



Research Explained

There are many different research methods and research purposes depending on who is conducting it and why. Many of us don't realise how much research surrounds us in our everyday lives. From market research, to vaccine development, to understanding population needs; research is involved in almost every aspect of society. The problem for many is that when we hear or see terms like "epidemiologist" in the news, we're left scratching our heads going "huh?"

This is NRAS' handy jargon buster, which we hope will help demystify the wording and terminology around research.

Research jargon buster:

Anonymity is a term you'll often see in the consent and debrief parts of a study. Researchers as a general rule try to anonymise their research participants, that is they will remove identifying features such as names, addresses etc. However, there are cases where full anonymity cannot be guaranteed such as in interviews where removal of identifying features can be omitted but the way an individual speaks or their own experience could be recognisable by someone who knows them.

A **control group** is typically one who does not receive the same intervention as an **experimental group** either through use of tools such as a **placebo** or by a different unrelated activity as opposed to the intervention or through simply not having the intervention. Alternatively, a control group may be one lacking a trait or quality the experimental group have, for instance; in clinical samples the experimental group may have a medical condition while the control group may not.

Often participants in both the control group and the experimental group will be matched on characteristics such as age and gender as closely as possible to minimise the number of differences between them to better understand the effects of the intervention used.

Correlations are another term for relationships or links between one thing and another but which are not **causal** in nature. For instance there is a correlation between academic performance and IQ level but having a higher IQ does not mean you will perform well in school. IQ does not cause academic performance to be good or bad but it is closely linked with it.

Clinical trial research is concerned with evaluating medical, surgical or behavioural interventions. Typically research of this sort compares one **experimental group** against a **control group** to measure the effect (or lack of) of an intervention. Clinical trial research tends to be made up of 5 distinct phases as illustrated in the flow chart below.

Double-blind studies are those where both the participants and the experimenter(s) are “blind” to the **condition** (or group) the participants are in. That is, they do not know to which group the participants are allocated (i.e. the control or experimental group). A **blind** study in comparison is where only the participants do not know which condition/group they are in.

Epidemiologists are also known as “disease detectives” for their role in researching viruses and diseases. They aim to answer questions such as what causes this disease, who is at greatest risk of infection and why and how do we manage, contain and treat this condition.

The **experimental condition/group** is one which receives the medical, surgical or behavioural intervention. A study may have more than one experimental condition.

For example, we may wish to look at the effect of exercise on sleep. In this case we might choose to have one group undertake “vigorous exercise” such as running and another group do “relaxing exercise” such as yoga, and compare the sleep quality of these groups with one another and with a control group.

Focus groups are small groups of individuals who are interviewed as a group to facilitate discussion of a given topic or experience.

Typically researchers will employ one of two approaches to participant selection:

1. Recruiting those with a shared characteristic or experience to gain insight into the lives of such individuals. For example, conducting a focus group with those who have been homeless.
2. Recruiting individuals from a broader range of backgrounds. For example, market researchers aiming to understand what consumers of different ages, genders and economic income want from a new product they are developing.

A **longitudinal study** is one which collects data over a prolonged period of time. This type of study often uses naturally or regularly occurring data for instance birth rates, and frequently utilises an **observational** method for instance, using a teacher to track the progress and behaviours in students over the school year. However, longitudinal studies can also be conducted using interviews or surveys too through the **follow-up** which may be conducted for example 3 months after initial study, then again at 6 months, 1 year etc.

Observational studies are studies where the researcher watches and records what they observe. These studies can be done in many different ways including;

- **Covert** observation (where the observer is hidden to the participant) and **overt** observation (where the observer is not hidden from the participant).
- Noting all interesting behaviours observed or only specific ones.
- Whether observers note what they’ve seen at set intervals of time or each time something of interest occurs.

- Whether naturally occurring phenomena and data (e.g. in real-world settings and/or without researcher intervention) is used or more specific, research manufactured phenomena is observed in a laboratory setting (e.g. observing group dynamics in an experimental task).

The term **opt-out** is used frequently in consent forms and debriefs for studies, and means simply to withdraw your data and participation from the study. Typically, a date is specified which is the latest a person can choose to opt-out by, this is to ensure the researcher has enough time to process and analyse the data they have collected.

A **placebo** is a term given to a substance or treatment which has no therapeutic value but which at face value seems similar in look and/or taste and/or administration to the experimental intervention. The most frequently used placebo is a sugar pill.

A **pseudonym** is a fake name assigned to an individual for the purposes of maintaining their **anonymity** in a study.

Psychometric tests are also known as **Aptitude tests**. They are used in many different settings including the job application process, and these types of tests can take many forms but all aim to test an underlying skill such as verbal reasoning or personality trait such as impulsiveness. Most commonly psychometric take the form of a statement which participants are asked to indicate a level of agreement with, however there are also **projective** tests such as the Rorschach inkblots (pictured below) where participants are asked to state what they see in the ink.

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Qualitative research is any study which examines words as its data. Typically this is through transcripts of interviews and surveys with a large written component. Studies like this tend to be focused on the viewpoint of the individual and understanding their particular view or experience of the world.

Quantitative research is any work which uses numbers as its data such as comparing the **mean** (average) IQ score of one group with another. Research using quantitative data often aims to generate a broader view of a group and generalise it to a larger population.

Social psychology research is that which focuses on the social side of things in our world, it is concerned with group behaviours or the experience of one group compared to another (e.g. how do those with RA or JIA experience work, education or hobbies), how we communicate and the impact of social structures on our behaviours, thoughts and mood.

Surveys and **Questionnaires** are an extremely commonly used way for researchers to gather large scale information from a specific population. Surveys and questionnaires may use **Likert scales** (e.g. on a scale of strongly disagree to strongly agree how much do you agree with the following statements?), **Closed questions** (e.g. Have you ever worn a hat? Yes [...], No [...]) or **Open questions** (e.g. please write about a time when you felt happy while with friends); but these are only the most

frequently used styles of question utilised. Research questionnaires are often distributed through computer mediated means such as emails and social media but may also be posted to individuals in a study or administered at the site of study