A Guide to Checking Your Biases

What is Bias?

Bias is something that can occur intentionally or unintentionally. It is where an activity, action, or research finding may be skewed to show favour or disfavour towards a particular person or group. Bias can happen at any point in the research process, and when not managed well, it can mean that the information collected becomes skewed and potentially inaccurate.

> *Note: Reducing bias is not just about improving accuracy, it's also about respecting participants, representing them fairly, and avoiding harm.*

Why Does Bias Happen?

Bias in research can occur due to a variety of factors. One reason is subconscious bias, where researchers may unknowingly favour certain outcomes or interpret data in a way that aligns with their preconceived beliefs.

Another factor is the influence of funding sources, as studies funded by certain organisations may have a vested interest in specific results. Additionally, the design and execution of a study can also introduce bias, such as the use of non-random sampling or inadequate blinding methods.

Understanding these factors can help researchers reduce bias and ensure the integrity of their studies. Sometimes bias can occur due to bad planning and lack of foresight of potential issues, lack of correct training in how to plan and create unbiased research.

Types of Researcher Bias

Sampling bias: can occur when the selection of participants for a research study isn't representative of the whole population. The skewed sample could lead to a misrepresentation of the data and flawed conclusions.

- E.g., Studying exercise habits but only surveying gym members

Observer/experimenter bias: can occur when the researcher allows their expectations or beliefs to influence the results of the experiment. This can lead to distorted data, as the researcher may subconsciously favour results that confirm their own preconceptions or hypotheses

- E.g., Recording more "positive" results for a favoured group

Adapted from CASP (https://casp-uk.net/news/different-types-of-research-bias/) and Healthwatch (https://network.healthwatch.co.uk/sites/network.healthwatch.co.uk/files/20191101_Managing%20Bias%20Resource%20guidance%20formatted_0.pdf)

Confirmation bias: is the tendency to favour, seek out, interpret, and remember information in a way that confirms one's pre-existing beliefs, whilst giving less consideration to alternative possibilities. This can lead to flawed conclusions as it may prevent researchers from accurately assessing all relevant data in a neutral manner.

- E.g., Highlighting data that supports your hypothesis and ignoring the rest

Measurement bias: can occur when data or information is not accurately recorded in a research study. This can stem from errors in data collection, inconsistent measurement tools, or subjective interpretation of data, leading to skewed and unreliable results.

- E.g., Using a faulty scale for weight measurements

Question bias: can occur when the way in which a question is written or said can affect the answer given. It's important to note that children, young people, and vulnerable adults are more susceptible to get influenced when they are asked leading questions (i.e., those that prompt or encourage a certain answer).

- E.g., Asking a leading question instead of a neutral one

Reporting bias: can occur if researchers selectively report or omit information based on the outcome of the research or personal beliefs, which can distort the findings and undermine the integrity of the study.

- E.g., Publishing only results that showed a significant effect

Tips to Minimize Bias

1. Involve multiple researchers, and more than one person to analyze the data. If more than one person is involved in collecting and analysing the research data, then the chances of personal views influencing the findings will be minimised.
2. Consider using more than one method of data collection. This will help test the consistency of your findings.
3. Ask participants to review your results, to see whether your interpretations represent their beliefs accurately.
4. Verify your findings with external data sources, such as similar work by other research teams. If their findings support your interpretations, you can be more confident about your results.
5. Be clear about the outcomes you want to achieve through your research.
6. Be inclusive and involve as diverse groups as possible.
7. Understand and consider the needs and requirements of the participants.
8. Be aware of issues that may cause bias in your results.
9. Mitigate issues to prevent any bias.
10. Be transparent and honest about your approach.