

2a – A Guide to Different Types of Data

Data is a collection of facts and numerical statistics that can be drawn together and analysed in order to answer a research question or start to draw wider conclusions.

Researchers think carefully about the type of data they wish to collect before they start planning their data collection methodologies. Broadly speaking, there are two types of data:

- **Qualitative Data.** This is data that does not hold a numerical value.
- **Quantitative Data.** This is data that can be measured using numbers.

For example, the average distance a person travels to work is quantitative data, while the place they travel from is qualitative data.

Quantitative data can be further divided into **discrete** data and **continuous** data. Discrete data is that which can only be measured using a specific numerical value (such as a percentage). Continuous data can take any value and in theory can carry on to an infinite number.

For example, the percentage of days in a year where the maximum daily temperature in the UK reaches over 20°C is discrete data because there is a limit to the number of values that can be chosen as the answer (in this case because we are considering percentages there are 101 possible choices – the values zero to one hundred).

However, if a researcher wanted to measure the average maximum daily temperature for the UK over a year, they would be looking at continuous data because, in theory at least, there is no end point to the possible highest temperatures recorded.



If the research demands that relationships between different variables be examined, it may not always be easy to find these relationships using qualitative data. However, in some cases, qualitative data can be translated into quantitative data. For example, in a survey of three hundred people, rather than record the exact address from which each person travels to work (qualitative data) one may be able to find the number of people who travel into work from a particular postcode (quantitative data).

Data can also be described as:

- **Primary Data** is that which is collected by the researcher first-hand, usually at a field research site.
- **Secondary Data** is data from other sources (usually previous studies) which the researcher uses.

Most researchers will use a combination of both primary and secondary data during their data collection process.