

Bias

A bias is a limitation in objective thinking; it is a tendency to perceive information through a cognitive filter of experience and preference. Psychologists should be aware of biases that occur during the research process—that is, researcher biases, participant biases, sampling bias, confirmation bias and publication bias. It is important not to just recognize the bias, but to understand how it may affect the way research is

conducted and the results analysed and interpreted. Creating controls for bias is an important part of the research process. Psychological research attempts to be objective, while at the same time recognizing that much of the data that is collected is subjective and that bias can be implicit or explicit.

Biases such as gender and cultural biases are present in clinical psychology and can affect diagnosis, prevalence statistics and treatment. Biases may also be toward a certain perspective in psychology and result in reductionism.

Biases also affect how choices are made on a daily basis. Cognitive biases may be applied because there is not enough time, information or motivation to make a decision. Anchoring, representativeness and availability biases can affect thinking and decision-making.

Related terms

Terms related to this concept include but are not limited to the following.

- Researcher bias, participant bias sampling bias, confirmation bias, publication bias
- Gender bias, cultural bias
- Sampling techniques
- Determinism (biological and environmental)
- Cognitive biases
- Credibility, reflexivity, inter-rater reliability
- Positivism, reductionism vs holism

Causality

Psychologists investigate the relationship between variables with the goal of determining cause-and-effect relationships. However, human behaviour is complex, so often causality is not the direct effect of one variable on another, but often the interaction of several variables. Simple relationships may be the result of direct causal relationships.

Related terms

Terms related to this concept include but are not limited to the following.

- Reductionism
- Correlation vs causation; bidirectional ambiguity
- Validity: internal vs external validity
- Controls: extraneous variables, placebos, double-blind, wait-listing
- Statistical significance
- Complexity
- Influence vs interaction
- Agency, motivation

Change

A key focus of psychological research is how to apply theory and psychological findings with the goal of changing individual behaviours. One of the great debates of psychology is the extent to which we have free will over our behaviour versus whether behaviours are determined. Change is a constant in the human experience and can be gradual (as in human development) or sudden (as in mood changes). It can also be deliberate, as with intrinsic motivation to change one's behaviour through education or health treatments. Unplanned change can be due to unexpected biological changes in the body or mind while planned change can involve individual and group adaptation to evolving circumstances, such as environmental and technological influences.

Researchers look at theories of how to promote change—whether it be encouraging stress management, healthy eating or stopping unhealthy behaviour. However, psychologists also recognize that there is resistance to change. Psychologists evaluate the effectiveness of treatments and health promotion strategies on the individual, local and global levels.

Related terms

Terms related to this concept include but are not limited to the following.

- Barriers to change
- Prevalence
- Use of longitudinal and repeated measures designs
- Intervention, prevention and promotion strategies
- Effectiveness of treatment
- Development and maturation
- Determinism (biological and environmental)
- Agency, motivation

Measurement

A fundamental challenge for psychologists is that human behaviour is difficult to observe and objectively measure. Measurement varies according to the context in which it is applied and the theory underlying its use. Psychologists must select appropriate methods for studying and collecting data relevant to the behaviour studied. An important aspect of measurement is the operationalization of variables in order to allow for reliable measurement and a valid representation of the behaviour being studied. Triangulation of methods allows for researchers to establish the credibility of their findings.

There are strengths and limitations to each type of evidence collected. Measurements may be direct or indirect. Data may be quantitative or qualitative—or a mix of both.

Psychologists use various techniques to measure variables affecting behaviour, including brain imaging techniques, twin studies, virtual reality simulations and questionnaires. In some cases measurement involves collection and statistical analysis of large amounts of quantitative data. In others, measurement is indirect—for example, determining the role of a neurotransmitter in a behaviour by measuring brain activity using brain imaging technology such as an MRI scanner.

Related terms

Terms related to this concept include but are not limited to the following.

- Choice of research method
- Constructs and variables; operationalization of variables
- Types of data (self-reported, empirical)
- Statistical significance; type I and type II errors
- Brain imaging
- Interpretive approaches (content analysis)
- Prospective vs retrospective approaches; longitudinal vs cross-sectional research designs

Perspective

Psychology is the rigorous and systematic study of behaviour. A challenge unique to this academic discipline is the complexity of studying the behaviour of humans with highly developed frontal lobes, self-awareness, cognitive abilities, advanced social structures and cultures. As a result, within psychology there are a number of different approaches that have evolved to provide a multi-perspective understanding of human beings. The content of DP psychology comprises three approaches which examine how biological, cognitive and sociocultural factors influence human behaviour. No single perspective explains behaviour sufficiently on its own; each provides a means by which to interpret and examine behaviour.

Each perspective or approach is based on a series of assumptions about behaviour and beliefs about research. For example, sociocultural approach takes a more holistic approach, using both etic and emic methodology.

Related terms

Terms related to this concept include but are not limited to the following.

- Biological, cognitive, sociocultural approaches
- Psychological theories, psychological models
- Deductive and inductive research methodology and data analysis
- Emic and etic perspectives/approaches
- Perspectives of Indigenous people
- Alternative explanations and interpretations

Responsibility

Psychologists rely on humans as participants in their research; the relationship between researchers and participants is based on the premise of treating each other with respect. As researchers, therapists or government advisers, for example, psychologists can have positions of power and should act with social responsibility. In the use of animal participants, researchers should attempt to reduce the number of animals used, refine the conditions of the research in order to minimize harm and always attempt to replace animals with alternatives.

Ethical principles guide psychologists, and those studying psychology, to make reasoned and responsible decisions to ensure that benefits are maximized and costs are minimized. Ethical standards can also affect the results of research. Informed consent can introduce participant variables, the right to withdraw can lead to sampling biases, and anonymity can increase the validity of self-reported data.

It is important to note that the core ethical considerations have been developed over time, and may continue to adapt and change depending on the context. Today it is recognized that the way research is applied is also the responsibility of psychologists. This includes protecting marginalized groups from stigma, making sure that the public understands the level of uncertainty in a study's findings and advocating for change in governmental policies in line with research findings.

Related terms

Terms related to this concept include but are not limited to the following.

- Ethical standards in research, use of deception, informed consent, cost-benefit analysis, anonymity, debriefing, right to withdraw, protection from harm
- Use of animals; use of child participants; research in public spaces including observation-only research
- Socially sensitive issues; stigma; publication of findings; advocacy