

THE SCIENCE OF PSYCHOLOGY: Chapter 1.....

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The nature of psychology

Psychology is the scientific study of behaviour and the mind.

Behaviour refers to actions and responses that we can directly observe,

Mind refers to internal states and processes—such as thoughts and feelings—that cannot be seen directly and that must be inferred from observable, measurable responses

Clinical psychology: the study and treatment of mental disorders.

Cognitive psychology specialises in the study of mental processes, especially from a model that views the mind as an information processor

Biopsychology or behavioural neuroscience focuses on the biological underpinnings of behaviour.

Developmental psychology examines human physical, psychological and social development across the life span and the effects of ageing on cognitive and behavioural processes.

Experimental psychology focuses on basic processes such as learning, sensory systems (e.g. vision, hearing), perception and motivational states (e.g. sexual motivation, hunger, thirst).

Industrial-organisational (I/O) psychology examines people’s behaviour in the workplace.

Personality psychology focuses on the study of human personality.

Social psychology examines people’s thoughts, feelings and behaviour pertaining to the social world: the world of other people.

Psychology's scientific approach

Science is a process that involves systematically gathering and evaluating empirical evidence to answer questions and test beliefs about the natural world.

Empirical evidence is evidence gained through experience and observation. **Systematic observations** (i.e. performed according to a system of rules or conditions) so that they will be as objective and precise as possible.

Understanding behaviour: some pitfalls of everyday approaches

We often take **mental shortcuts** when forming judgments, shortcuts that sometimes serve us poorly. Judging someone's personality based solely on stereotypes about his or her physical appearance would be an example of a mental shortcut.

Because many factors in real life may operate simultaneously to influence behaviour, we may **fail to consider alternative explanations** for a behaviour and assume that one factor has caused it when in fact some less obvious factor was the major cause.

Once our beliefs are established, we often fail to test them further. In this vein, we tend to display a **confirmation bias** by selectively paying attention to information that is consistent with our beliefs and downplaying or ignoring information that is inconsistent with them. **In principle, science ultimately is a self-correcting process.**

Thinking critically about behaviour

Critical thinking involves taking an active role in understanding the world around you, rather than merely receiving information. Critical thinking also means evaluating the validity of something presented to you as fact. For example, when someone makes a claim or asserts a new 'fact', ask yourself the following questions, just as a scientist would:

- What, exactly, is the claim or assertion?
- Who is making the claim? Is the source credible and trustworthy?
- What is the evidence and how good is it?
- Are other explanations possible? If so, can I evaluate them?
- What is the most appropriate conclusion?

Goals of psychology

Psychology has four central goals:

1. **Description:** psychologists seek to describe how people behave, think and feel.
2. **Explanation:** psychologists strive to explain—to understand—why people act as they do.
3. **Control:** psychologists exert control by designing experiments or other types of research to test whether their proposed explanations are accurate
4. **Application:** psychologists apply psychological knowledge in ways that enhance human welfare—for example, applying knowledge of social cognition processes to reduce stereotypes and prejudice.

Basic and applied research

Science involves **basic research**, which reflects the quest for knowledge for its own sake, and **applied research**, which is designed to solve specific, practical problems.

Psychology's broad scope: a simple framework

We call it **levels of analysis**: behaviour and its causes can be examined at the:

- **biological level** (e.g. brain processes, genetic influences)
- **psychological level** (e.g. our thoughts, feelings and motives)
- **environmental and social level** (e.g. past and current physical and social environments to which we are exposed).

Mind-body and nature-nurture interactions

Mind-body interactions—the relations between mental processes in the brain and the functioning of other bodily systems. Mind-body interactions focus our attention on the fascinating interplay between the psychological and biological levels of analysis.

Example: Form a mental picture of a favourite food and you may trigger a hunger pang. Focus on positive thoughts when facing a challenging situation and you may keep your bodily arousal in check; dwell instead on negative thoughts and you can rapidly stimulate the release of stress hormones