assume are the same for everyone.
* Only sampling method for some research methods (covert field experiment)
 | * Sample Bias (probably similar culture or researcher might choose helpful looking people).
* Still have to ask the participant to take part, which means they could decline.
 |
| Self-selected Sampling (volunteer) | Participants choose themselves to take part in the study.They could be recruited through; using online email surveys, signing up or applying to take part, or responding to adverts or posters.  | * Who would fill out an online survey?
 | * Quick and practical to carry out, so easy to replicate.
* Can reach a wider variety of participants.
* Ethical, as participants have given their consent to taking part.
 | * Sample Bias (biased towards the type of person who volunteers for research).
 |
| Snowball Sampling | Participants are recruited through being friends / colleagues of existing participants. | * The researcher may know five participants to take part in their research but needs more, so may ask the participants themselves to bring friends of theirs to take part in the research too.
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 |

**Checking your understanding of samples and sampling methods**

Look at the scenarios below, firstly identify which sampling method you think has been used and then outline any strengths or weaknesses you can see with the samples.

1. A researcher wanted a selection of gym members to take part to see how many hours on average people attended the gym per week. The gym manager put all the names of the gym members from 3 Fitness First gyms in Hertfordshire in to a hat and picked out 20 to take part in their investigation.

Which sampling method is it?

Strength of the sample

Weakness of the sample

1. A researcher wanted to find out why people use public transport rather than cars. So he stood at a local train station in Watford and asked the first 50 people who were waiting to catch the train to answer his questions.

Which sampling method is it?

Strength of the sample

Weakness of the sample

1. An English teacher is undertaking research in to how well students remember poems whilst listening to music compared to not listening to music. She advertises for participants on the student notice board in houses and leaves an email address for students to respond to. She used the first 50 students who replied to take part in her experiment which consisted of 37 females & 13 males

Which sampling method is it?

Strength of the sample

Weakness of the sample

1. A researcher wants to investigate lunch time eating habits (do people eat sandwiches or prefer hot food, how often do they eat out etc.). He walks in to 3 different restaurants in Watford; Zizzi, Bella Italia and Wagamama between 12pm – 1pm to find participants to ask about their eating habits.

Which sampling method is it?

Strength of the sample

Weakness of the sample

1. A psychologist wants to find out how often homeless people make use of sheltered accommodation in the winter months, compared to the summer months. He approaches two homeless men in Watford city centre and asks them his questions then he asks them to suggest other homeless people who may be willing to take part in his investigation and where he can find them.

Which sampling method is it?

Strength of the sample

Weakness of the sample

1. The government wants to check people’s experience of passing through passport control, so a researcher is asked to stop every 5th person who walks through the barriers at Heathrow airport.

Which sampling method is it?

Strength of the sample

Weakness of the sample

**Sampling knowledge test [30 marks] Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. What is the definition of a target population? [2]

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1. Why is it desirable to obtain a representative sample for a research study? [2]

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1. The four different sampling techniques psychologists can use are [4]

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| --- | --- | --- | --- |
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1. How would you obtain a snowball sample? [2]

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| --- |
|  |

1. Which would give a researcher a random sample of 20 participants? Choose 1. [1]
2. Choosing every 3rd person from a list of 60 names listed in order of age.
3. Sticking a pin 20 times into a piece of paper listing 50 names in alphabetical order.
4. Taking out 20 names from a container of 100 names.
5. Using the first 20 people that enter a building.
6. Why do very few studies use random sampling as a method of obtaining participants? [3]

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1. What is self-selected sampling? [2]

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1. What is a weakness of using volunteer sampling? [3]

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1. Which will give the most representative sample of British teenagers in an investigation into the use of the internet? Choose 1. [1]
2. A sample drawn from five GCSE Computer Science classes in a secondary school.
3. A sample drawn from ten sixth form colleges across the United Kingdom.
4. A sample drawn from three secondary schools from different parts of the United Kingdom.
5. A sample drawn from users of an online gaming website based in the United Kingdom.
6. A psychology student who lives in Haldenham village is carrying out a project on beliefs about mental health; she asks 20 of her friends, family and neighbours to complete a questionnaire she has prepared.

Name the sampling method she has used [1] \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Explain 1 problem with the **sample** in the above scenario. [3]

|  |
| --- |
|  |

12. Explain 1 strength and weakness with the **sampling method** in the above scenario [6]

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|  |