

What is Psychology

Psychology:	The study of mental and behavioural processes
theory-driven:	uses theories to explain behaviour
empirical:	based on research
multi-level:	explained by the brain, the individual, and the group
contextual:	psychological perspectives continue to evolve, which impacts work in psychology

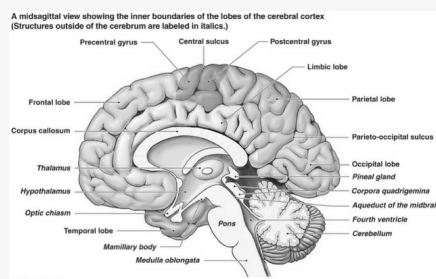
Theories

Structuralism	Founded by Wilhelm Wundt	Focus on human cognitive behaviour
Functionalism	Founded by William James	Focus on function of behaviours
Psychoanalysis	Founded by Sigmund Freud	Focuses on the study on the human mind (subconscious)
Behaviourism	Founded by John B. Watson	Focus on the concept of observable behaviour

Wilhelm Wundt (1832-1920)

- Father of **experimental** psychology
- Established the **first psychology lab** in 1879 Germany
- Used **empirically-driven** experiments
- Studied **consciousness**
- **Voluntarism** behaviours are motivated
- Developed **structuralism**

Labeled brain



Brainstem (Medulla) = breathing & heartbeat
 Reticular formation = arousal, sleep, filters stimuli
 Cerebellum = voluntary movement
 limbic system (Hippo HAT)
 - HIPPOcampus = memory
 - Hypothalamus = hunger, thirst, sexual behavior
 - - pituitary gland = hormones
 - Amygdala = fear, anger
 - Thalamus = touch, taste, sight, hear

William James (1842-1910)

- Established the first psychology lab in America at Harvard University
- Wrote the first psychology textbook "Principles of Psychology" (1890)
- **Functionalism** sees consciousness as a fluid stream rather than fixed elements, uses empirical methods that focuses on the cause and effects of behaviour

Emphasis was also - placed on studying animals, children, and individuals with mental disorders

Experiment Terms

Independent variable	variable that is being manipulated
Dependent variable	variable that is being measured/ changed by the independent variable

Experiment Terms (cont)

Operationalize/Operational definition	how researchers decide to measure our variables
Population	The entire group that is of interest to researchers
Sample	A portion of the population that is selected for the study, Must represent the population
Random selection	everyone in the population of interest has an equal chance of selection
Sampling bias	selecting a group that is likely to confirm your hypothesis

Therapy

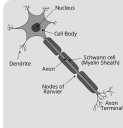
Counterconditioning	Conditioning a new response incompatible with old
Systematic desensitization	Relaxation replaces anxiety or systematically
Flooding	Go straight into the fearful situation. CR is extinguished
Aversive conditioning	Unpleasant response associated (alcohol + drug creating nausea UR & PR)



Therapy (cont)

Token economy	Given token (poker chip) when desired behaviour preformed. Tokens cashed on for tangible rewards
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Nerves



OVERVIEW OF THE NERVOUS SYSTEM AND THE NEURON
While there are two main learning targets in this section of the unit, they encompass a vast amount of information. The good news is that most of us have covered these topics in other coursework, such as Biology or Anatomy and Physiology.

First, be prepared to describe the nervous system, the subdivisions, and the functions of the components of each of these.

NEURAL FIRING
Be able to explain the basic process of transmission of a signal within and between neurons. There are three phases of communication within a neuron. The first is **action potential**, the impulse when a neuron fires. There is a brief **refractory period** when the neuron is recharging, followed by the **resting potential**, when the recharged neuron is awaiting the next action potential to be generated. Review how sodium and potassium help alter the transmission.

Next, identify the basic processes and interaction of systems that are the foundations of the biological basis of behavior. In other words, you know the "parts," and the main purpose. How does that "part" impact our behavior, both when it is functioning properly, and otherwise? Although dysfunction will be delved into more intensively in later units, it is still an important aspect to recognize here. This can be key if the free-response question (FRQ) requires you to explain the biological reason that a behavior, or disorder, could be occurring.

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Therapy

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The Goals of Psychology

- Describe
- Explain
- Predict
- Control

Maslows Hierarchy of Needs



Research Methods

independent variable = cause
experimental group = exposed to cause
control group = not exposed to cause
dependent variable = effect (measures how subjects behave)
blind study = subjects don't know if they get drug or placebo
double-blind study = subjects & researchers don't know who gets drug/placebo
correlation coefficient = describes strength of relationship

Nature V.S Nurture

Nature	Genetics determine our behaviour
Nurture	Our environment and life upbringing determine our behaviour

Limbic System

Hippocampus	(campus = learning/memories)
Hypothalamus	(FFFF = Fight, Flight, Feed, Mating)
Amygdala	(emotions)
Thalamus	(Tell 'em = senses (except for smell))

Memory Terms

Recall	A measure of memory in which the person must retrieve information learned earlier (fill in blank)
Recognition	A measure of memory in which the person need only identify items previously learned (multiple choice)
Relearning	A measure of memory that assesses the amount of time saved when learning material for a second time
Explicit memory	memory of facts and experiences that one can consciously know and "declare"
Implicit memory	retention independent of conscious recollection
Procedural memory	the gradual acquisition of skills as a result of practice, or "knowing how" to do things
Eposodic memory	Memory of personal experiences (most common impairment)



By Msnoddon
cheatography.com/msnoddon/

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Branches of Psychology

Clinical counselling and psychology	Therapists
Academic psychology	Professors, researchers
Applied psychology	Work in schools, marketing firms, research institutions, and so forth, applying psychological skills to real-life situations

Sensory Memory

Implicit (procedural)	being aware of how to do something without consciously knowing how
Explicit (declarative)	being aware of what you know
Ionic	Brief photographic memory of an image
Echoic	brief memory of an auditory stimulus
Flashbulb	vivid memories of emotionally charged events
Working	short-term memory

Psychological Disorders - Origins

Medical	caused by biological reasons (injury, genetics, drugs)
Psycho-analytic	childhood conflicts, unconscious, misdirected anger

Psychological Disorders - Origins (cont)

Cognitive	patterns of thinking are abnormal, success because of others (luck, generous), fail because of self (stupid, no talent)
Learn/- Behavior	problem behavior is the problem, some type of classical conditioning or reinforcement has occurred for behavior to continue

Jean Piaget

Cognitive Development

Sensorimotor stage (0-2) can't differentiate self from environment

Preoperational (2) stable world, language, symbols, fantasy/reality, object permanence, no logical reasoning, lack conservation, egocentric

Concrete op. (7-11) logic rules, concrete, cause/effect, role taking

formal op. (12-) logic of science, abstract thinking, metaphors

Assimilation = interpret sights based on current understanding

Accommodation = changed understanding

Equilibrium = balance

Disequilibrium = changes in child's understanding of world

Brain

Frontal	Responsible for: control thinking, planning, organizing, problem-solving, short-term memory and movement.
Parietal	Responsible for: interpret feeling, known as sensory information. The lobes process taste, texture and temperature.
Temporal	Responsible for: process information from your senses of smell, taste and sound. They also play a role in memory storage.
Occipital	Responsible for: process images from your eyes and connect them to the images stored in your memory. This allows you to recognize images.

Lobes of the brain



Edward Titchner (1867-1927)

- Introspection: careful, reflective and systematic observation of the details of **mental processes**

- **Structuralism** looks at the elements of consciousness, the goal was to describe observable mental processes rather than to explain, predict, or control

- The principle was rejected by other psychologists, but some elements survived:

- Psychologists should focus on observable events

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Edward Titchner (1867-1927) (cont)

- Scientific study should focus on simple elements as building blocks of complex experience

Gestalt Psychology

- States that consciousness cannot be broken down into elements
- We perceive things as whole perceptual units
- The whole is greater than the sum of its parts

Sigmund Freud (1856-1939)

- Believed that behavior was influenced by our unconscious desires and conflicts
- **Psychoanalysis** aims to resolve unconscious conflicts

Important Psychologists

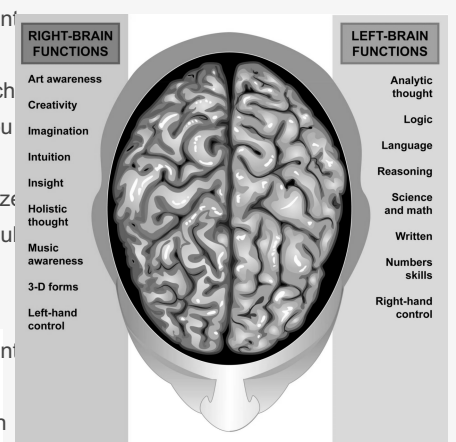
Edward Thorndike	believed that studying animals will help understand human behaviour
Ivan Pavlov	classical conditioning ; associating a stimuli to a response
John B. Watson	"Little Albert Experiment;" proving that people can be classically conditioned
B.K. Skinner	operant conditioning ; positive/-negative reinforcement to shape behaviour (increase/decrease certain behaviours)
Albert Bandura	social observation ; observing and mirroring behaviour is a way of learning

Descriptive research

Case studies	An intensive study of one person	Advantages: Helps develop early ideas about phenomena	Disadvantages: Research bias, You cannot generalize your results to all people
Naturalistic Observation	observing natural behaviours	Advantages: more reflective on actual human behaviour	Disadvantages: research bias, Hawthorne effect;

Surveys	questionnaire/interview	Advantages: Gather information that can be obtained from other methods, May be able to measure relationship strength between variables	Disadvantages: Participant bias, Direction of relationship between variables is unknown
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Left or Right Brain



Freud - Psychosexual Stages

1. Oral stage	Ages 0-1
2. Anal stage	Ages 2-3
3. Phallic stage	Ages 3-5
4. Latency stage	Ages 5 - puberty
5. Genital stage	Ages beyond puberty

Memory

Sensory	Fleeting awareness of what senses detect
Short term	(working) keep information long enough to solve problems
Long term	Unlimited storage