

Psychology Exam Review

A New Science is Born

- Psychology's intellectual parents were the disciplines of philosophy and physiology, scholars in both were exploring questions about the mind by the 1870s
- German professor **Wilhelm Wundt (1832-1920)** established the first formal laboratory for research in psychology at the University of Leipzig in 1879 (1879 christened as psychology's "date of birth")
 - o Characterized as founder of psychology.
 - o Declared that the new psychology would be a science modelled after fields such as physics and chemistry.
 - o Primary focus was consciousness –awareness of the immediate experience.
 - o Therefore, psych became the scientific study of conscious experience.
- 1883—1893, 24 new psychological research labs sprang up in the US and Canada in schools.
- **G. Stanley Hall (1846-1924)** established America's first research lab at John Hopkins university in 1883.
 - o Launched America's first psych journal (1887)
 - o Driving force behind APA; first president (1892)
 - o **James Mark Baldwin** and **James Gibson Hume** attended meetings.

The Battle of the "Schools" Begins: Structuralism vs. Functionalism

Structuralism:

- Emerged through Englishman Edward Titchener
- Based on the notion that the task of psychology is to analyze consciousness into its basic elements and investigate how those elements are related.
- Identify and examine the fundamental components of conscious experience (e.g. sensations, feelings, images.)
- Most of their work concerned sensation and perception in vision, hearing, touch.
- Depended on a method of introspection, the careful, systematic self-observation of one's own conscious experience.
 - o Subjects usually exposed to auditory tones, optical illusions, visual stimuli, under controlled varied conditions and asked to analyze what they experienced.
- Limitations: if you depend solely on an individual's reflection to document a phenomenon, there is no independent evaluation of that claim.

Functionalism:

- Emerged through the work of **William James (1842-1910)**, American scholar who created perhaps the most influential text in the history of psychology *Principles of Psychology (1890)*.
- Based on the belief that psychology should investigate the function or purpose of consciousness, rather than its structure.
- James was impressed with Darwin's concept of natural selection, heritable characteristics that provide a survival or reproductive advantage are more likely than alternative characteristics to be passed on to subsequent generations and thus become "selected" over time.

- o Theory suggested that characteristics of species must serve some purpose, thus James noted that consciousness obviously is an important characteristic of our species, and psychology should investigate its functions rather than structure.
- James argued that structuralism interrupted the continuous flow of thoughts in consciousness, called the stream of consciousness.
- More interested in how people adapt their behaviour to the demands of the real world around them.
- Functionalists such as James McKeen Cattell and John Dewey began to investigate mental testing, patterns of development in children, the effectiveness of educational practices, and behavioural differences of the sexes.
- Attracted women to the field of psychology, **Margaret Floy Washburn** was the first woman in the US to receive a Ph.D. in psychology; author of book *The Animal Mind (1908)*, which served as a precursor to behaviourism.
- Fostered the development of behaviourism and applied psychology.

Watson Alters Psychology's Course as Behaviourism Makes its Debut

- Founded by **John B. Watson**, behaviourism is a theoretical orientation based on the premise that scientific psychology should study only observable behaviour.
 - o Watson was proposing psychologists abandon study of consciousness and focus on directly observable behaviours.
 - o Believed the power of scientific method rested on the idea of verifiability; scientific claims can always be verified or disproved by anyone, but depends upon studying things that can be observed objectively.
- Behaviour refers to any overt (observable) response or activity by an organism.
- Watson believed each is made, not born; behaviour is governed primarily by the environment (nature).
- Behaviourists began to explore **stimulus**; any detectable input from the environment (e.g. light waves, advertisements, remarks by a friend).
- Observed what is called a stimulus-response relationship, often using laboratory animals because they were easier to control.
- Behaviourism was partly attributable to the discovery made by Ivan Pavlov, showing that dogs could be trained to salivate in response to auditory stimulus such as tone. (Shows how stimulus-response bonds are formed)

The Humanist Revolt

- Many psychologists thought behaviourism and psychoanalytic theory were dehumanizing, failed to recognize unique qualities of human behaviour.
- This led to humanism: a theoretical orientation that emphasizes the unique qualities of humans, especially their freedom and their potential for personal growth.
- SEE TABLE 1.2 pp. 13
- Humanists take an optimistic view of human nature.
 - o People are not pawns of their animal heritage or environmental circumstances.
 - o Research on animals not relevant because of their differences to humans.
- Carl Rogers (1902 – 1987) and Abraham Maslow (1908-1970).
 - o Rogers: human behaviour governed primarily by each individuals sense of self or “self concept” which animals lack.

- o Both said that to fully understand people's behaviour, psychologists must take into account the fundamental drive toward personal growth.

Psychology Comes of Age as a Profession

- **Applied psychology:** the branch of psychology concerned with everyday, practical problems.
- **Clinical psychology** (first arm of psych to emerge): the branch of psychology concerned with the diagnosis and treatment of psychological problems and disorders.
 - o Few psychologists involved in clinical work.
- WWII – many academic psychologists were pressed into service as clinicians, decided to continue after the war.

Psychology Returns to its Roots: Renewed Interest in Cognition and Physiology

- Renewed interest in consciousness, now called cognition.
- **Cognition:** the mental processes involved in acquiring knowledge.
- Jean Piaget (1954) research on children's cognitive development
- Noam Chomsky (1957) research on the psychological underpinnings of language.
- Herbert Simon and colleagues began groundbreaking research on problem solving.

Psychology Broadens Its Horizons: Increased Interest in Cultural Diversity

- Most studies were done on middle-class white students because of cost and convenience.
- **Ethnocentrism:** the tendency to view one's own group as superior to others as the standard for judging the worst of foreign ways.

Psychology Adapts: The Emergence of Evolutionary Psychology

- Evolutionary psychology: examines behavioural processes in terms of their adaptive value for members of a species over the course of many generations.
- Natural selection favours behaviours that enhance organisms' reproductive success.
- William James among others influenced by Darwin's theory of natural selection.
- Critics say its untestable, speculative accounts for obvious behaviour.

Psychology Moves in a Positive Direction: The Positive Psychology Movement

- Martin Seligman elected president of APA in 1997 had "epiphany"
 1. 5 year old daughter scolded him for being too grumpy, he realized his approach to life was unnecessarily negative → applied this to psychology.
 2. Launched the positive psychology movement.
- **Positive psychology:** uses theory and research to better understand the positive, adaptive, creative and fulfilling aspects of human existence.
 1. Study of positive subjective experiences/emotions
 2. Study of positive individual traits
 3. Study of positive institutions and communities.
- Difficulty in studying Psychology
 1. Complexity: is it possible for the grain to understand the whole system

2. Ethics: manipulation, deontological (never use humans), consequentialism (worth it, greater good)
3. Psychophobia
4. Context of human behavior is constantly changing

Historical Precedent in Psychology

- Anemism: objects inhabited by a spirit
- Plato: rationalism, dualism (mind/body)
- Aristotle: body works for the mind, observation and experiments, overt behavior
- John Locke: mind a blank slate
- Wilhelm Wundt
 - Structuralism
 - First Psych lab
 - After suffering illness probes own mind and experiences
 - Introspection: examine structure of mind
 - Mind and brain made of one structure
- Structuralism
 - The structuralists believed that psychology should be about analyzing consciousness into its basic elements, just as physicists were studying how matter was made up of basic particles...to do this, Titchener and his followers relied on introspection, a process by which a person makes careful, systematic self-observations of one's own conscious experience.
 -
- Functionalism
 - Mind has one thing to do, function
 - Ability to adapt
 - 2nd formal school of Psychology
 - Helps the organism to adjust to new situations
 - Investigating the function or purpose of consciousness, rather than its structure.
- William James
 - Pragmatism
 - Mind help adapt to new environment
- John Dewey
 - Learning by doing
- Behaviourism (radical)
 - Pavlov, Watson and Skinner
 - Overt behaviour only
 - Can't get into the mind
 - Stimulus → response

- Pavlov: dog and bell, conditioning
 - Watson: create any type of person through conditioning
 - Skinner: rewards and punishment, reinforcing
 - Nurture is the most important
- Gestalt
 - Configuration
 - Brain needs closure, don't know what you did
 - Wholism
 - 3rd formal school
- Psychoanalysis
 - We are driven by unconscious impulses we don't understand
 - Free association, say everything comes to mind and interpret
- Humanistic Existential
 - 3rd force of psychology
 - Reductionist approach
 - Put together not take apart
 - Anonymity, conformity, depersonalizes
- Existential
 - Free
 - Choice
 - Responsibility
- Biopsychosocial Model
 - Tissues
 - Mind
 - Social context of your life
 - Each affects the other
 - Must understand all 3
 - Something physical will effect how you feel
- Humanism
 - Unique qualities of people
 - Free will, potential for growth
- Cognition
 - Thinking or conscious experience
 - Piaget, Chomsky, Simon
 - Used scientific method
 - Now the dominant perspective
- Biological
 - Physiological basis of behaviour in people and animals

- Functioning can be explained by bodily structures, and biochemical processes
- Evolutionary
 - Behavior patterns have evolved to solve adaptive problems
 - Natural selection favours behavior that enhance reproductive success
- Seven Major Research Areas in Psychology
 - Developmental : childhood, adolescence, adulthood
 - Social Psychology: interpersonal behavior
 - Experimental Psychology: traditional core,
 - Physiological : genetic factors
 - Cognitive: higher mental processes
 - Personality: consistency in behaviour
 - Psychometrics: measure behaviour and capacities
- Four Major Areas of Applied Specialization
 - Clinical
 - Counselling
 - Educational
 - Industrial and Organizational

Nature of Psychological Inquiry

- 1) Non reactive naturalistic Observation
 - Look and observe
- 2) Case Study
 - Intense study of one individual
 - Nomothetic: cohort or group
 - Idiographic: 1 person
- 3) Correlation
 - How two variables move

Chapter 2: The Research Enterprise in Psychology

Goals of the Scientific Enterprise

Psychologists and other scientists share 3 sets of goals:

1. Measurement and description
 - Develop measurement techniques that make it possible to describe behaviour clearly and precisely.
2. Understanding and prediction
 - Understand events when they can explain reason for occurrence.
 - Make and test predictions called **hypothesis**: a tentative statement about the relationship between two or more variables.

- **Variables:** any measurable conditions, events, characteristics, or behaviours that are controlled or observed in a study.
3. Application and control
 - Applying what they know to help people.
- Theory: a system of interrelated ideas used to explain a set of observation.
 - o Permit psychologists to go from description to understanding behaviour.
 - o Scientific theory must be testable.

Steps in a Scientific Investigation

- Scientific investigations are **systematic:** they follow an orderly pattern.
1. Formulate a Testable Hypothesis
 - Translate theory into testable hypothesis.
 - Normally expressed in predictions.
 - Must be formulated precisely and the variables under study must be clearly defined.
 - o Do this by providing **operational definitions** of the relevant variables: an operational definition describes the actions or operations that will be used to measure or control a variable. They establish precisely what is meant by each variable in the context of a study.
 2. Select the Research Method and Design the Study
 - Figure out how to put hypothesis to an empirical test.
 - Researcher picks a research method most suitable.
 - Make detailed plans for executing their study.
 - Participants: persons or animals whose behaviour is systematically observed in a study.
 3. Collect the Data
 - Data collection techniques: procedures for making empirical observations and measurements.
 4. Analyze the Data and Draw Conclusions
 - Observations usually converted into numbers; raw data.
 - Use statistics to analyze their data and decide whether their hypotheses have been supported.
 5. Report the Findings
 - Write up a concise summary of the study and its findings.
 - Typically prepare a report that is delivered at a scientific meeting and submitted to a journal for publication.
 - Journal: a periodical that publishes technical and scholarly material, usually in a narrowly defined area of inquiry.

Key Data Collection Techniques

Direct Observation

- Observers trained to watch and record behaviour as objectively and precisely as possible.
- May use some instrumentation, such as a stopwatch or a video recorder.

Questionnaire

- Subjects administered a series of written questions designed to obtain information about attitudes, opinions, and specific aspects of their behaviour.

Interview

- A face-to-face dialogue is conducted to obtain information about specific aspects of a subject's behaviour.

Psychological Test

- Subjects are administered a standardized measure to obtain a sample of their behaviour.
- Tests usually used to assess mental abilities or personal traits.

Psychological Recording

- An instrument is used to monitor and record a specific physiological process in a subject.
- E.g. measures of blood pressure, heart rate, muscle tension, and brain activity.

Examination of Archival Records

- The researcher analyzes existing institutional records (archives), such as census, economic, medical records.

Research Methods

Experiment

- Investigator manipulates a variable under carefully controlled conditions and observes whether any changes occur in a second variable as a result.
- **Independent variable:** a condition or event that an experimenter varies in order to see its impact on another variable.
 - Variable that the experimenter manipulates.
- **Dependent variable:** variable that is thought to be affected by manipulation of the independent variable.
 - Usually a measurement of some aspect of the participant's behaviour.

Experimental and Control Groups

Experimental Group

- Subjects who receive some special treatment in regard to the independent variable.

Control Group

- Subjects who do not receive the special treatment given to the experimental group.

Extraneous Variables

- Extraneous variables: any variables other than the independent variable that is likely to influence the dependent variable in a specific study.
- Confounding of variables: two variables are linked together in a way that makes it difficult to sort out their specific effects.
 - When an extraneous variable is confounded with an independent variable, a researcher cannot tell which is having what effect on the dependent variable.
- To control extraneous variables, experiments use various safeguards.
 - **Random assignment** of subjects occurs when all subjects have an equal chance of being assigned to any group or condition in the study.

Variations in Designing Experiments

- One group of subjects who serve as their own control group.
 - Exposing this single group to two different conditions—an experimental condition and a control condition.

- Manipulate more than one independent variable in a single experiment.
- Use more than one dependent variable in a study.

Advantages and Disadvantages of Experimental Research

Advantages

- Permits conclusion about cause-and-effect relationships between variables.

Disadvantages

- Experiments are artificial.
- Manipulations of variables sometimes difficult or impossible because of ethical concerns.

Naturalistic Observation

- A researcher engages in careful observation of behaviour without intervening directly with the subjects.
- Pro: allows researchers to study things in their natural form.
- Con: hard to make observations and not affect the participants' behaviour.

Case Studies

- An in depth investigation of an individual subject.
- Con: can be highly subjective.

Surveys

- Researchers use questionnaires or interviews to gather information about specific aspects of participants' behaviour.
- Pro: easy to obtain data.
- Con: sampling bias.

Descriptive Statistics

- Descriptive Statistics: used to organize and summarize data.
- Median: score that falls exactly in the centre of a distribution of scores.
- Mean: arithmetic average of the scores in a distribution.
- Mode: most frequent score in a distribution.

Variability

- Variability: how much the scores in a data set vary from each other and from the mean.
- Standard deviation: an index of the amount of variability in a set of data.
 - o Variability great= standard deviation large.
 - o Variability low= standard deviation smaller.

Correlation

- Correlation exists when two variables are related to each other.
- Correlation coefficient: a numerical index of the degree of relationship between two variables.
 - o It indicates:
 - (1) The direction (+ or -) of the relationship.
 - (2) How strongly the two variables are related.

- A positive correlation indicates that the two variables co-vary in the same direction.
 - E.g. people who do well in high school tend to do well in university.
- A negative correlation indicates that the two variables co-vary in the opposite direction
 - Students who have a high number of absences tend to get low exam scores.

Strength of the Correlation

- Size of coefficient indicates the strength of an association between two variables.
- Can vary between 0 and +1.00 (if positive) or between 0 and -1.00 (if negative).
- Coefficient near 0 indicated no relationship between variables.
- +1.00 or -1.00 indicates a perfect correspondence.
- Closer to 1.00 or -1.00, the stronger the relationship +/- SIGNS DO NOT MATTER (e.g. -60 has a stronger relationship than a correlation of +0.30)
- Correlation does not equal causation.

Inferential Statistics

- Used to interpret data and draw conclusions.
- Researchers use it to evaluate the possibility that their results might be due to the fluctuations of chance.
- When statistical calculations indicate that research results are not likely to be due to chance, the results are said to be statistically significant.
- Statistical significance: exists when the probability that the observed findings are due to chance is very low.
 - Very low is defined as fewer than 5 chances in 100, which is referred to as the 0.05 level of significance.

Evaluating Research

Replication

- The repetition of a study to see whether the earlier results are duplicated.

Sampling Bias

- Sample: the collection of subjects selected for observation in an empirical study,
- Population: the much larger collection of animals or people from which the sample is drawn that researchers want to generalize about.
- Sampling bias: exists when a sample is not representative of the population from which it was drawn.

Placebo Effects

- Placebo: a substance that resembles a drug but has no actual pharmacological effect.
- Given to some subjects to control for the effects of the extraneous variable: participants' expectations.
- Placebo effects: occur when participants' expectations lead them to experience some change even though they receive empty, fake, or ineffectual treatment.

Distortions in Self-Report Data

- Social desirability bias: a tendency to give socially approved answers to questions about oneself.

- Response set: a tendency to respond to questions in a particular way that is unrelated to the content of the questions.

Experimenter Bias

- Occurs when a researcher's expectations or preferences about the outcome of a study influence the results obtained.
- Can be neutralized by using a double blind procedure.
- Double blind procedure: a research strategy in which neither subjects nor experimenters know which subjects are in the experimental or control group.

- Experimental
 - Scientific method
 - Self correcting
 - Quantifiable
- Dependent Variable = behaviour
- Independent = manipulation of factors
 - Function of stimulus: others
 - Organismic variable: you
 - Response variables: past effect present

Chapter 3: The Biological Bases of Behaviour

Nervous System: The Basic Hardware

- Nervous system is living tissue composed of cells which fall into two major categories; neurons and glia.

Neurons: individual cells in the nervous system that receive, integrate, and transmit information.

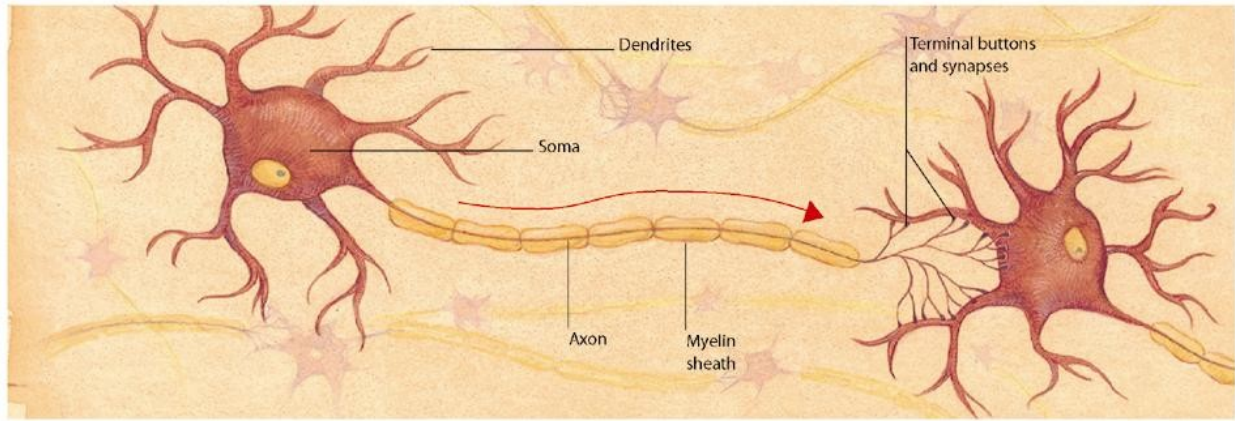
- **Soma** or **cell body:** contains the nucleus and much of the chemical machinery common to most cells.
- Rest of the neuron is dedicated to handling information.
- Neurons have a number of branched, feeler-like structures called dendritic trees.
- Each branch is a **dendrite:** parts of the neuron that is specialized to receive information.
- From dendrites, information flows from the cell body and travels away from the soma along the **axon:** a long, thin fibre that transmits signals away from the soma to other neurons or to muscles or glands.
- Axons are wrapped in cells with a high concentration of white, fatty substance called myelin.
- **Myelin sheath:** insulating material derived from glial cells that encases some axons.
 - Speeds up the transmission of signals that move along axons.
- Axon ends in a cluster of **terminal buttons:** small knobs that secrete chemicals called neurotransmitters.
 - These chemicals serve as messengers that may activate neighbouring neurons.
- The points at which the neurons interconnect are called **synapses:** junctions where information is transmitted from one neuron to another.

SUMMARY:

Information received at dendrites, passed through the soma along the axon, transmitted to the dendrites of other cells at synapses.

Glia: cells found throughout the nervous system that provide various types of support for neurons.

- Are smaller than neurons, but outnumber them by about 10 to 1.
- Account for over 50% of the brain's volume.
- Supply nourishment to neurons, help remove neurons' waste products, and provide insulation around many axons.



The Neuron at Rest: A Tiny Battery

- Neural impulse is an electrochemical reaction.
- Inside and outside the neuron are fluids containing electrically charged atoms and molecules called *ions*.
- Cell membrane semi-permeable ; permits movement of some ions.
 - o Positively charged sodium and potassium ions and negatively charged chloride ions move back and forth across cell membrane at different rates.
 - o Different flow rates = higher concentration of negatively charged ions inside the cell.
- **Resting potential:** it's stable, negative charge when the cell is inactive.

The Action Potential

- When neuron is stimulated, channels in its membrane open allowing positively charged sodium ions to rush in.
 - o For an instant, the neuron charge is less negative or positive creating an **action potential:** a very brief shift in a neuron's electrical charge that travels along an axon.
- After the firing of an action potential, the channels in the cell membrane that opened to let in sodium close up, and some time is needed before they are ready to open again and the neuron can fire
- **Absolute refractory period:** the minimum length of time after an action potential during which another action potential cannot begin.
- Followed by brief *relative refractory period* where the neuron can fire, but its threshold for firing is elevated, so more intense stimulation is required to initiate an action potential.

The All-or-None Law

- Neurons firing action potential is an all-or-none proposition.
- Various neurons transmit neural impulses at different speeds.

The Synapse: Where Neurons Meet

Sending Signals: Chemicals as Couriers

- **Synaptic cleft:** microscopic gap between the terminal button of one neuron and the cell membrane of another neuron.
- Signals have to cross this gap to permit neurons to communicate → *presynaptic neuron* sends signal across gap and *postsynaptic neuron* receives it.
- Arrival of an action potential at axon's terminal buttons triggers the release of **neurotransmitters:** chemicals that transmit information from one neuron to another.
- Most chemicals stored in small sacs called *synaptic vesicles*.
- Neurotransmitters are released when a vesicle fuses with the membrane of the presynaptic cell and its contents spill into the synaptic cleft.
- After release, neurotransmitters diffuse across the synaptic cleft to the membrane of the receiving cell.
- May bind with special molecules in the postsynaptic membrane at various *receptor sites*.

Receiving Signals: Postsynaptic Potentials

- When a neurotransmitter and a receptor molecule combine, reactions in the cell membrane cause a **postsynaptic potential (PSP):** a voltage change at a receptor site on a postsynaptic cell membrane.
- PSP's do not follow all-or-none law, instead they're graded—vary in size and increase or decrease probability of a neural impulse in the receiving cell in proportion to the amount of voltage change.
- Two types of messages can be sent from cell to cell:
- **Excitatory PSP:** a positive voltage shift that increases the likelihood that the postsynaptic neuron will fire action potentials.
- **Inhibitory PSP:** a negative voltage shift that decreases the likelihood that the postsynaptic neuron will fire action potentials.
- After, the neurotransmitters drift away from receptor sites or are inactivated by enzymes that metabolize them into inactive forms.
- Most reabsorbed into the presynaptic neuron through **reuptake (recycling):** a process in which neurotransmitters are sponged up from the synaptic cleft by the presynaptic membrane.

Neurotransmitters and Behaviour

- Chemicals couriers which communicate information between neurons; neurotransmitters, are fundamental to behaviour.
- Specific neurotransmitters work at specific kinds of synapses.
- The binding process of a transmitter operates much like a lock and key.

Table 3.1

Common Neurotransmitters and Some of Their Functions

Neurotransmitter	Functions and Characteristics
Acetylcholine (ACh)	Activates motor neurons controlling skeletal muscles Contributes to the regulation of attention, arousal, and memory Some ACh receptors stimulated by nicotine
Dopamine (DA)	Contributes to control of voluntary movement, pleasurable emotions Decreased levels associated with Parkinson's disease Overactivity at DA synapses associated with schizophrenia Cocaine and amphetamines elevate activity at DA synapses
Norepinephrine (NE)	Contributes to modulation of mood and arousal Cocaine and amphetamines elevate activity at NE synapses
Serotonin	Involved in regulation of sleep and wakefulness, eating, aggression Abnormal levels may contribute to depression and obsessive-compulsive disorder Prozac and similar antidepressant drugs affect serotonin circuits
GABA	Serves as widely distributed inhibitory transmitter Valium and similar anti-anxiety drugs work at GABA synapses
Endorphins	Resemble opiate drugs in structure and effects Contribute to pain relief and perhaps to some pleasurable emotions

ACh

- Every movement you make depends on ACh released to your muscles by motor neurons.
- The activity of ACh may be influenced by other chemicals in the brain.
 - An **agonist**: a chemical that mimics the action of a neurotransmitter.
 - An **antagonist**: a chemical that opposes the action of a neurotransmitter.

Monoamines

- Includes three neurotransmitters: dopamine, norepinephrine, and serotonin.

Gaba

- Produce only inhibitory postsynaptic potentials.
- Responsible for much of the inhibition in the central nervous system.

Glutamate

- Always has excitatory effects.

Endorphins

- Internally produced chemicals that resemble opiates in structure and effects.

The Peripheral Nervous System

- Made up of all those nerves that lie outside the brain and spinal cord.
- “the part that extends outside the central nervous system.”
- **Nerves** are bundles of neuron fibres (axons) that are routed together in the peripheral nervous system.
- Can be subdivided into *somatic nervous system* and the *autonomic nervous system*.

Somatic Nervous System

- Made up of nerves that connect to voluntary skeletal muscles to sensory receptors.
- “Two way streets” with incoming (afferent) and outgoing (efferent) lanes.
- Cables that carry information from receptors in the skin, muscles, and joints to the central nervous system and that carry commands from the CNS to the muscles.
- These functions require two kinds of nerve fibres.
 - **Afferent nerve fibres:** axons that carry information inward to the central nervous system from the periphery of the body.
 - **Efferent nerve fibres:** axons that carry information outward from the central nervous system to the periphery of the body.

The Autonomic Nervous System

- Made up of nerves that connect to the heart, blood vessels, smooth muscles, and glands.
- A separate (autonomous) system, although it’s ultimately governed by the central nervous system.
- Controls automatic, involuntary, visceral functions such as heart rate, digestion, and perspiration.
- *Fight-or-flight response.*
- Autonomic nervous system can be divided into two branches: the sympathetic and the parasympathetic division.
 - **Sympathetic division:** is the branch of the autonomic nervous system that mobilizes the body’s resources for emergencies.
 - **Parasympathetic division:** the branch of the autonomic nervous system that generally conserves bodily resources.

The Central Nervous System

- Consists of brain and spinal cord.
- Protected by enclosing sheaths called the *meninges*.
- Bathed in **cerebrospinal fluid** which nourishes the brain and provides a protective cushion for it.
- Hollow cavities in the brain that are filled with CSF are called *ventricles*.

The Spinal Cord

- Connects the brain to the rest of the body through the peripheral nervous system.
- Enclosed by the meninges and bathed in cerebrospinal fluid.
- Houses bundles of axons that carry the brain’s commands to peripheral nerves and that relay sensations from the periphery of the body to the brain.

The Brain

Electrical Recordings

- **Electroencephalograph** is a device that monitors the electrical activity of the brain over time by means of recording electrodes attached to the surface of the scalp.
- Brain waves.

Lesioning

- Destroying a piece of the brain.

Electrical Stimulation of the Brain

- Sending a weak electric current into a brain structure to stimulate (activate) it.

Transcranial Magnetic Stimulation

- New technique that permits scientists to temporarily enhance or depress activity in a specific area of the brain.

Brain-Imaging Procedures

Computerized Tomography (CT)

- Computer enhanced X-ray of brain structure.

Positron Emission Tomography (PET)

- Examine brain function, mapping actual activity in the brain over time.
- Can be used to study the activity of specific neurotransmitters.

Magnetic Resonance Imaging (MRI)

- Uses magnetic fields, radio waves, and computerized enhancement to map out brain structure.
- Three-dimensional.

Functional Magnetic Resonance Imaging (fMRI)

- Monitors blood flow and oxygen consumption in the brain to identify areas of high activity.

The Brain and Behaviour

The Hindbrain

- Includes the cerebellum and two structures found in the lower part of the brain stem: the medulla and the pons.
 - **Medulla:** attaches to the spinal cord and is in charge of largely unconscious but vital functions, including circulating blood, breathing, maintaining muscle tone, and regulating reflexes such as sneezing, coughing, and salivating.
 - **Pons (literally “bridge”):** a bridge of fibres that connects the brainstem with the cerebellum.
 - **Cerebellum (literally “little brain”):** critical to coordination and movement and to the sense of equilibrium or physical balance.
 - o Damage to the cerebellum affects fine motor skills.

The Midbrain

- The segment of the brainstem that lies between the hindbrain and the forebrain.
- Contains an area concerned with integrating sensory processes such as vision and hearing.
- The *reticular formation* runs through both the hindbrain and the midbrain and contributes to the modulation of muscle reflexes, breathing and pain perception.

The Forebrain

- The largest and most complex region of the brain, encompassing a variety of structures, including the thalamus, hypothalamus, limbic system, and cerebrum.
- **Cerebrum:** seat of complex thought.
 - Divided into two hemispheres called **cerebral hemispheres:** the right and left halves of the cerebrum.

- Separated by a longitudinal fissure that runs from the front to the back of the brain, descending to a thick band of fibres called **corpus Callosum**: the structure that connects the two cerebral hemispheres.
- Each cerebral hemisphere is divided into four *lobes*.
 - *Occipital lobe*: visual processing.
 - *Parietal lobe*: the area that registers the sense of touch.
 - *Temporal lobe*: auditory processing
 - *Frontal lobe*: contains principle areas that control the movement of muscles.
 - *Prefrontal cortex*: behavioural planning, working memory, and reasoning about relationships between objects and events.
- Wrinkled surface of cerebrum is the **cerebral cortex**: the outer layer of the brain.
 - **Thalamus**: a structure in the forebrain through which all sensory information (except smell) must pass to get to the cerebral cortex.
 - **Hypothalamus**: a structure found near the base of the forebrain that is involved in the regulation of basic biological needs.
 - Basic biological drives –fighting, fleeing, feeding, and mating.
 - **Limbic System: The Seat of Emotion**
 - A loosely connected network of structures located roughly along the border between the cerebral cortex and deeper subcortical areas.
 - Regulation of emotion, memory, and motivation.
 - Hippocampus
 - Amygdala
- The adult brain can generate new neurons.
 - **Neurogenesis**: the formation of new neurons.

Endocrine System

- Consists of glands that release hormones into the bloodstream; hormones help to control bodily functioning.
- Much of the endocrine system is controlled by the nervous system through the hypothalamus, which has intimate connections with the **pituitary gland**: gland that releases a great variety of hormones that fan out around the body, stimulating actions in the other endocrine glands.
- **Testosterone**: male sex hormone produced by the testes; woman secrete smaller amounts of testosterone from the adrenal cortex and ovaries.

Heredity and Behaviour and Genes

- **Behavioural genetics**: an interdisciplinary field that studies the influence of genetic factors on behavioural traits.

Chromosomes and Genes

- **Chromosomes** are strands of DNA (deoxyribonucleic acid) molecules that carry genetic information.
- Every cell in humans contains 46 chromosomes which operate in 23 pairs, except for the sex cells.
- Each parent contributes one chromosome of each pair when fertilization creates a **zygote**: a single cell formed by the union of a sperm and an egg.
- Each chromosome contains thousands of messengers called **genes**.

- **Genes** are DNA segments that serve as the key functional units in hereditary transmission.
- **Homozygous condition:** the two genes in a specific pair are the same.
- **Heterozygous condition:** the two genes in a specific pair are different.
- **Dominant gene:** one that is expressed when paired genes are different.
- **Recessive gene:** one that is masked when paired genes are different.

Genotype vs. Phenotype

- **Genotype:** refers to a person's genetic makeup.
- **Phenotype:** refers to the ways in which a person's genotype is manifested in observable characteristics.

Polygenic Inheritance

- Characteristics that are influenced by more than one pair of genes.

Family Studies

Twin Studies

Adoption Studies

Genetic Mapping

The Interplay of Heredity and Environment

- Research indicates that most behavioural qualities are influenced jointly by heredity and environment, which play off each other in complex interactions.

The Evolutionary Bases of Behaviour

- Evolutionary psychology analyzes behavioural processes in terms of their adaptive significance.

Darwin's Insights

- If a specific inheritable trait contributes to an organism's survival or reproductive process, organisms with that trait should produce more offspring than those without the trait, and the prevalence of that trait should gradually increase over generations—resulting in evolutionary change.
- **Fitness:** the reproductive success (number of descendants) of an individual organism relative to the average reproductive success in the population.
 - o Variations in reproductive success are what really fuel evolutionary change.
- **Natural selection:** heritable characteristics that provide a survival or reproductive advantage are more likely than alternative characteristics to be passed on to subsequent generations and thus come to be "selected" over time.
 - o Basic components of the nervous system are nerve cells and glia cells
 - o Glia cells are like glue, structure and insulation for neurons

Neurons

- o Soma/ Cell Body: cell nucleus
- o Dendrites: specialized branches that receive information
- o Axon: long fibers transmit signals away from the soma, to other neurons
- o Myelin Sheath: insulates, sometimes encases axon, speed transmission of signals along axon, degeneration of this leads to Parkinson's
- o Terminal Buttons: secrete neurotransmitters

- Synapses: gap between neurons, where information is transferred between neurons
- Action Potential: brief shift in the electrical charge that travels along the axon, all the same size, all or nothing
- Absolute Refractory Period: minimum time after AP where a AP cannot occur
- Resting Potential: stable neg charge, neuron at rest
- Synaptic Cleft: space between terminal button and soma of another. Releases neurotransmitters
- Neurotransmitters: chemicals that transmit info from one neuron to the next
- Postsynaptic Potential: voltage change at receptor site on a postsynaptic cell membrane. Graded, vary in size
- Excitatory PSP: positive voltage shift increases the likelihood of PSP neuron will fire an AP
- Inhibitory PSP: negative that decreases
- Reuptake : neurotransmitters are sponged up from the synaptic cleft by the presynaptic membrane

3 types of Neurons

- Sensory/ afferent
 - Scent, touch, hearing
- Motor/ Efferent
 - Glandular, muscular
- Interneurons
 - Connect everything, interprets between sense and motor

Characteristics of Neurons

- Amino Acids
- Specific
- Many → produce only one but respond to many

Neurotransmitters (40)

- Dopamine: schizo has too much, voluntary movement, pleasurable emotions, decreased linked with Parkinson's, cocaine and amphetamines elevate their synapses
- Acetylcholine: muscular movements, skeletal muscle, attention, arousal, and memory, some stimulated by nicotine
- Serotonin: mood, depressed= not enough, sleep, wakefulness, eating, aggression, OSD,
- Endorphines: natural opiates in brain, when in pain these go up, resemble opiates, pain relief and pleasurable emotions
- Much like lock and key will not go into any receptor site
- Drugs that resemble are called agonists, some just block
- Stored in vesicles

Gross Functions

- Motor Cortex (RH→ LH), paralysis
- Somatosensory Cortex : senses, where strokes occur
- Visual Cortex
- Auditory Cortex: hear, what music means to us
- Association Cortex: association fibres connecting brain together
- Experience Cortex: recording function in temporal lobe

Reticular Activating System

- Small tissue below medulla
- Alerts brain so you can respond in a coordinated way
- Go into coma if not working

Brain Hemispheres

- Right controls left
- Right Hemisphere:
- Left Hemisphere:

Ways of damaging brain

- Head trauma: memory, brain damage
- Stroke: clot or rupture in the brain

Brain can Repair itself

- High plasticity, compensation for missing parts
- Collateral Sprouting
 - Healthy neurons near dead, reach out grow new branches (dendrites) to compensate
- Substitution of Functions
 - Parts of the brain not need anymore (blind) so it will help in other areas, other senses more powerful
- Neurogenesis
 - Grow more neurons
 - Still unsure if true
- The brain will not be able to overcome a lot of damage

Nervous System

- Central Nervous System
 - Brain
 - Integrates information from inside and outside the body, coordinates actions, enables speech, thinking, memory, planning, dreaming etc
 - Spinal Cord

- Connect the brain to body
 - Extension of the brain
 - Carries commands from brain to peripheral nerves, relays messages back to the brain.
 - Enclosed in meninges (meningitis is inflammation of this)
 - Bathed in Cerebrospinal Fluid, nourishes the brain, protective cushion, hollow cavities filled with (ventricles)
- Peripheral Nervous System (nerves outside brain and spinal cord, extends outside the central)
 - Somatic Nervous System
 - Nerves that connects muscles and sensory receptors
 - Afferent Nerve Fibres
 - Axons carrying info to CNS from the periphery of the body
 - Efferent Nerve Fibres
 - Carry info out to the periphery of the body
 - Autonomic Nervous System
 - Connects heart, blood vessels, smooth muscles and glands
 - Mediates autonomic arousal, fight or flight
 - Controls auto, invol, and visceral functions that people don't think about = heart rate, digestion, and perspiration
 -
 - Sympathetic Division
 - Mobilizes bodily resources for emergencies
 - Slows digestion, drains blood from the periphery, adrenaline prepares for exertion
 - Parasympathetic
 - Conserves bodily resources
 - Slow heart rate, reduce blood pressure, and promote digestion

Brain Research Methods

- EEG
 - Monitors the electric activity of the brain
 - Uses electrodes on the scalp
 - Identifies brain activity
 - Brain-behaviour relationship
- Lesioning
 - Observes consequences of damage
 - Destroys piece of brain
 - Insert electrode burning tissue
- ESB
 - Sending weak e current into brain area, stimulating
 - Observe the effects

- o TMS
 - o Temp enhance or depress activity in an area of the brain
 - o Virtual lesions

Brain Imaging

- o Computerized Tomography CT
 - o Computer enhanced xray
 - o Shot from different angles
 - o Gives a horizontal slice
 - o Look for brain abnormalities
- o Position Emission Tomography PET
 - o Examines brain function
 - o Shows blood flow and metabolic activity
 - o Colour coded map shows which areas are in use during certain tasks
- o Magnetic Resonance Imaging
 - o Magnetic fields
 - o 3d image with high resolution
 - o fMRI shows blood flow and O2 consumption in brain
 - o shows areas of activity

Functions and Parts

- o Hindbrain
 - o Cerebellum (little brain)
 - Back surface of brainstem
 - Coordination and equilibrium
 - Organizes sensory movement
 - Touch finger to nose when drunk
 - o Medulla
 - Attached to the spinal cord
 - Unconscious functions, breathing, blood circulation, muscle tone, sneezing, coughing, salivation
 - o Pons (bridge)
 - Bridge of fibres connecting brain stem to the cerebellum
- o Midbrain
 - o Integrates sensory processes: vision, hearing
 - o System of dopamine releasing neurons originates there
 - o Reticular Formation
 - Core of the brainstem
 - Modulation of muscle reflexes, breathing and pain perception
 - Sleep and arousal
- o Forebrain

o Thalamus

- All sensory info except smell pass to get to the cerebral cortex
- Clusters of soma
- Integrates info from the senses

o Hypothalamus

- Regulates biological needs
- Hunger, thirst, sex drive, temperature
- Controls autonomic system
- Link between brain and endocrine system
-

o Limbic System

- Emotion, motivation, memory and behaviour, optimism
- Hippocampus
 - Memory,
- Amygdala
 - Fear and emotions
-

o Cerebrum

- Complex thought
- Surface called the cerebral cortex (outer layer of the brain)
- Cerebral Hemispheres
- Each is divided into four lobes
 - Right Hemisphere
 - o Spatial skills
 - Left Hemisphere
 - o language
 - Corpus Callosum
 - o Connects the two hemispheres

o Occipital Lobe

- visual

o Parietal Lobe

- Somatosensory cortex
- touch

o Temporal Lobe

- Auditory

o Frontal Lobe

- Primary motor cortex
- Executive control system
- Prefrontal cortex
 - Unknown

Endocrine System

- o Glands that release hormones into the bloodstream

- o Hormones
- o Control centres : hypothalamus and Pituitary
 - o Control body functions
- o Pituitary Glands
 - o Release hormones stimulate action in other endocrine glands
- o Sends messages through hypo and pit to adrenal glands
- o Thyroid Gland
 - o Metabolic rate
- o Adrenal Gland
 - o Salt and carb metabolism
- o Pancreas
 - o Secretes insuline to control sugar met
- o Gonads
 - o Sex hormones to develop secondary sex characteristics

Chapter 4

Perception: the selection, organization and interpretation of sensory input. (tells story)

- Involves organizing and translating sensory input into something meaningful, such as your best friend's face or other environmental stimuli.

Psychophysics: the study of how physical stimuli are translated into psychological experience.

- Sensation begins with a detectable stimulus. E.G. intro of light.

Sensation: the stimulation of sense organs. Involves the absorption of energy, such as light or sound waves, by sensory organs. (takes9n)

- Begins with a **stimulus:** any detectable input from the environment.
- **Fechner** wanted to know: for any given sense, what is the weakest detectable stimulus.

Threshold: a dividing point between energy levels that do and do not have a detectable effect.

E.G. hardware stores sell a gadget with a photocell that automatically turns a lamp on when a room gets dark. The level of light intensity at which the gadget clicks on is its threshold.

Absolute Threshold: for a specific type of sensory input is the minimum amount of stimulation that an organism can detect.

- They define the boundaries of an organism's sensory capabilities.
- Detected 50% of the time.

Just Noticeable Difference (JND): the smallest difference detectable

- First demonstrated by **Ernst Webster**

Weber's Law: states that the size of a just noticeable difference is a constant proportion of the size of the initial stimulus.

- This constant proportion is called the **Weber's Fraction**

- Applies to all of the senses.
- Different fractions apply to different sensory input.
- *As stimuli increase in magnitude, the JND becomes larger.*

Fechner's Law: states that the magnitude of a sensory experience is proportional to the number of JNDs that the stimulus causing the experience is above the absolute threshold.

- Constant increments in the stimulus intensity produce smaller and smaller increases in the *perceived* magnitude of sensation.

E.G. Imagine you're in a dark room with a single lamp that has 3 bulbs of the same wattage. You turn a switch and 1 bulb lights; the difference is striking. You turn again, and the second light comes on. The amount of light is doubled, but the room does not seem to be twice as bright.

Signal Detection Theory: proposes that the detection of stimuli involves decision processes as well as sensory processes, which are both influenced by a variety of factors besides stimulus intensity.

Influenced by:

1. Noise (irrelevant stimuli)
2. Decision making process

Primed

E.G. mouse picture

Subliminal Perception: the registration of sensory input without conscious awareness. Existence vs. practical effects.

Sensory Adaptation: a gradual decline in sensitivity due to prolonged stimulation.

- With continued exposure, your sensitivity to it decreases.

The Stimulus: Light

Light: a form of **electromagnetic radiation** that travels as a wave, moving, naturally enough, at the speed of light.

- Light waves vary in amplitude (height) and in wavelength (the distance between peaks).
- Amplitude: perception of brightness
- Wavelength: perception of colour
- Purity: mix of wavelengths

The Eye

Serves two main purposes:

- Channel light to the neural tissue that receives it, called the *retina*, and they house that tissue.
- Housing and channelling it.

Components:

Cornea: where light enters the eye.

Lens: focuses the light rays on the retina.

Iris: coloured ring of muscle, constricts or dilates via amount of light.

Pupil: regulates the amount of light.

- Constricts: lets less light into the eye but it sharpens the image falling on the retina.

- Dilates: lets more light in but the image is less sharp.
- Bright light= constrict
- Dim light= dilate

Saccades: eye movements such as scanning and making brief fixations.

Light enters the eye through a transparent “window” at the front, the *cornea*. The cornea and the crystalline *lens*, located behind it, form an upside-down image of objects on the retina.

Lens: the transparent eye structure that focuses the light rays falling on the rain.

- Made up of relatively soft tissue, capable of adjustments that facilitate a process called **accommodation**.
 - o Occurs when the curvature of the lens adjusts to alter the visual focus.

Nearsightedness: close objects are seen clearly but distant objects appear blurry because the focus of light from distant objects falls a little short of the retina.

Farsightedness: distant objects are seen clearly but close objects appear blurry because the focus of light from close objects falls behind the retina.

Retina: the neural tissue lining the inside back surface of the eye; it absorbs light, processes images and sends visual information to the brain.

The axons that run from the retina to the brain converge at the **optic disk**, a hole in the retina where the optic nerve fibres exit the eye.

- Because the optic disk is a hole in the retina, you cannot see the part of an image that falls on it, thus it is called a **blind spot**.

Cones: specialized visual receptors that play a key role in daylight vision and colour vision.

- Provide better visual activity.
- Concentrated most heavily in the centre of the retina and quickly fall off in density toward its periphery.

Fovea: a tiny spot in the centre of the retina that contains only cones; visual activity is greatest at this spot.

Rods: specialized visual receptors that play a key role in night vision and peripheral vision.

- Density greatest just outside the fovea and gradually decreases toward the periphery of the retina.
- **Black and white/low light vision.**

Optic Nerve: a collection of axons that connect the eye with the brain.

- These axons carry visual information to the brain.
- **Colour and daylight vision.**

Receptive field of a visual cell: the retinal area that, when stimulated, affects the firing of the cell.

Lateral antagonism: occurs when neural activity in a cell opposes activity in surrounding cells.

Light falls on surrounding areas.

Optic chiasm: the point at which the optic nerves from the inside half of each eye cross over and then project to the opposite half of the brain.

Light>rods and cones> neural signals> bipolar cells> ganglion cells> optic nerve> optic chiasm> opposite half of brain>

Main pathway: lateral geniculate nucleus (thalamus)> primary visual cortex (occipital lobe).

- **Magnocellular:** where (parietal lobe) brightness
- **Parvocellular:** what (temporal lobe) colour perception

Second pathway: superior colliculus> thalamus> primary visual cortex

Hubel and Wiesel identified various types of specialized cells in primary visual cortex that respond to different stimuli.

- E.G. *simple cells* respond best to a line of the correct width, oriented at the correct angle, and located in the correct position in its receptive field.
- *Complex cells* also care about width and orientation, but they respond to any position in their receptive fields.

*Cells in the visual cortex seem to be highly specialized. They are characterized as **feature detectors**, neurons that respond selectively to very specific features of more complex stimuli. (to lines, edges, etc).*

- After visual input is processed in the primary visual cortex, it is often routed to other cortical areas for additional processing.
- These signals travel through two streams: the **ventral stream**, which processes the details of what objects are out there (e.g. perception of form and colour) and the **dorsal stream**, which process where the objects are (e.g. the perception of motion and depth).

Wavelength determines colour.

- Longer= red
- Shorter= violet

Amplitude: determines brightness

Purity determines saturation

The McCollough effect: a well-known afterimage phenomenon that differs from other colour afterimage effects because it is contingent on both colour and pattern/form.

Visual agnosia: an inability to recognize familiar objects.

- **Humphrey** and **Goodale** studied patients who suffered from this.
- Patients had brain damage such that while they could perceive colour, they could not consciously perceive contour (line) orientation.
- Despite this, they still experienced the McCollough effect.

Two kinds of colour mixture:

- **Subtractive colour mixing:** works by removing some wavelengths of light, leaving less light than was originally there.
- E.G. mixing yellow and blue paints to make green.

- **Additive colour mixing** works by superimposing lights, putting more light in the mixture than exists in any one light by itself.
- E.G. if you shine red, green, and blue spotlights on a white surface, you'll have an additive mixture.

Trichromatic theory of colour vision: holds that the human eye has three types of receptors with differing sensitivities to different light wavelengths.

- **Young and Helmholtz**
- Eye contains specialized receptors sensitive to specific wavelengths associated with red, green, and blue.
- People can see all of the colours of the rainbow because the eye does its own "colour mixing" by varying the ratio of neural activity among these 3 types of receptors (according to theory).
- Doesn't explain yellow

Colour blindness: encompasses a variety of deficiencies in the ability to distinguish among colours.

Opponent process theory of colour vision: holds that colour perception depends on receptors that make antagonistic responses to three pairs of colours.

- **Hering**
- Red vs. green, yellow vs. blue, black vs. white.
- Agonist & antagonist, on & off switch.
- Allows all colours.

Complementary colours: pairs of colours that produce grey tones when mixed together.

Afterimage: a visual image that persists after a stimulus is removed.

- Colour of afterimage will be the **complement** of colour originally stared at.
- Trichromatic theory does not account for complementary afterimages.

George Wald

- The eye has 3 different types of cones, with each type being most sensitive to a different band of wavelengths.
- The 3 types of cones represent the 3 different colour receptors predicted by trichromatic theory.

Reversible figure: a drawing compatible with two interpretations that can shift back and forth.

Perceptual set: a readiness to perceive a stimulus in a particular way.

Inattentional blindness: failure to see fully visible objects or events in a visual

Feature analysis: the process of detecting specific elements in a visual input and assembling them into a more complex form.

- Assumes that form perception involves **bottom-up processing**, a progression from individual elements to the whole.

Top-down processing: a progression from the whole to the elements.

- E.G. reading a word before its individual letters.

Subjective contours: perception of contours where none actually exist. (triangle)

Gestalt psychologists: the whole is more than the sum of its parts.

Gestalt Principles of form perception: figure-ground, proximity, similarity, continuity, closure, and simplicity.

Phi Phenomenon: the illusion of movement created by presented visual stimuli in rapid succession.

- Max Wertheimer

Figure and ground: dividing visual displays into figure and ground is a fundamental way in which people organize visual perceptions.

- **Figure** is the thing being looked at
- **Ground** is the background against which it stands.

Proximity: things that are close together seem to belong together.

Closure: complete figures that actually have gaps in them.

Similarity: group stimuli that are similar.

Simplicity: group elements that combine to form a good figure.

Continuity: people's tendency to follow in whatever direction they've been led. People connect points that result in straight or gently curved lines that create smooth paths.

Distal Stimuli: stimuli that lie in the distance (in the world outside the body).

Proximal stimuli: the stimulus energies that impinge directly on sensory receptors.

Perceptual hypothesis: an inference about which distal stimuli could be responsible for the proximal stimuli sensed.

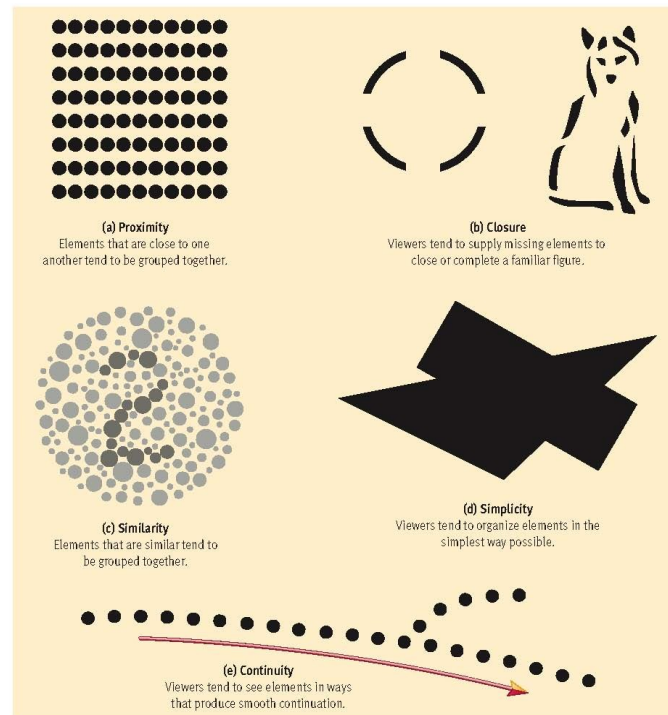


Figure 4.30

Gestalt principles of perceptual organization. Gestalt principles help explain some of the factors that influence form perception. (a) **Proximity:** These dots might well be organized in vertical columns rather than horizontal rows, but because of proximity (the dots are closer together horizontally), they tend to be perceived in rows. (b) **Closure:** Even though the figures are incomplete, you fill in the blanks and see a circle and a dog. (c) **Similarity:** Because of similarity of colour, you see dots organized into the number 2 instead of a random array. If you did not group similar elements, you wouldn't see the number 2 here. (d) **Simplicity:** You could view this as a complicated 11-sided figure, but given the preference for simplicity, you are more likely to see it as an overlapping rectangle and triangle. (e) **Continuity:** You tend to group these dots in a way that produces a smooth path rather than an abrupt shift in direction.

Binocular cues: clues from both eyes together

- Retinal disparity: object within 25 ft. Look different. E.G. pencil.
- Convergence: feeling eyes converge as they focus on a single object.

Monocular depth cues: clues about distance based on the image in either eye alone.

- Motion parallax: causes car sickness.
- Accommodation: change as eyes focus
- Pictorial depth cues: clues about the distance that can be given in a flat picture.

Perceptual constancies: a tendency to experience a stable perception in the face of continually changing sensory input.

- Size
- Shape
- Brightness
- Hue
- Location in space

Optical illusion: discrepancy between the appearance of a visual stimulus and its physical reality.

Impossible figures: objects that can be represented in two-dimensional pictures but cannot exist in three-dimensional space.

Sound waves: vibrations of molecules; must travel through some physical medium, such as air.

- Usually generated by vibrating objects, or forcing air past a chamber, or suddenly releasing a burst of air.
- Characterized by their amplitude (loudness), wavelength (pitch), and their purity (timbre).

Wavelengths: described in terms of their frequency, measured in hertz (Hz).

- Higher frequencies= higher pitch.
- Humans can hear sounds ranging from 20 Hz to 20 000 Hz.
- Greater amplitude of sound waves= louder the sound perceived.

Amplitude: principle determinant of loudness.

- Measured in decibels (dB).
- Perceived loudness doubles about every 10 decibels.

The Human Ear

Divided into three sections:

- **External ear:** collects sound
 - Consists mainly of the **pinna**, a sound collecting cone.
- **Middle ear:** depends on the vibration of moveable bones.
 - Vibrations of the eardrum are transmitted inward by a mechanical chain made up of the three tiniest bones in your body, the **ossicles** (they amplify tiny changes in air pressure).
- **Inner ear:** depends on waves in a fluid.
 - Consists largely of the **cochlea**, a fluid-filled, coiled tunnel that contains receptors for hearing.

Basilar membrane: holds the auditory receptors, runs the length of the spiralled cochlea.

Place theory: holds that perception of pitch corresponds to the vibration of different portions, or places, among the basilar membrane.

- Assumes that hair cells at various locations respond independently and that different sets of hair cells are vibrated by different sound frequency. The brain then detects the frequency of a tone according to which area along the basilar membrane is most active.
- **Hermann von Helmholtz**

Frequency theory: perception of pitch corresponds to the rate, or frequency, at which the entire basilar membrane vibrates.

- The whole membrane vibrates in unison in response to sounds.
- **Rutherford**

Volley principle: holds that groups of auditory nerve fibres fire neural impulses in rapid succession, creating volleys of impulses.

- **Wever** and **Bray**

Auditory localization: locating the source of a sound in space.

Gustatory system: the sensory system for taste.

- Clusters of taste cells found in the taste buds that line the trenches around tiny bumps on the tongue.
- Trigger neural impulses that are routed through the thalamus to the cortex when the cells absorb chemicals dissolved in saliva.
- Physical stimuli are chemical substances that are soluble.

Pathway: taste buds > neural impulse > thalamus > cortex

Olfactory system: the sensory system for smell.

- Physical stimuli are chemical substances—volatile ones that can evaporate and be carried in the air.
- Dissolved in fluid (the mucus in the nose).
- Receptors for smell are **olfactory cilia**.
 - Have axons that synapse with cells in the olfactory bulb and then are routed directly to various areas in the cortex.

Pathway: Olfactory cilia > neural impulse > olfactory nerve > olfactory bulb (brain)

Pheromones: chemical messages, typically imperceptible, that can be sent by one organism and received by another member of the same species.

Pain messages are transmitted to the brain via two types of pathways that pass through different areas in the thalamus.

- **Fast pathway:** registers localized pain and relays it to the cortex in a fraction of a second.
- **Slow pathway:** lags a second or two behind the fast system; conveys localized, longer-lasting, aching or burning pain that comes after initial injury.

Gate control theory: holds that incoming pain sensations must pass through a gate in the spinal cord that can be closed, thus blocking ascending pain signals.

- Gate can be closed by signals from peripheral receptors or by signals from the brain.
- **Ronald Melzack** and **Patrick Wall**

Kinesthetic system: monitors the positions of the various parts of the body.

Vestibular system: responds to gravity and keeps you informed of your body's location in space.

- Provides a sense of balance, or equilibrium, compensating for changes in the body's position.
- **Semicircular canals** make up the largest part of the vestibular system.

Sensory integration: the norm in perceptual experience.

Chapter 5

Consciousness: the awareness of internal and external stimuli.

Stream of consciousness: a theory proposed by **William James** that your consciousness is continuously changing.

Mind wandering: refers to people's experience of task-unrelated thoughts.

Electroencephalograph (EEG): a device that monitors the electrical activity of the brain over time by means of recording electrodes attached to the surface of the scalp.
Monitoring of brain electrical activity.

Table 5.1

EEG Patterns Associated with States of Consciousness

EEG Pattern	Frequency (cps)	Typical States of Consciousness
Beta (β)	13–24	Normal waking thought, alert problem solving
Alpha (α)	8–12	Deep relaxation, blank mind, meditation
Theta (θ)	4–7	Light sleep
Delta (Δ)	Less than 4	Deep sleep

Human brain-wave activity is usually divided into four principle bands:

- **Beta:** (13-24 cps)
- **Alpha:** (8-12 cps)
- **Theta:** (4-7 cps)
- **Delta:** (<4 cps)

Amplitude: height

Frequency: cycles per second

Electromyograph (EMG): records muscular activity and tension.

Electrooculograph (EOG): records eye movements.

Electroencephalaograph: brain electrical activity.

Circadian Rhythms: 24 hour biological cycles

- Regulation of sleep and other body functions.

Physiological pathway of the biological clock:

- Light levels > retina > suprachiasmatic nucleus of hypothalamus > pineal gland > secretion of melatonin

Stages of sleep

- **Stage 1:** brief transitional stage of light sleep that usually lasts only a few (1-7) minutes. Breathing and heart rate slow as muscle tension and body temperature decline.
 - **Hypnic jerks:** brief muscular contractions that occur as people fall asleep, generally in stage 1 drowsiness.
- **Stage 2:** typically lasts 10-25 minutes; brief bursts of higher-frequency brain waves, called **sleep spindles**, appearing against a background of mixed EEG activity.
- **Stage 3 & 4:** Brain waves become higher in amplitude and slower in frequency, as the body moves into a deeper sleep called **slow-wave sleep**, consisting of sleep stages 3 and 4 during which high-amplitude, low-frequency delta waves become prominent in EEG recordings.
- **Stage 5: REM sleep (rapid eye movements):** relatively deep stage of sleep marked by rapid eye movements; high-frequency, low-amplitude brain waves; and vivid dreaming.
- EEG activity dominated by high-frequency beta waves that resemble those observed when people are alert and awake.
- The cycle reverses itself and the sleeper gradually moves back upward through the lighter stages.
- People usually repeat the cycle 4 times.

Non-REM sleep: consists of sleep stages 1 through 4, which are marked by an absence of rapid eye movements, relatively little dreaming and varied EEG activity.

Best explanation for why we sleep: sleep helps animals to restore energy and other bodily resources.

Ascending reticular activating system (ARAS): consists of the afferent fibres running through the reticular formation that influence physiological arousal.

Serotonin and GABA appear to play an important role in the regulation of sleep.

Partial sleep deprivation: occurs when people make do with substantially less sleep than normal over a period of time.

Insomnia: refers to the chronic problems in getting adequate sleep.

Narcolepsy: a disease marked by sudden and irresistible onsets of sleep during normal waking periods.

Sleep apnea: involves frequent, reflexive gasping for air that awakens a person and disrupts sleep.

Nightmares: anxiety-arousing dreams that lead to awakening, usually from REM sleep.

Night terrors: abrupt awakenings from NREM sleep, accompanied by intense autonomic arousal and feelings of panic, usually occur during stage 4 of sleep.

Somnambulism: occurs when a person arises and wanders about while remaining asleep. Tends to occur during the first two hours of sleep, during slow wave sleep.

Sigmund Freud: believed that the principle purpose of dreams is wish fulfillment.

Dreams: mental experiences during sleep (REM).

- Western doesn't pay attention to their dreams.
- Non-Western use it as predictor of future.

Activation-synthesis model: proposes that dreams are side effects of the neural activation that produces wide-awake brain waves during REM sleep.

- Hobson and McCarley.

Hypnosis: a systematic procedure that typically produces a heightened state of suggestibility.

- High hypnotisability made up of absorption, dissociation, and suggestibility.
- **Barber** and **Spanos:** role expectations produce hypnotic effects.
- Anesthesia
- Sensory distortions and hallucinations
- Disinhibition
- Post hypnotic suggestions and amnesia

Dissociation: a splitting off of mental processes into two separate simultaneous streams of awareness.

- **Hilgard:** hypnosis creates dissociation in consciousness, splits it into two streams.

Meditation: a family of practices that train attention to heighten awareness and bring mental processes under greater voluntary control.

Psychoactive drugs: chemical substances that modify mental, emotional, or behavioural functioning.

Narcotics/opiates: drugs derived from opium that are capable of relieving pain.

Sedatives: sleep inducing drugs that tend to decrease central nervous system (CNS) activation and behavioural activity.

Stimulants: drugs that tend to increase central nervous system activation and behavioural activity.

Hallucinogens: diverse group of drugs that have powerful effects on mental and emotional functioning marked most prominently by distortions in sensory and perceptual experience.

Cannabis: hemp plant from which marijuana, hashish, and THC are derived.

Alcohol: encompasses a variety of beverages containing ethyl alcohol.

MDMA (ecstasy): a compound drug related to both amphetamines and hallucinogens, especially mescaline.

Tolerance: refers to a progressive decrease in a person's responsiveness to a drug.

Physical dependence: exists when a person must continue to take a drug to avoid withdrawal illness.

Psychological dependence: exists when a person must continue to take a drug to satisfy intense mental and emotional craving for the drug.

Chapter 6

- Learning
 - Permanent change in behavioural tendency resulting from reinforced practice
- Learning Involves
 - Adjustment based on past experiences
 - Acquisition of new knowledge
 - Simple associations
 - Creation of more complex belief systems
 - Your own efforts lead to changes in what you think and believe
- How do we learn?
 - Intent
 - Drive x Study Habits
 - Motivation, making an effort
 - Rewards and Punishment
 - Encouragement is better than discouragement
 - Knowledge of Results
 - Getting better by knowing correctness
 - Stress
 - Performance is best with some stress
 - Learning curve
 - Life Goals
 - Learn about things you are interested in

Classical Conditioning

Phobias: irrational fears of specific objects or situations.

- 11% prevalence rate of simple lifetime phobias.
- Can be treated

Learning: relatively durable change in behaviour or knowledge that is due to experience

- Acquisition of knowledge and skills
- Shapes personal habits
- Personality traits
- Emotional responses
- Personal preferences
- Can be done by most organisms.

Conditioning: learning associations between events that occur in an organism's environment.

Classical Conditioning

- Type of learning in which a stimulus acquires the capacity to evoke a response that was originally evoked by another stimulus
- Also known as Pavlovian conditioning
- First seen by Ivan Pavlov in 1900's
- Studied dogs salivation when presented with meat powder
- Noticed that eventually they start to salivate before the meat powder
- Eventually had the dog conditioned to the sound of the bell

Terminology

- Unconditioned stimulus (UCS)
 - Stimulus evoking an unconditioned response without prior conditioning
- Unconditioned Response (UCR)
 - An unlearned reaction to an unconditioned stimulus that occurs without prior conditioning
- Conditioned Stimulus (CS)
 - A previously neutral stimulus that has, through conditioning, acquired the capacity to evoke a conditioned response
- Conditioned Response (CR)
 - A learned reaction to a conditioned stimulus that occurs because of previous conditioning
- UCR and CR often consist of the same behaviour, with subtle differences
- UCR CR =salivation, UCS=meat powder, CS= bell tone
- Psychic reflex = conditioned reflex
- Elicited (drawn forth) response, involuntary, automatic
- Trial
 - Presentation of a stimulus or pair of stimuli
 - How many it takes to form an association
- Immune resistance
- Sexual arousal
- Drug tolerance
- Acquisition: Forming new responses
 - Initial stage of learning something
 - Depends on stimulus contiguity
 - Odd, unusual or intense stimuli are more likely to become CSs

- Extinction: Weakening Conditioned Responses
 - The gradual weakening and disappearance of a conditioned response tendency
 - Consistent presentation of the conditioned stimulus alone may lead to extinction
 - Does not lead to unlearning
- Spontaneous Recovery
 - Reappearing from the dead
 - Reappearance of an extinguished response after a period of nonexposure to the conditioned stimulus
 - Will happen if in the original environment where the acquisition took place
 - Renewal effect
- Stimulus Generalization
 - Responding to the exact CS but also to other similar stimuli
 - When an organism that had learned a response to a specific stimulus responds in the same way to a new stimuli that are similar to the original stimulus
 - Fear of a bridge leads to a fear of all bridges.
- Stimulus Discrimination
 - When an organism that has learned a response to a specific stimulus does not respond in the same way to a new stimuli that are similar to the original stimulus
 - Discriminate between the original CS
 - The less similar the more likely one is to discriminate
- Higher Order Conditioning
 - A conditioned stimulus functions as if it were an unconditioned stimulus
 - Built on the foundation of already established CR
- Watson & Reiner
 - Little Albert experiment
 - Conditioned young boy to be scarred of anything white and furry by banging a metal sheet every time he tried to touch it
 - Start of behaviourism

Operant Conditioning/ Instrumental

- Operant Conditioning: a form of learning in which responses come to be controlled by their consequences
- Started by B. F Skinner
- Voluntary responses
- Thorndike's Law of Effect
 - Instrumental learning
 - Learning does not depend on thinking and understanding

- If a response in the presence of a stimulus leads to satisfying effects, the association between the stimulus and the response is strengthened.
- Reinforcement
 - An event following a response increases an organisms tendency to make that response.
 - Strengthens the response
- Operant Chamber/ Skinner Box
 - Small enclosure in which an animal can make a specific response that is recorded while the consequences of the response are systematically controlled.
 - Operant responses are voluntary so they are emitted rather than elicited
- Reinforcement Contingencies
 - Circumstances or rules that determine whether responses lead to the presentation of reinforcers
 - Manipulation whether positive contingencies occur when the subject makes the designated response
- Response Rate
 - The key dependent variable
- Cumulative Recorder
 - Creates a graphic record of responding and reinforcement in a Skinner Box as a function of time
 - Graphic summary of subject's response over time.
 - Slope
 - Rapid response produces steep slope
 - Slow response produces a shallow slope
- Shaping
 - The reinforcement of closer and closer approximations of a desired response
 - Necessary when the subject does not emit the response on its own
- Extinction
 - The response tendency decreases because the response is no longer reinforced
 - Resistance to extinction
 - The organism continues a response after delivery of the reinforcer has ceased
- Discriminative Stimuli
 - Cues that influence operant behaviour by indicating the probable consequences of a response
 - Learn when to or not to initiate the response
- Primary Reinforcers
 - Events that are inherently reinforcing because they satisfy biological needs
 - Ties to physiological needs
 - Food, water, sex, warmth, and affection
- Secondary/Conditioned Reinforcers

- Events that acquire reinforcing qualities by being associated with primary reinforcers
- Money, good grades, attention, flattery, praise, applause

What they have in Common

- Acquisition of the CR
- Extinction of the UCS
- Spontaneous recovery
- Reconditioning
- Generalization
- Discrimination
- Higher order conditioning

- **Response = Habit x Drive- Inhibition**

Schedules of Reinforcement

- Schedule of reinforcement
 - Determines the occurrences of a specific response result in the presentation of a reinforcer
- Continuous Reinforcement
 - Occurs when every instance of a designated response is reinforced
 - Shape and establish a new response
 - Later move onto different schedules
- Intermittent/Partial Reinforcement
 - Designated response is reinforced only some of the time
 - Leads to better long term effects
 - More resistant to extinction
 - Four types: fixed ratio, variable ratio, fixed interval, variable interval
- Fixed Ratio (FR)
 - The reinforcer is given after a fixed number of nonreinforced responses
 - 1/10
- Variable Ratio (VR)
 - Reinforcer is given after a variable number of nonreinforced responses
 - Predetermined average
 - 1/10 on the average
 - Slot machines
- Fixed Interval (FI)
 - Reinforcer is given for the first response that occurs after a fixed time interval has elapsed
 - After first time must wait 2 mins before it will be reinforced again
- Variable Interval (VI)
 - The reinforcer is given for the first response after a variable time interval has elapsed

- Time interval changes
- Positive Reinforcement
 - A response is strengthened because it is followed by the presentation of a rewarding stimulus
 - Good grades, pay cheques, scholarships
 - Being rewarded for doing well
- Negative Reinforcement
 - A response is strengthened because it is followed by the removal of an aversive(unpleasant) stimulus
 - Rewarded by getting rid of something bad
 - Avoidance behaviour
- Escape Learning
 - An organism acquires a response that decreases or ends some aversive stimulations
 - Negative reinforcement
- Avoidance Learning
 - An organism acquires a response that prevents some aversive stimulation from occurring
 - Combination of classical and operant conditioning
 - Negative reinforcement
- Punishment
 - An event following a response weakens the tendency to make that response
 - Involves presenting an aversive stimulus, or removing a rewarding one
 - Correlation between physical punishment and aggressiveness
- How to make punishment more effective
 - Apply swiftly
 - Use punishment just severe enough to be effective
 - Make punishment consistent
 - Explain the punishment
 - Use noncorporal punishments

Changing Directions in the Study of Conditioning

- Instinctive Drift
 - When an animal's innate response tendencies interfere with conditioning processes
 - Raccoons rubbing coins together
- Conditioned Taste Aversion
 - Aversion to food that has been followed by sickness or nausea
 - By product of evolutionary history of animals
- Preparedness
 - Species-specific predisposition to be conditioned in certain ways and not others

- What our ancestors feared, for survival
- Ecologically relevant conditioned stimuli
- Arbitrary, neutral stimuli
- Signal Relations
 - Environmental stimuli serve as signals
 - Some stimuli are better than others and are more dependable as a signal
 - Predictive power of CS is an influential factor governing classical conditioning
 -
- Response Outcome
 - Reinforcement is not automatic when favourable consequences follow a response
 - What the person thinks caused the outcome
 - Realize casual relationships between response and outcome
 - When a response produces a desirable outcome, the response is strengthened because `they think that response caused the outcome

Observable Learning

- Observational Learning
 - Driving for the first time
 - When an organism's responding is influenced by the observation of others, who are called models
 - Albert Bandura
 - not entirely separate from classical or operant
 - being conditioned indirectly by watching someone else
 - the reinforcement is not felt by you but the person you are observing
- Four Key Processes
 - Attention
 - Retention
 - Reproduction
 - Motivation
- Aggressive models may teach aggressive behaviour
- Acquisition of a learned response
- Performance of the response
- Mirror Neurons
 - Activated by performing an action or by seeing another monkey or person perform the same action
 - Related to imitation, observable learning
 - Related to autism: facial expressions, emotional recognition, empathy and language
- Behaviour Modification

- Systematic approach to changing behaviour through the application of the principles of conditioning.
- Behaviour is a product of learning, conditioning and environmental control
- What is learned can be unlearned
- Antecedents
 - Events that typically precede a target response
- Behavioural Contract
 - A written agreement outlining a promise to adhere to the contingencies of a behaviour modification program

Applications of Learning Theory

- Phobia
 - Irrational fear of something
 - Simple Phobia
 - Claustrophobia, heights, zoophobia
 - Real dangers
 - Social Phobias
 - Difficult to treat
 - Afraid of leaving the house
- Non random phobic excitements
 - Snakes, heights, closed spaces
 - Took 1-2 trials to condition uni students to fear of snakes or spiders
 - Much longer for subjects conditioned to houses and flowers
 - What our ancestors feared for survival
- Preparedness
 - Why our phobias develop around certain objects
- Irrational fears
 - Everytime you avoid something you are rewarded

Treatment

- Symptom substitution
 - Symptom is what causes the fear
 - Cured of one fear will move on to another
- Implosion Therapy
 - Visualize the fear, get subject to relax while they do so
 - Fear response = 0
 - No actual exposure
 - Some people 14 sessions
 - Invirto- in office
- Flooding
 - Invivo- in life
 - Face the fear

- Systematic Desensitization
 - Gradual hierarchy
 - talk about fear
 - shown pictures
 - films
 - physically see fear
 - touch possibly
- Aversion
 - Change what pleasures you with something unpleasant
 - Treating pedophiles
- Assertiveness Training
 - C type personality, people with cancer
 - Don't express negative emotions
 - Learn to show the feelings you have
 - Why not Assertiveness
 - people do not know what to say
 - how do you act assertive
 - anxious, fear of being rejected

Reward Training

- reward with something physical then move on to verbal rewards
- Token Economy
 - System for doling out symbolic reinforcers that are exchanged later for a variety of genuine reinforcers
 - Learn things are not given freely
 - Lose and gain token
- Multi-modal
 - Talk therapy, model behaviour
 - Observational Learning
 - Rehearsal
 - Shown an exemplary performance
- Encouragement Process
 - Place value of individual
 - Express faith in individual
 - Recognize a job well done, reward
 - Focus on strengths and assets
- Authoritative
 - Legit authority
- Authoritarian
 - Artificial
 - Diminishes encouragement process

- Punishment Training
 - Corporal punishment
 - Body is punished for a behaviour
 - More likely to be violent on others
 - Anti-social behaviour
 - Mainly inflicted on: children, minorities, boys, physically challenged

Phobias: irrational fears of specific objects or situations, often the result classical conditioning.

Learning: refers to a relatively durable change in behaviour or knowledge that is due to experience.

Conditioning: involves learning associations between events that occur in an organism's environment.

Classical conditioning: a type of learning in which a stimulus acquires the capacity to evoke a response that was originally evoked by another stimulus. (Sometimes called **Pavlovian conditioning**).

Unconditioned stimulus (UCS): a stimulus that evokes an unconditioned response without previous conditioning.

Unconditioned response (UCR): an unlearned reaction to an unconditioned stimulus that occurs without previous conditioning.

The link between the tone and salivation was established through conditioning. It is therefore called **conditioned association**.

Conditioned stimulus (CS): a previously neutral stimulus that has, through conditioning, acquired the capacity to evoke a conditioned response.

Conditioned response (CR): a learned reaction to a conditioned stimulus that occurs because of previous conditioning.

The UCR and CR were both salivation. When evoked by the UCS (meat powder), salivation was an unconditioned response. When evoked by the CS (the tone), salivation was a conditioned response.

Trial: consists of any presentation of a stimulus or pair of stimuli. Pairing of UCS and CS.

Stimulus contiguity: occurring together in time and space.

3 Types of Classical Conditioning:

- Simultaneous conditioning: CS and UCS begin and end together.
- Short-delayed conditioning: CS begins just before the UCS, end together.



Figure 6.3

Classical conditioning of a fear response. Many emotional responses that would otherwise be puzzling can be explained by classical conditioning. In the case of one woman's bridge phobia, the fear originally elicited by her father's scare tactics became a conditioned response to the stimulus of bridges.

- Trace conditioning: CS begins and ends before UCS is presented.

Extinction: the gradual weakening and disappearance of a conditioned response tendency.

- The consistent presentation of the conditioned stimulus alone, without the unconditioned stimulus leads to extinction in classical conditioning.
- E.G. Pavlov consistently presented only the tone to a previously conditioned dog, the tone gradually lost its capacity to elicit the response of salivation.

Spontaneous recovery: the reappearance of an extinguished response after a period of nonexposure to the conditioned stimulus.

Renewal effect: reappearance of response if the animal is returned to its original environment.

Stimulus generalization: occurs when an organism that has learned a response to a specific stimulus responds in the same way to new stimuli that are similar to the original stimulus.

Stimulus discrimination: occurs when an organism that has learned a response to a specific stimulus does not respond in the same way to new stimuli that are similar to the original stimulus.

- E.G. your dog is running around waving its tail excitedly whenever your car pulls in the driveway. Initially it will probably respond to all cars, but if you car has something distinctive about it your dog may gradually respond with excitement to only your car and not to other cars.

Higher-order conditioning: a conditioned stimulus functions as if it were an unconditioned stimulus.

- E.G. once dog is conditioned to salivate to the sound of a tone, you pair the tone with a new stimulus, you then present the red light alone, and the dog salivates.

Operant conditioning: a form of learning in which responses come to be controlled by their consequences.

Basic processes in operant conditioning:

- **Shaping:** consists of the reinforcement of closer and closer approximation of a desired response.
 - o Operant responses are usually established through shaping.
- **Extinction** (in operant conditioning): refers to the gradual weakening and disappearance of a response tendency because the response is no longer followed by a reinforcer.

Table 6.1

Comparison of Basic Processes in Classical and Operant Conditioning

Process and Definition	Description in Classical Conditioning	Description in Operant Conditioning
Acquisition: The initial stage of learning	CS and UCS are paired, gradually resulting in CR.	Responding gradually increases because of reinforcement, possibly through shaping.
Extinction: The gradual weakening and disappearance of a conditioned response tendency	CS is presented alone until it no longer elicits CR.	Responding gradually slows and stops after reinforcement is terminated.
Stimulus generalization: An organism's responding to stimuli other than the original stimulus used in conditioning	CR is elicited by new stimulus that resembles original CS.	Responding increases in the presence of new stimulus that resembles discriminative stimulus.
Stimulus discrimination: An organism's response to stimuli that are similar to the original stimulus used in conditioning	CR is not elicited by new stimulus that resembles original CS.	Responding does not increase in the lack of presence of new stimulus that resembles the original discriminative stimulus.

- **Acquisition:** refers to the initial stage in learning.
- **Stimulus control**
 - o Generalization
 - o Discrimination

Operant – emitted because voluntary.

Classical – elicited

Law of effect: if the response in the presence of a stimulus leads to satisfying effects, the association between the stimulus and the response is strengthened.

- **Thorndike**

Reinforcement: occurs when an event following a response increases an organism's tendency to make that response.

Operant chamber: a small enclosure in which an animal can make a specific response that is recorded while the consequences of the response are systematically controlled.

Reinforcement contingencies: circumstances or rules that determine whether responses lead to the presentation of reinforcers.

Cumulative recorder: creates a graphic record of responding and reinforcement in a Skinner box as a function of time.

Resistance to extinction: occurs when an organism continues to make a response after delivery of the reinforcer has been terminated.

Discriminative stimuli: cues that influence operant behaviour by indicating the probable consequences of a response.

Primary reinforcers: events that are inherently reinforcing because they satisfy biological needs.

- In humans this includes food, water, warmth, sex.

Secondary reinforcers: events that require reinforcing qualities by being associated with primary reinforcers.

- In humans this includes money, good grades, attention, flattery, praise, and applause.

Schedule of reinforcement: determines which occurrences of a specific response result in the presentation of a reinforcer.

Continuous reinforcement: occurs when every instance of a designed response is reinforced.

Intermittent reinforcement: occurs when a designated response is reinforced only some of the time.

Fixed-ratio schedule: the reinforcer is given after a fixed number of nonreinforced responses.

Variable-ratio: the reinforcer is given after a variable number of nonreinforced responses.

Fixed-interval schedule: the reinforcer is given for the first response that occurs after a fixed time interval has elapsed.

Variable-interval schedule: the reinforcer is given for the first response after a variable time interval has elapsed.

Positive reinforcement: occurs when a response is strengthened because it is followed by the presentation of a rewarding stimulus.

Negative reinforcement: occurs when a response is strengthened because it is followed by the removal of an aversive stimulus.

Escape learning: an organism acquires a response that decreases or ends some aversive stimulation.

Avoidance learning: an organism acquires a response that prevents some aversive stimulation from occurring.

Instinctive drift: occurs when an animal's innate response tendencies interfere with conditioning processes.

Preparedness: involves a species-specific predisposition to be conditioned in certain ways and not others.

- Seligman: evolutionary forces gradually programmed humans to acquire conditioned fears of these objects easily and rapidly.

Observational learning: occurs when an organism's responding is influenced by the observation of others, who are called models.

Bandura has identified 4 key processes that are crucial in observational learning:

1. Attention
2. Retention
3. Reproduction
4. Motivation

Mirror neurons: neurons that are activated by performing an action or by seeing another monkey or person perform the same action.

Behaviour modification: a systematic approach to changing behaviour through the application of the principles of conditioning.

Chapter 7

- Memory involves
 - Encoding

- Put in short term memory
 - Acoustic: words, speaking
 - Visual: see
 - Semantic: facts, concepts
 - Storage
 - What is important sorted into long term
 - Retrieval
 - Recall: must know it, short answer test
 - Recognition: see again, multiple choice
- Different Types of Memory
 - Episodic
 - Brief specific events
 - I remember when...
 - Semantic
 - General information
 - I know that...
 - Procedural
 - Sequencive movement
 - How to do something
- Recalling
 - Explicit
 - Intentionally remember something
 - Writing a test
 - Implicit
 - Unintentionally remembering something
 - Spontaneous
 - Riding a bike
- Models of Memory
 - Levels of Processing Model
 - How well info is encoded
 - Rehearsal, how involved in encoding process
 - Maintenance rehearsal: going over
 - Elaborative: associations, application
 - Information Processing Model
 - Sensory
 - Adaptive, effects the senses
 - Not very long, held for 1 sec
 - What is important moves on to short term
 - Short Term
 - Held for longer but if not worked through gone 20 secs
 - If important moves on to long term memory
 - Working memory
 - Long Term

- May be infinite
 - Limitless capacity
 - Subject to distortion
- Retrieval
 - Context Dependent Retrieval
 - Put self into the context of which you learned the material
 - State Dependent
 - Emotional state, or mood effects what you think of
 - Repressed memories
- Constructive Memory
 - Makes sense but may not be true
 - Memory becomes distorted
 - Problems with eye witness testimony
- Forgetting/ Repression
 - Decay
 - Gradual disappearance
 - Interference
 - Retroactive
 - Learning new effects the old
 - Short term → long term
 - Proactive
 - Old interferes with new
 - Long term → short term

Encoding: forming a memory code.

Storage: maintaining encoded information in memory over time.

Retrieval: recovering information from memory stores.

Attention: focusing awareness on a narrowed range of stimuli or events.

Effortful processing: picking up information because you are intentionally intending to do so.

Automatically: picking up information without intention.

- *Hasher*

- Different rates of forgetting occur because some methods of encoding create more durable memory codes than others.

In dealing with verbal information, people engage in three progressively deeper levels of processing:

- **Structural encoding:** shallow processing that emphasizes the physical structure of the stimulus.
- **Phonemic encoding:** emphasizes what a word sounds like.
- **Semantic encoding:** emphasizes the meaning of verbal input.
 - *Craik* and *Lockhart*

Levels-of-processing theory: deeper levels of processing result in longer lasting memory codes.

Elaboration: linking a stimulus to other information at the time of encoding.

- Enhances semantic encoding.

E.G. thinking of examples that illustrate an idea.

Imagery: the creation of visual images to represent the words to be remembered.

Dual-coding theory: memory is enhanced by forming semantic and visual codes, since either can lead to recall.

- *Paivio*

Self-referent encoding: making information personally meaningful.

Sensory memory: preserves information in its original sensory form for a brief time, usually only a fraction of a second.

Short-term memory (STM): a limited-capacity store that can maintain unrehearsed information for up to about 20 seconds.

Rehearsal: the process of repetitively verbalizing or thinking about the information.

Miller noticed that people could recall only about seven items in tasks that required them to remember unfamiliar material.

Chunks: a group of familiar stimuli stored as a single unit.

Baddeley's model of working memory:

- **Phonological loop:** at work when you use recitation to temporarily remember a phone number.
- **Visuospatial sketchpad:** permits people to temporarily hold and manipulate visual images.
- **Central executive system:** controls the deployment of attention, switching the focus of attention and dividing attention as need.
- **Episodic buffer:** temporary, limited capacity store that allows the various components of working memory to integrate information and that serves as an interface between working memory and long-term memory.

Long-term memory: an unlimited capacity store that can hold information over lengthy periods of time.

Flashbulb memories: unusually vivid and detailed recollections of momentous events.

Clustering: the tendency to remember similar or related items in groups.

- *Bousfield*

Conceptual hierarchy: a multilevel classification system based on common properties among items.

Schema: an organized cluster of knowledge about a particular object or event abstracted from previous experience with the object or event.

Semantic network: nodes representing concepts, joined together by pathways that link related concepts.

Spreading activation: when people think of a word, their thoughts naturally go to related words.

- **Collins** and **Loftus**

Connectionist/parallel distributed processing models: cognitive processes depend on patterns of activation in highly interconnected computational networks that resemble neural networks.

- Assert that specific memories correspond to particular patterns of activation in these networks.

Tip-of-the-tongue phenomenon: the temporary inability to remember something you know, accompanied by a feeling that it's just out of reach.

Retrieval cues: stimuli that help gain access to memories.

Encoding specificity principle: your memory for information would be better when the conditions during the encoding and retrieval were similar.

- **Tulving**

Misinformation effect: participants' recall of an event they witnessed is altered by introducing misleading post-event information.

- Due in part to the unreliability of source monitoring.

Source monitoring: the process of making attributions about the origins of memory.

Source monitoring error: occurs when a memory derived from one source is misattributed to another source.

Reality monitoring: the process of deciding whether memories are based on external sources (one's perceptions of actual events) or internal sources (one's thoughts and imaginations).

Forgetting curve: graphs retention and forgetting over time.

- **Ebbinghaus**

Retention: the proportion of material retained.

Retention interval: the length of time between the presentation of materials to be remembered and the measurement of forgetting. The three methods used to measure forgetting are recall, recognition, and relearning.

Recall: measure of retention which requires subjects to reproduce information on their own without any cues.

Recognition: measure of retention which requires subjects to select previously learned information from an array of options.

Relearning: measure of retention which requires a subject to memorize information a second time to determine how much time or how many practice trials are saved by having learned it before.

Decay theory: forgetting occurs because memory traces fade with time.

Interference theory: people forget information because of competition from other material.

Lacoby states that there are two kinds of interference:

- **Retroactive interference:** occurs when new information impairs the retention of previously learned information.
- **Proactive interference:** occurs when previously learned information interferes with the retention of new information.

Encoding specificity principle: the value of a retrieval cue depends on how well it corresponds to the memory code.

- **Tulving and Thomson**

Transfer-appropriate processing: occurs when the initial processing of information is similar to the type of processing required by the subsequent measure of retention.

Repression: keeping distressing thoughts and feelings buried in the unconscious.

- **Freudian** theory

Long-term potentiation: a long-lasting increase in neural excitability at synapses along a specific neural pathway.

Retrograde amnesia: the loss of memories for events that occurred prior to the onset of amnesia.

Anterograde amnesia: the loss of memories for events that occur after the onset of amnesia.

Consolidation: a hypothetical process involving the gradual conversion of information into durable memory codes stored in long-term memory.

Implicit memory: apparent when retention is exhibited on a task that does not require intentional remembering.

Explicit memory: involves intentional recollection of previous experiences.

Declarative memory system: handles factual information.

Nondeclarative/ procedural memory system: houses memory for actions, skills, operations, and conditioned responses.

Episodic memory system: made up of chronological, or temporarily dated, recollections of personal experiences.

Semantic memory system: contains general knowledge that is not tied to the time when the information was learned.
E.G. Christmas is December 25th

Episodic memory is like a biography, while semantic memory is like an encyclopedia.

Prospective memory: remembering to perform actions in the future.

Retrospective memory: remembering events from the past or previously learned information.

Chapter 8

19th Century Focus on the mind

- Introspection – no reliable testing on the mind.

Language: symbols that convey meaning, plus rules for combining these symbols, that can be used to generate an infinite variety of messages.

- It is **symbolic**; used to represent objects, actions, and ideas.
- It is **semantic**; meaningful.
- It is **generative**; symbols can be combined to generate messages.
- It is **structured**; governed by rules/grammar.

Phonemes: the smallest speech units.

- About 40 in English language; 100 possible.
E.G.: mat>bat; pit>bit; rip>lip

Morphemes: the smallest units of meaning.

- About 50 000 in English language.
E.G.: dog and dog(s)

Semantics: meaning of words and word combinations.

- **Denotation:** dictionary definition.
- **Connotation:** emotional overtones and secondary implications.

Syntax: a system of rules for arranging words into sentences.

- Simple rule of syntax is that a sentence must have a subject and verb.

Milestones in Language Development

Initial: vocalizes randomly; coos, laughs, cries, babbling.

6 Months: babbling sounds begin to resemble surrounding language.

1st Year: first word

- **Receptive vocabulary** (comprehension) is larger than their **productive vocabulary** (expressing themselves)

18 – 24 Months: vocabulary spurt

- **Fast mapping:** process by which children map a word onto an underlying concept after only one exposure.
- **Overextension:** a child incorrectly uses a word to describe a wider set of objects or actions that it is meant to. Usually appear in ages 1 & 2 ½
E.G.: a child using the word ball for anything round (apples, oranges, the moon).
- **Underextension:** occur when a child incorrectly uses a word to describe a narrower set of objects or actions than it is meant to.
E.G.: a child using the word doll to refer to only a single, favourite doll.

End of 2nd year: combine words

- **Telegraphic speech:** remove articles/adjectives.
E.G.: "Give doll" rather than "please give me the doll."
- **Mean Length of Utterance (MLU):** the average length of youngsters' spoken statements (measured in morphemes).

End of 3rd year: complex ideas, plural, past tense.

- **Overregularizations:** occur when grammatical rules are incorrectly generalized to irregular cases where they do not apply.
E.G.: "The girl goed home" or "I hitted the ball."

Metalinguistic Awareness: the ability to reflect on the use of language.

The Acquisition of a Second Language

Age: the younger, the better.

Acculturation: the degree to which a person is socially and psychologically integrated in a new culture.

- Greater acculturation = more rapid acquisition of the language.
- Higher scores for middle-class bilingual subjects on cognitive flexibility, analytical reasoning, selective attention, and metalinguistic awareness.
- Slight disadvantage in terms of language processing speed.

Wallace Lambert

- Found that second language learning was associated both with language aptitude and what they termed **integrative motivation**; a willingness to be like valued members of the language community.

Sue Savage-Rumbaugh

- Bonobos (Kanzi) trained to communicate with their caretakers by touching geometric symbols that represent words on a computer monitored keyboard.
- PET scans map brain activity in communicating chimps that resemble broca's area in humans.

Steven Pinker

- Human's special talent for language is a species- specific trait that is the product of natural selection.

B.F. Skinner (Behaviourist Theories)

- Argued that environmental factors govern language development.

- Children learn language the same way they learn everything else; imitation, reinforcement.
- Vocalizations that are not reinforced gradually decline in frequency.

Noam Chomsky (Nativist Theories)

- Children learn the rules of language, not specific verbal responses.
- Innately have ability to produce meaningful symbols.
- Nativist theory: humans equipped with **Language Acquisition Device**; an innate mechanism or process that facilitates the learning of language.

Interactionist Theories

- **Cognitive theories:** language development is simply an important aspect of more general cognitive development.
- **Social communication theories:** emphasize the functional value of interpersonal communication and the social context in which language evolves.
- **Emergentist theories:** argue that the neural circuits supporting language are not prewired but emerge gradually in response to language learning experiences.

Benjamin Lee Whorf

- **Linguistic relativity:** the hypothesis that one's language determines the nature of one's thought.

Problem Solving: refers to active efforts to discover what must be done to achieve a goal that is not readily available.

3 Types of Problems (Greeno):

- 1) Problems of inducing structure: series of completion and analogy problems.
- 2) Problems of arrangement: string problem and anagrams; often solves through insight.
- 3) Problems of transformation

Insight: the sudden discovery of the correct solution following incorrect attempts based primarily on trial and error.

Functional fixedness: the tendency to perceive an item only in terms of its most common use.

E.G.: people in the screwdriver problem have a hard time viewing the screwdriver as a weight.

Mental set: exists when people persist in using problem-solving strategies that have worked in the past.

Problem space: refer to the set of possible pathways to a solution considered by the problem solver.

Algorithm: Systematic trial and error.

Heuristic: mental shortcuts.

E.G.: working backward, forming **subgoals:** intermediate steps toward a solution.

Field dependence-interdependence: individual's tendency to rely primarily on external versus internal frames of reference when orienting themselves in space.

- **Field dependent:** rely on external frames of reference and tend to accept physical environment as a given instead of trying to analyze or restructure it.
- **Field independent:** rely on internal frames of reference and tend to analyze and try to restructure the physical environment rather than accepting it as is.
(Western view)

Decision making: evaluating alternatives and making choices among them.

Theory of bounded rationality: people tend to use simple strategies in decision making that focus on only a few facets of available options and often result in irrational decisions that are less than optimal.

- **Herbert Simon**

Additive strategy: list attributes that influence your decision, then rate the desirability of each item based on each attribute.

Elimination: assumes that alternatives are eliminated by evaluating them on each attribute or aspect in turn.

Risky decision making: involves making choices under conditions of uncertainty.

- **Subjective utility:** represents what an outcome is personally worth to an individual.
- **Subjective probability:** people don't know actual probabilities; they must rely on their personal estimates of probabilities.

Availability heuristic: involves basing the estimated probability of an event on the ease with which relevant instances come to mind.

E.G.: estimating divorce rate by recalling the number of divorces among your friends parents.

Representativeness heuristic: involves basing the estimated probability of an event on how similar it is to the typical prototype of the event.

E.G.: guessing that a quiet, timid man is a librarian rather than a politician because he represents the prototype.

Recognition heuristic: if one of two alternatives is recognized and the other is not, infer that the recognized alternative has the higher value.

E.G.: what has a larger population, San Antonio or San Diego

Conjunction fallacy: occurs when people estimate the odds of two uncertain events happening together are greater than the odds of either event happening alone.

Gambler's Fallacy: the belief that the odds of a chance event increase if the event hasn't occurred recently.

The Law of Small Numbers: belief that a result based on small numbers based on most of the population.

Overestimating the Improbable: people's tendency to overestimate the likelihood of events that receive a lot of media coverage.

Confirmation bias: the tendency to seek information that supports one's decisions and beliefs while ignoring disconfirming information.

Belief perseverance: the tendency to hang on to beliefs in the face of contradictory evidence.

Overconfidence Effect: Putting too much faith in what you believe to be true.

Framing: how decision issues are posed or how choices are structured.

Semantic Slanting: deliberately choosing words to create specific emotional responses.

E.G.: better to be for something than against, thus anti-abortionists call themselves pro-life.

- Cognition
 - The mental processes involved in acquiring knowledge
- Language
 - The symbols that convey meaning plus rules for combining those symbols, that can be used to generate an infinite variety of messages
 - 4 key properties
 - Language is symbolic
 - Represents objects, actions, events and ideas
 - Flexible, same word used for different things
 - Semantic
 - Meaningful
 - Arbitrary, no relationship between the look and sound of the word and the object
 - Generative
 - A limited number of symbols can be combined in an infinite variety of ways to generate words
 - You make up sentences that have never been said before
 - Comprehend sentences never heard before
 - Structured
 - Sentences can be structured in a limited number of ways
 - Structure
 - Phonemes
 - The smallest speech unit in language that can be distinguished perceptually
 - Humans can only distinguish about 100 basic sounds
 - English has 40
 - Morphemes
 - The smallest unit of meaning in a language
 - 50,000 in English
 - Includes roots, prefix, and suffix

- Semantics
 - The area of language concerned with understanding the meaning of words and word combinations
 - Denotation: dictionary
 - Connotation: emotions
- Syntax
 - System of rules that specify how words can be arranged into sentences
 - A sentence must have a subject and a verb
- o Child progress
 - Learn the rules of syntax very fast
 - 1-5 months: reflexive communication
 - 6-18 months: babbling
 - 10-13 months: first words
 - 12-18 months: one word sentence
 - 18-24: vocabulary spurt
 - 2 years: 2 word sentence
 - 2.5 years: three word sentence
 - 3 years: complete simple active sentence structure
 - 3.5: expanded grammatical forms
 - 4: years: five word sentences
 - 5 years: well developed and complex syntax
 - 6 years: metalinguistic awareness
 - Fast Mapping
 - Process by which children map onto an underlying concept after only one exposure
 - Overt Extension
 - When a child incorrectly uses a word to describe a wider set of objects or actions than it is meant to
 - Under Extensions
 - When a child incorrectly uses a word to describe a narrower set of objects or actions than is meant to be
 - Telegraphic Speech
 - Content words; articles, prepositions, and less critical words are omitted
 - Give doll
 - MLU (mean length of utterance)
 - The average length of youngsters' spoken statements (measured in morphemes)
 - Over-regularizations
 - When grammatical rules are incorrectly generalized to irregular cases where they do not apply
 - Goed, hitted

- Metalinguistic awareness
 - The ability to reflect on the use of language
 - Largest strides age 1-5
 - School age, begin to play with language, puns and jokes
 - 6-8 irony
 - Learning 2 languages
 - Bilingualism
 - Acquisition of two languages that use different speech sounds, vocabulary and grammatical rules
 - Acculturation
 - The degree to which a person is socially and psychologically integrated into a new culture
 - Age is very important, younger is better, best before age 7
 - Better u til age 15
 - Motivation and attitude also affect
 - Critical age is 13
- Theories of Language
 - Behaviourist
 - B.F Skinner
 - Verbal Behaviour (1957)
 - Children learn through imitation, reinforcement, and other ways of conditioning
 - Not reinforced, decline in frequency
 - Shaped until correct
 - Imitation and reinforcement for learning syntax
 - Nativist Theories
 - Noam Chomsky
 - Infinite # of sentences= impossible for it to be imitation
 - Children learn the rules
 - Inborn ability to learn language
 - LAD (Language Acquisition Device)
 - Innate mechanism or process that facilitates the learning of language
 - Biologically equipped like how birds are able to fly
 - Comes at about the same pace for children
 - Interactionist Theories
 - Biology and experience
 - Cognitive
 - An important aspect of a more general cognitive development- maturation and experience
 - Social Communication

- Functional of communication and the social context that it evolves in
 - Emergentist
 - Neural circuits are not pre-wired but emerge gradually in response to experience
 - Linguistic Relativity
 - The hypothesis that one's language determines the nature of one's thought
 -

Problem Solving

- Problem solving
 - Active efforts to discover what must be done to achieve a goal that is not readily attainable
- Problems
 - Problems of inducing structure
 - Requires discovering the relationship among numbers words, symbols and ideas.
 - Problems of arrangement
 - Arrange the parts of a problem in a way that satisfies a criterion
 - Only one or few ways solve the problem
 - Insight
 - Burst of will usually lead to the correct solution
 - Problems of transformation
 - Carry out sequential transformations to reach a goal
- Barriers to Problem Solving
 - Focus on irrelevant information
 - Leads people astray
 - People assume that all numerical information is important
 - Functional fixedness
 - The tendency to perceive an item only in terms of its most common use
 - Mental set
 - When people persist in using problem solving strategies that have worked in the past
 - Imposition of unnecessary Constraints
 - People come up with constraints that the problem doesn't state
- Approaches to a Problem Solving
 - Problem space
 - The set of possible pathways to a solution considered by the problem solver
 - Trial and Errors
 - Trying possible solutions and discarding those that are in error until one works
 - Algorithm

- Methodical step-by-step procedure for trying all possible alternatives in searching for a solution to a problem
- o Heuristic
 - Guiding principle or rule of thumb used in solving problems or making decisions
 - Narrows the problem space

Chapter 9

Psychological test: a standardized measure of a sample of a person's behaviour.

Aptitude tests: assess specific types of mental abilities.

Personality tests: measure various aspects of personality, including motives, interests, values, and attitudes.

Mental Ability Tests

- **Intelligence tests:** measure general mental ability.
- **Achievement tests:** gauge a person's mastery and knowledge of various subjects.

Standardization: refers to the uniform procedures used in the administration and scoring of a test.

- **Test norms:** provide information about where a score on a psychological test ranks in relation to others scores on that test.

Percentile score: indicates the percentage of people who score at or below the score one has obtained.

Reliability: the measurement consistency of a test.

- **Correlation coefficient:** a numerical index of the degree of relationship between two variables.

Validity: the ability of a test to measure what it was designed to measure.

- **Content validity:** the degree to which the content of a test is representative of the domain it's supposed to cover.
- **Criterion-related validity:** estimated by correlation subjects' scores on a test with their scores on an independent criterion (another measure) of the trait assessed by the test.
- **Construct validity:** the extent to which there is evidence that a test measures a particular hypothetical construct.

Alfred Binet

- Made IQ test
- **Mental Age:** indicated that he or she displayed the mental ability typical of a child of that chronological age.

Sir Francis Galton

- Studied family trees and found that success and eminence appeared consistently in some families over generations.

Lewis Terman

- **Intelligence quotient:** a child's mental age divided by chronological age, multiplied by 100.
- Stanford-Binet Intelligence Scale

David Wechsler

- Wechsler Adult Intelligence Scale; instrument to measure non-verbal reasoning in adults.

Normal distribution: a symmetric, bell-shaped curve that represents the pattern in which many characteristics are dispersed in the population.

Deviation IQ Scores: locate subjects precisely within the normal distribution, using the standard deviation as the unit of measurement.

- Mean distribution set at 100
- Standard deviation set at 15

Mental retardation: subnormal general mental ability accompanied by deficiencies in adaptive skills, originating before age 18.

- IQ 2 or more SD below mean.
- 4 levels: mild, moderate, severe, profound.
- Environmental vs. biological causes.

Giftedness

- IQ 2 SD above mean
- **Terman** largely contradicted stereotypes that they are weak, socially inept, emotionally troubled

Heritability ratio: an estimate of the proportion of trait variability in a population that is determined by variations in genetic inheritance.

Cumulative deprivation hypothesis: if environment affects intelligence, children who are raised in substandard circumstances should experience gradual decline in IQ as they grow older.

Flynn Effect: the IQ performance has been rising steadily all over the industrialized world since 1930s.

Reaction Range: genetically determined limits on IQ.

Arthur Jensen

- Cultural differences in IQ are largely due to heredity.

J. Phillip Rushton

- Argued from nature perspective that the races could be ranked in terms of inherited intelligence, social behaviour, and physical attributes.

Claude Steele

- Argued that derogatory stereotypes of stigmatized groups' intellectual capabilities create unique feelings of vulnerability in the educational arena.
- **Stereotype vulnerability**
- **Featured Study: Racial Stereotypes and Test Performance**
 - When black students' stereotype vulnerability was not made salient, the performance of the black and white students did not differ.
 - When the same test was presented in a way that increased blacks' stereotype vulnerability, the black students scored significantly lower than their white counterparts.

Spearman

- **Factor analysis:** correlations among many variables are analyzed to identify closely related clusters of variables.
- All cognitive abilities share an important core factor, labelled g for general mental ability.
- Recognized that people also have special abilities.

Raymond Cattell

- g should be divided into fluid intelligence and crystallized intelligence.
- **Fluid intelligence:** involves reasoning ability, memory capacity, and speed of information processing.
- **Crystallized intelligence:** involves ability to apply acquired knowledge and skills in problem solving.

Robert Sternberg

- **Triarchic theory of human intelligence:**
 - Contextual: intelligence is a culturally defined concept.
 - Experiential
 - Componential

Gardner

- IQ tests have generally emphasized verbal and mathematical skills to the exclusion of other important skills.
- Humans exhibit eight intelligences.

Emotional Intelligence: the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion.

- **Goleman**

James Parker

- Emotional intelligence may be particularly important in difficult transitional phases, such as moving from high school to university.

Creativity: the generation of ideas that are original, novel, and useful.

Convergent thinking: one tries to narrow down a list of alternatives to converge on a single correct answer.

Divergent thinking: one tries to expand the range of alternatives by generating many possible solutions.

- 2% of the pop. Have an IQ of 130+; 60% have 90-110 IQ
- Culture fair IQ test (not culture free)

- IQ = 20% environment + 80% genetics
- IQ → multi-factorial
 - Generally stable unless environment drastically changes
- Flynn (1984) → every generation gains 15-20 pts in IQ
 - o To explain the recent declining/stable IQ stats of countries, Flynn states that the IQ abilities of the generations today have simply reached a plateau

Categories of Psychological Testing

- Psychological test
 - o Standardized measure of a sample of a person's behaviour
- Mental Ability Test
 - o Intelligence test
 - Measure general mental ability
 - Asses intellectual potential
 - o Aptitude test
 - Asses specific types of mental abilities
 - Measure potential
 - o Achievement tests
 - Measure mastery and knowledge or various subjects
 - What an individual can do now
- Personality Test
 - o Measure various aspects of personality, including motives, interests, values, and attitudes
 - o Personality scales
 - o No right or wrong answers

- Standardized test
 - o The uniform procedures used in the administration and scoring of a test
 - o Everyone gets the same test no matter who they are or when they take it

Psychometric Approach

- 1) Spearman
 - o "g" = general (general ability for the brain to solve problems/analogy → ex. mathematically)
 - The best way to get a "g" were analogies (analogy tests)
 - o "s" = specific ability
- 2) Cattell
 - o Fluid Intelligence → you are capable of solving novel problems
 - F.I. plateaus around the age of 35

- Can be related to adaptability
- Ex. Repairing your neighbor's toilet with a paper clip
- Fixed a calculator without having experience to guide
- o Crystallized Intelligence → information/knowledge gained through experience (difficult to apply to novel problems)
 - C.I. increases steadily as one gets older

*Tacit knowledge → taught through life's experiences

- correlates highly w/ prestige, salary, ranking
- improves w/ work experience

*Older ppl have difficulty holding their working memory. Younger ppl have no trouble holding & organizing material (fluid/expansive).

Older ppl are lousy at multitasking.

3) Robert Sternberg (**in txtbk)

- o Those who are good at critical thinking, lack street smarts
- o Those who have street smarts are able to adjust to circumstances & may be able to compensate in intellectual power
- o **Triarchic Theory**
 - ANALYTICAL INTELLIGENCE
 - These ppl do well in tests that present well-defined problems where there is only 1 correct answer (∴ good at problem solving)
 - CREATIVE INTELLIGENCE
 - These ppl do well in the Arts
 - Intuitive approach to problems (can solve novel problems)
 - React adaptively to circumstances
 - PRACTICAL INTELLIGENCE
 - Business students do well in P.I.
 - Intelligence that is required in everyday tasks
 - Often poorly defined & require multiple solutions
 - High intelligence in a practical sense
 - Adapting & shaping to the environment in order to achieve their particular goal
 - Closely related to tacit knowledge

4) Howard Gardner

- o Multiple Intelligences (M.I.)
- o We are characterized as having M.I.
- o Would argue Spearman → There is no such thing as "g"
- o M.I.
 - Linguistic
 - Mathematical
 - Intra/Inter- personal
 - Kinesthetic
 - Musical
 - Spatial

- Musical
- o Ppl think Garner's approach is too modular
- o Suggests that schools should use a spectrum approach → a classroom should have an area that is devoted to each of the M.I.
- o Supporters say this approach emphasizes diversity (/cultural approach?)

**Natural → check txtbk

Existential

*Others argue that our brain is modular

*Morgenson's theory → we are animals that simply display multiple intelligences

- Goleman → believed that IQ was overvalued
 - o Multi-factorial Emotional Intelligence Scale
 - Those who can regulate & control their emotions would score high on the scale
- Some ppl believe that EQ and social intelligence is more important
- Intellect only goes so far in getting us where we want to be – many other variables become more important down the line

*Many businesses now use personality tests than IQ tests b/c of all the lawsuits being brought upon corporations → many ppl believed that an IQ test is incapable of determining whether or not you are suitable for particular jobs

*Problems w/ personality tests is the validity and reliability

*IQ testing is a very conservative approach

How Do We Accurately Assess the "How" of Intelligence? (→ Why are some of us brighter than others?)

- High IQ = faster speed of processing (correlational)
- Define intelligence as a process rather than a measurable quantity
- Cognitive styles
- Typically use 3 variables:

1) COGNITIVE SPEED → ppl who are bright are quick

All correlational

- a. Nerve conductance velocity
- b. Perceptual speed (how long it takes you to understand something)
- c. Neurological speed (how long it takes info to move from the eyeball to the cortex) → evoked potential (ie. How long it takes a flash bulb to record in your brain) (ie. An "X" appears on a screen – how long it takes you to notice the "X")

*Ppl w/ strong working memory tend to rate high in intellectual aptitude tests

- 2) ?
- 3) ?

Stanford – Benet & Simone (sp?)

- Intelligence testing became a fixture in educational institutions
- Cultural biases?

$$IQ = \frac{MA}{CA} \times 100$$

MA= Mental age
CA= Chronological

- Was there simply only a difference due to effort?
- We think that intelligence is inborn
- Morgenson worries that socioeconomic class differences may be a problem
- INTELLIGENCE TESTS ARE BIAS!!
- Mental age
 - o Take a child of a particular chronological age & give it a test that asks questions (ie. What would you call this finger? Ans. Thumb)
 - 10% of 4 yr olds would get it right
 - 60% of 5 yr olds
 - o Basil Age = the child passes all the subtests
 - o If they get it right, they increase their IQ
 - o Benet & Simone suggest that 60% of a chronological age will always get it right
 - o Cannot deviate from system/scoring
 - o Age scale (goes from 2-16 yrs)

**Look over
Stanford Benet

*Hernstein & Murray wrote a book called “Bell Curve” → argued that more intelligent ppl are more likely to appreciate moral complexities & behave judicially

- Test Norms
 - o Information about where a score on a psychological test ranks in relation to other scores on that test
 - o Shows how you score relative to other people
 - o Created by administering test to a group called a standardized sample
- Percentile Score
 - o The percentage of people who score at or below the score one has obtained
- Reliability
 - o The measurement consistency of a test, or other kinds or measurement techniques
 - o Not perfect
 - o Test-retest reliability
- Validity
 - o The ability of a test to consistently measure what it was designed to measure
 - o Proof that it consistently does what it is supposed to do
 - o Hard to prove because there is no sure definition of intelligence
 - o Content Validity
 - The degree to which the content of a test is representative of the domain it’s supposed to cover
 - Going to multiple professors to see if a test is fair
- Criterion related validity
 - o Estimated by correlating subjects scores on a test with their scores on an independent criterion of the trait assessed by the test
- Construct Validity

- o The extent to which there is evidence that a test measures a particular hypothetical construct
- Galton
- Binet
 - o Mental age
 - Mental ability of a person, usually correlated with their age
- Terman and the Stanford-Binet
 - o Stanford-Binet intelligence scale
 - o Intelligence quotient
 - Mental age divided by chronological age multiplied by 100
 - Right IQ is 100
- Wechsler
 - o In adults
 - o Wechsler Adult Intelligence Scale

Less dependent on subjects verbal ability, non verbal reasoning

 - o No intelligence quotient,
 - o Normal distribution

IQ Tests

- Avg IQ is 100
- 2% of the pop. Have an IQ of 130+; 60% have 90-110 IQ

Creativity

- Creativity
 - o The generation of ideas that are original, novel and useful
 - o Fresh, innovative, and inventive
 - o Sudden flashes of insight
 - o Usually logically extensions of existing ideas, involving long hard work, and many small, faltering steps forward
- Convergent
 - o One tries to narrow down a list of alternatives to converge on a single correct answer
 - o Multiple choice exams, narrow down what is wrong
- Divergent
 - o Thinking that goes off in different directions
 - o One tries to expand the range of alternatives by generating many possible solutions
 - o As many possible solutions until one works
- Reification
 - o When a hypothetical, abstract concept is given a name and then treated as though it were a concrete tangible object

Chapter 10

Drive Theory

- o push from within
- o responding to tissue needs
- o trying to reach equilibrium
- o
- o Drive
 - o Inferred, not measured
- o Drive Stimulus
 - o Internal condition results in activity
- o Incentive
 - o Capable of reducing the drive state
- o Instrumental Act
 - o Getting to the act
- o Consummating Response
 - o Act getting rid of the drive

Pull Theory

- o Something outside attracts
- o Incentive
- o External stimuli

Expectation Value

- o What you expect
- o How realistic
- o Highly value?

Evolution Theory

- o Improve reproductive success
- o Natural selection favours behaviour that max reproductive success
- o Affiliation, achievement, dominance etc

Sleep

- o Circadian rhythms
- o 3 or four days to get back
- o Sleep deprivation = short term mem reduction
- o Michaels sleep = driving

Why we need

- o Restorative
 - o Restores tissue esp brain
 - o Conserves energy
- o Fits Ecological Niche
 - o Protective
 - o Higher on the food chain = more sleep
- o Implications for Growth
 - o Adults have less REM sleep

Stages of Sleep

- o 2 minutes
 - o Hallucinate
 - o Jerk, falling
- o Relax
 - o EEG
 - o Drifty
- o Unsure
 - o Transition stage
- o Delta Waves, slow activity in the brain
 - o 30 mins
 - o Wet the bed
 - o Sleep walk and talk
- o REM
 - o Dream
 - o EEG shows neurons firing
 - o Paralysed
 - o Brain is alive

Sleep cycle every 90 mins

Dreams

- o Information Processing Theory
 - o Days experience
- o Activation Synthesis Theory
 - o Neural burst from brain stem are random
- o Problem Solving
- o Wish Fulfillment
 - o Latent content :therapist
 - o Manifest Content: tell ppl

Sexuality

- o Biology of Sexual Determination
 - o Gender
 - o Hormones
 - o Cultural
- o Gender Identity
 - o Private sense of sexuality
 - o Gender dysphoria
- o Gender Typing
 - o Learned attitude and behaviour
- o Gender Roles
 - o Cultural expectation

Human Sexual Response

- o Excitement
- o Plateau
- o Orgasm
- o Resolution

Theories of Homo

- o Heredity
- o Hormones
 - o Females exposed to test may be lesbo
 - o Men have smaller hypothalamus
- o Family
- o Development

Aversive Drives

Pain

- o Acute
 - o Quick
 - o Burning
- o Chronic
 - o Makes us withdraw
- o Phantom Limb

Perception of Pain

- o Expectations
- o Past Experience
- o Cultural Differences

Pains Path

- o Stub toe
- o Prosta glandons released
- o Spinal cord-thalmus-cortex
- o Feel
- o Reaction

Gate Control

- o Gate closes due to overstimulation
- o Acupuncture

Anzio Effect

- o Soldier wounded wont ask for pain killer while civilian will
- o Loss of meaning
- o Meaning given to it

Achievement Drive

- o Emotional Roots
 - o Positive response
- o Cognitive Roots
 - o I am responsible for my own success
- o Performance Goals
- o Avoidance Goals
- o Fear of Success

Affiliation Drive

- o Interpersonal Relationships
- o Easily make friends
- o Worry more about social evaluation

Power Drive

- o Control issues
- o Leaders with high power make poor decision
- o Exploits opposite sex
- o Trouble with morals
- o High this = low affiliation drive

Self Actualization

- o Hierarchy of needs
 - o Food and drink-bio
 - o Safety- security
 - o Love
 - o Esteem
 - o Self Actualized individual
 - o Completeness of personality
 - o Autonomous

Attitude we should take

- o Fresh appreciation
- o Try something new
- o Listen to feelings
- o Honesty
- o Prepare to be unpopular
- o Accept Responsibility
- o Work ethic
- o Identify psych defenses

Emotion

- o Emotional Experiences
- o Physiological Changes
- o Emotional Behaviour

- o Transitory Stage
- o Valence
- o Emotional States alter cognition
- o Behavior as a result
- o Emotional states cognitive arousal

Motives: needs, wants, interests, and desires that propel people in certain directions.

Motivation: involves goal-directed behaviour.

Homeostasis: a state of physiological equilibrium or stability.

Drive: an internal state of tension that motivates an organism to engage in activities that should reduce this tension (homeostasis)

Incentive: an external goal that has the capacity to motivate behaviour.

- Drive and incentive models of motivation are often contrasted as **push versus pull theories**.
- Drive theories emphasize how internal states of tension push people in certain directions.
- Incentive theories emphasize how external stimuli pull people in certain directions.

Motivation of Hunger and Eating: Biological Factors

- **Glucose:** a simple sugar that is an important source of energy.
 - o **Glucostatic theory:** fluctuations in blood glucose level are monitored in the brain by **glucostats**—neurons sensitive to glucose in the surrounding fluid.
- Hormonal Regulation
 - o **Insulin:** a hormone secreted by the pancreas.
 - Must be present for cells to extract glucose from the blood.
 - An inadequate supply of insulin is what causes diabetes.
 - The secretion of insulin is associated with increased hunger.
 - o **Leptin:** produced by fat cells throughout the body and released into the bloodstream
 - Higher levels of fat generate higher levels of leptin.
 - Circulates through the bloodstream and ultimately provides the hypothalamus with information about the body's fat stores.
- Brain Regulation
 - o Lateral and ventromedial hypothalamus.

Obesity: the condition of being overweight.

- **Body Mass Index:** which is an individual's weight (kg) divided by height (m) squared.
- **Richard Keesey**
 - Body may have a **set-point (theory):** the body monitors fat-cell levels to keep them (and weight) fairly stable.
- **John Pinel**

- **Setting-point theory:** that weight tends to drift around the level at which the constellation of factors that determine food consumption and energy expenditure achieves an equilibrium.

Estrogens: a principle class of gonadal hormones in females.

Androgens: the principle class of gonadal hormones in males.

Parental Investment Theory: maintains that a species mating patterns depend on what each sex has to invest—in terms of energy, time, and survival risk—to produce and nurture offspring.

- **Robert Trivers**

Sexual orientation: refers to a person's preference for emotional and sexual relationships with individuals of the same sex, the other sex, or either sex.

Freudian Theorists

- Argue that a male is likely to become gay when raised by a weak, detached, ineffectual father who is a poor heterosexual role model and by an overprotective, close-binding mother with whom the boy identifies.

Behavioural Theorists

- Argued that homosexuality is a learned preference acquired when same-sex stimuli has been paired with sexual arousal, perhaps through chance seductions by adult homosexuals.

Human Sexual Response (*Masters & Johnson*)

- Excitement: initial arousal; muscle tension, blood, heart rate increase.
- Plateau: physiological arousal builds but slows its pace.
- Orgasm: arousal reaches peak.
- Resolution: Subsiding heart rate, skin temperature, etc.

Achievement Motive: the need to master difficult challenges, outperform others, and to meet high standards of excellence.

John Atkinson

- The tendency to pursue achievement in a particular situation depends on:
 - o Strength of motivation for success.
 - o Estimate of the probability of success.
 - o Incentive value of success.

Emotion: involves:

- 1) A subjective conscious experiences (the cognitive component)
- 2) Bodily arousal (the physiological component)
- 3) Characteristic overt expressions (the behavioural component)

Gulvanic Skin Response (GSR): an increase in the electrical conductivity of the skin that occurs when sweat glands increase their activity.

Polygraph (lie detector): a device that records autonomic fluctuations while a subject is questioned.

Facial Feedback Hypothesis: facial muscles send signals to the brain and these signals help the brain recognize the emotion that one is experiencing.

Display Rules: norms that regulate the appropriate expression of emotions.

James-Lange

- The conscious experience of emotion results from one's perception of autonomic arousal.
- The perception of visceral arousal leads to the conscious experience of fear.
E.G.: you're fearful because your pulse is racing.

Cannon-Bard

- Emotion occurs when the thalamus sends signals simultaneously to the cortex and to the autonomic nervous system.

Schachter

- Look at external cues to decide what to feel.
- When you experience visceral arousal, you search your environment for an explanation.

Darwin

- Believed that emotion developed because of their adaptive value.
- Evolutionary theories: consider emotions to be largely innate reactions to certain stimuli.

Robert Plutchik

- Various emotions involve one primary emotion experienced at different levels of intensity.

Chapter 11

Drive Theory

- o push from within
- o responding to tissue needs
- o trying to reach equilibrium
- o
- o Drive
 - o Inferred, not measured
- o Drive Stimulus
 - o Internal condition results in activity
- o Incentive
 - o Capable of reducing the drive state
- o Instrumental Act
 - o Getting to the act
- o Consummating Response
 - o Act getting rid of the drive

Pull Theory

- o Something outside attracts
- o Incentive
- o External stimuli

Expectation Value

- o What you expect
- o How realistic
- o Highly value?

Evolution Theory

- o Improve reproductive success
- o Natural selection favours behaviour that max reproductive success
- o Affiliation, achievement, dominance etc

Sleep

- o Circadian rhythms
- o 3 or four days to get back
- o Sleep deprivation = short term mem reduction
- o Michaels sleep =driving

Why we need

- o Restorative
 - o Restores tissue esp brain
 - o Conserves energy
- o Fits Ecological Niche
 - o Protective
 - o Higher on the food chain= more sleep
- o Implications for Growth
 - o Adults have less REM sleep

Stages of Sleep

- o 2 minutes
 - o Hallucinate
 - o Jerk, falling
- o Relax
 - o EEG
 - o Drifty
- o Unsure
 - o Transition stage
- o Delta Waves, slow activity in the brain
 - o 30 mins
 - o Wet the bed
 - o Sleep walk and talk
- o REM
 - o Dream
 - o EEG shows neurons firing

- o Paralyzed
- o Brain is alive

Sleep cycle every 90 mins

Dreams

- o Information Processing Theory
 - o Days experience
- o Activation Synthesis Theory
 - o Neural burst form brain stem are random
- o Problem Solving
- o Wish Fulfillment
 - o Latent content :therapist
 - o Manifest Content: tell ppl

Sexuality

- o Biology of Sexual Determination
 - o Gender
 - o Hormones
 - o Cultural
- o Gender Identity
 - o Private sense of sexuality
 - o Gender dysphoria
- o Gender Typing
 - o Learned attitude and behaviour
- o Gender Roles
 - o Cultural expectation

Human Sexual Response

- o Excitement
- o Plateau
- o Orgasm
- o Resolution

Theories of Homo

- o Heredity
- o Hormones
 - o Females exposed to test may be lesbo
 - o Men have smaller hypothalamus
- o Family
- o Development

Aversive Drives

Pain

- Acute
 - Quick
 - Burning
- Chronic
 - Makes us withdraw
- Phantom Limb

Perception of Pain

- Expectations
- Past Experience
- Cultural Differences

Pains Path

- Stub toe
- Prosta glandons released
- Spinal cord-thalmus-cortex
- Feel
- Reaction

Gate Control

- Gate closes due to overstimulation
- Acupuncture

Anzio Effect

- Soldier wounded wont ask for pain killer while civilian will
- Loss of meaning
- Meaning given to it

Achievement Drive

- Emotional Roots
 - Positive response
- Cognitive Roots
 - I am responsible for my own success
- Performance Goals
- Avoidance Goals
- Fear of Success

Affiliation Drive

- Interpersonal Relaionships
- Easily make friends
- Worry more about social evaluation

Power Drive

- Control issues

- o Leaders with high power make poor decision
- o Exploits opposite sex
- o Trouble with morals
- o High this = low affiliation drive

Self Actualization

- o Hierarchy of needs

- o Food and drink-bio
- o Safety- security
- o Love
- o Esteem
- o Self Actualized individual
 - o Completeness of personality
 - o Autonomous

Attitude we should take

- o Fresh appreciation
- o Try something new
- o Listen to feelings
- o Honesty
- o Prepare to be unpopular
- o Accept Responsibility
- o Work ethic
- o Identify psych defenses

Emotion

- o Emotional Experiences
- o Physiological Changes
- o Emotional Behaviour

- o Transitory Stage
- o Valence
- o Emotional States alter cognition
- o Behavior as a result
- o Emotional states cognitive arousal

Theories of Emotion

- o Common Sense
 - o Stimulus
- o James Lange
 - o Heart and blood pressure change
 - o Aware after body has reacted
- o Cannon-Bord
 - o Thalamus sent signals

- o Know at same time
 - o Aware of body changes
 - o Two Factor Theory
 - o Aware of internal feeling
 - o Notice body changes
 - o Arousal the cognitive interpretation
 - o Opponent Process theory
 - o One event with emotion and the opposition emotion will come right after
 - o Optimal level of arousal will give best performance
 - o Facial Feedback
 - o Every emotion has unique face
 - o Emotional Intelligence
 - o Ability to manage emotions = intelligent behavior
-
- o Know your emotions
 - o Manage
 - o Motivate
 - o Recognize in others
 - o Handle, help others

Autonomic Responses

- o General Adaptatio Syndrome
 - o Schedule of Recent Experiences
 - o Life change units 300+ big trouble
 - o Psycho Neuro Immunology
 - o Mind body relationship
 - o General Adaptation Syndrome
 - o Body responds in the same way
 - o Stresser, resistance, exhaustion
 - o Alarm reaction, deal with one stress, multiple now
-
- o Catbolic and enabolic= metabolism

Chapter 12

Development: the sequence of age-related changes that occur as a person progresses from conception to death.

Zygote: a one-celled organism formed by the union of a sperm and egg.

Genes: the functional units in hereditary transmission.

Prenatal Period: extends from conception to birth, usually encompassing nine months of pregnancy.

Divided into 3 phases:

1. The germinal stage (first two weeks)
 - A zygote is created through fertilization, rapid cell division begins and zygote becomes mass of multiplying cells.
 - **Placenta** (structure that allows oxygen and nutrients to pass into fetus from the mother's bloodstream and bodily wastes to pass out to the mother's bloodstream, and bodily wastes pass out to the mother) begins to form.
2. The embryonic stage (two weeks to two months)
 - Formation of vital organs and systems, now called embryo.
3. The fetal stage (two months to birth)
 - Rapid bodily growth, as muscles and bones begin to form.
 - Developing organism now called a fetus, capable of physical movements, sex organs start to develop during the third month, brain cells multiply, respiratory and digestive systems mature.
 - **Age of viability:** the age at which a baby can survive in the event of a premature birth (sometime between 22 and 26 weeks).

Fetal Alcohol Syndrome: a collection of congenital (inborn) problems associated with excessive alcohol use during pregnancy. Typical problems include microcephaly (small head), heart defects, irritability, hyperactivity, and delayed mental and motor development.

Motor development: the progression of muscular coordination required for physical activities.

E.G.: grasping and reaching for objects, manipulating objects, sitting up, crawling, walking, and running.

Cephalocaudal Trend: the head-to-foot direction of motor development. Children tend to gain control over the upper part of their bodies before the lower part.

E.G.: an infant learning to crawl.

Proximodistal Trend: the centre-outward direction of motor development. Children gain control over their torso before their extremities.

E.G.: Infants initially reach for things by twisting their entire body, but gradually learn to extend just their arms.

Maturation: gradual unfolding of one's genetic blueprint.

Developmental Norms: indicate the median age at which individuals display various behaviours and abilities.

Temperament: characteristic mood, activity level, and emotional reactivity.

Longitudinal vs. Cross Sectional Designs

Longitudinal Design: investigators observe one group of participants repeatedly over a period of time.

- More sensitive to developmental influences and changes

Cross-sectional Design: investigators compare groups of participants of differing age at a single point in time.

- Less expensive, quicker, easier.

3 Basic Temperamental Styles

- Easy – 40%

- Slow to warm up – 15%
- Difficult – 10%
- Mixed – 35%
 - o Stable over time.
- *Thomas, Chess, and Birch*

Inhibited vs. Uninhibited Temperament

- Kagan & Snidman
 - Inhibited – 15-20%
 - Uninhibited – 25-30%
 - o Stable over time, genetically based.

Attachment: the close, emotional bonds of affection that develop between infants and their caregivers.

Separation Anxiety: emotional distress seen in many infants when they are separated from people with whom they have formed an attachment.

- Typically peaks at around 14 – 18 months and then begins to decline.
- *Ainsworth*

Mary Ainsworth

- Attachment emerges out of a complex interplay between infant and mother.
- Mothers who are sensitive and response to their children's needs tend to evoke more secure attachments than mother who are relatively insensitive or inconsistent in their responding.
- Infant-mother attachments follow 3 patterns:
 - Secure-attachment: play and explore comfortably with mother present, become visibly upset when she leaves, quickly calmed by return.
 - Anxious-ambivalent attachment: appear anxious when mother is near and protest excessively when she leaves, not particularly comforted when she returns.
 - Avoidant-attachment: seek little contact with mother and not distressed when she leaves.

Harry Harlow

- Removed monkeys from their mothers at birth and raised them in lab with two types of artificial substitute mothers; one made of terry cloth the other of wire.
- Half the monkeys were fed from a bottle attached to a wire mother and other half were fed by a cloth mother.
- A frightening stimulus was introduced; the young monkeys scrambled to their cloth mothers even though they weren't fed by them.

John Bowlby

- Must be biological basis for attachment.
- Infants biologically programmed to emit behaviour that gets affectionate responses from adults.
- Adults are programmed by evolutionary forces to be captivated by this behaviour and respond with warmth, love, and protection.

Erikson

- Events in early childhood leave permanent stamp on adult personality, but personality continues to evolve over entire life span.

Stage Theory of Personality Development

Stage: a developmental period during which characteristic patterns of behaviour are exhibited and certain capacities become established.

- Each stage brings a *psychosocial* crisis involving transitions in important social relationships.
- Personality is shaped by how individuals deal with these psychosocial crises.

Trust vs. Mistrust (year 1)

Infants biological needs met and sound attachments formed or basic needs taken care of poorly.

Autonomy vs. Shame and Doubt (2nd and 3rd year)

Self sufficiency or disappointed parents.

Initiative vs. Guilt (3 to 6 years)

Initiative and respect or over controlling parents bringing guilt.

Industry vs. Inferiority (6 through puberty)

Sense of competence in social sphere.

Cognitive Development: the transitions in youngsters' patterns of thinking, including reasoning, remembering, and problem solving.

Jean Piaget

- Administered intelligence tests to many children to develop better test norms.
- Model is a *stage theory* of development.
- Children progress in their thinking through the complementary processes of assimilation and accommodation.

Assimilation: interpreting new experiences in terms of existing mental structures without changing them.

Accommodation: changing existing mental structures to explain new experiences.

- Proposed that youngsters progress through 4 major stages of cognitive development, which are characterized by fundamentally different thought processes:

Sensorimotor Period

- Birth to age 2.
- Infants are developing the ability to coordinate their sensory input with their motor action.
- **Object Permanence:** develops when a child recognizes that objects continue to exist even when they are no longer visible.

Preoperational Period

- Age 2 to 7
- **Conservation:** awareness that physical quantities remain constant in spite of changes in their shape and appearance.
- **Centration:** tendency to focus on just one feature of a problem, neglecting other important aspects.
- **Irreversibility:** the inability to envision reversing an action.
- **Egocentrism:** thinking is characterized by a limited ability to share another person's viewpoint.
- **Animism:** the belief that all things are living. E.G.: ocean, wind

Concrete Operational Period

- Age 7 to 11
- Children can perform operations only on images of tangible objects and actual events.
- Children master reversibility and decentration.
- **Reversibility:** permits a child to mentally undo an action.
- **Decentration:** allows the child to focus on more than one feature of a problem simultaneously.

Formal Operational Period

- 11 years of age.
- Children begin to apply their operations to abstract concepts in addition to concrete objects.

Zone of Proximal Development (ZPD): the gap between what a learner can accomplish alone and what he or she can achieve with guidance from more skilled partners.

Scaffolding: occurs when the assistance provided to a child is adjusted as learning progresses.

Habituation: a gradual reduction in the strength of a response when a stimulus event is presented repeatedly.

E.G.: showing infants an object dropping onto a platform.

Dishabituation: a new stimulus elicits an increase in the strength of a habituated response.

Nativists assert that humans are prewired to readily understand certain concepts without making any assumptions about why humans are prewired in these ways.

Evolutionary theorists agree with the nativists that humans are prewired for certain cognitive abilities, but are keenly interested in why.

Kohlberg's Stage Theory

- Focused on moral reasoning.
- Individuals progress through a series of three levels of moral development, each which can be broken into 2 sublevels.

Preconventional Level

- Think in terms of external authority; acts are wrong because they are punished or right because they lead to positive consequences.

Conventional Level

- See rules as necessary for maintaining social order, they accept these rules as their own and internalize them in order to be virtuous and win approval from others.

Postconventional Level

- Working out a personal code of ethics.
- Acceptance of rules is less rigid, moral thinking shows some flexibility.
- Allows for the possibility that someone might not comply with some of society's rules if they conflict with personal ethics.

Pubescence: the two-year span preceding puberty, during which the changes leading to physical and sexual maturity take place.

Secondary Sex Characteristics: physical features that distinguish one sex from the other but that are not essential for reproduction.

Puberty: the stage during which sexual functions reach maturity, which marks the beginning of adolescence.

Primary Sex Characteristics: the structures necessary for reproduction.

Menarche: the first occurrence of menstruation.

Emerging Adulthood: years between age 18 to 25, more people delaying marriage and parenthood until their late 20s or early 30s, lengthier participation in higher education, increased barriers to financial independence.

Midlife Crisis: a difficult, turbulent period of doubts and reappraisal of one's life.

Erikson's View of Adulthood

Early Adulthood Stage: intimacy vs. isolation,

Middle Adulthood: generativity vs. self-absorption; acquire a general concern for the welfare of future generations, which results in providing unselfish guidance to younger people and concern with one's legacy.

Late Adulthood Stage: integrity vs. despair; avoid the tendency to dwell on the mistakes of the past and on one's imminent death, find meaning and satisfaction in their lives.

Family Life Cycle: a sequence of stages that families tend to progress through.

Dementia: an abnormal condition marked by multiple cognitive deficits that include memory impairment.

Sex: refers to the biologically based categories of female and male.

Gender: culturally constructed distinctions between femininity and masculinity.

Gender stereotypes: widely held beliefs about females and males abilities, personality traits, and social behaviour.

Gender differences: actual disparities between the sexes in typical behaviour or average ability.

Socialization: the acquisition of the norms and behaviours expected of people in a particular society.

Gender roles: expectations about what is appropriate behaviour for each sex.

James Marcia

4 Identity statuses:

- Foreclosure
- Moratorium

- Identity diffusion
- Identity achievement

Chapter 12

Personality: an individual's unique constellation of consistent behavioural traits.

Personality Trait: a durable disposition to behave in a particular way in a variety of situations.

Raymond Cattell

- Used factor analysis to reduce a huge list of personality traits compiled by Gordon Allport to just 16 basic dimensions of personality.

Factor Analysis: correlations among many variables are analyzed to identify closely related clusters of variables.

- Identify single factor influencing all of them.

McCrae and Costa

- Most personality traits are derived from just five higher-order traits that have come to be known as the **Big Five**:
 - 1) Extraversion: outgoing, sociable, upbeat, friendly, assertive, and gregarious.
 - 2) Neuroticism: anxious, hostile, self-conscious, insecure, and vulnerable.
 - 3) Openness to Experience: curiosity, flexibility, vivid fantasy, imaginativeness, artistic sensitivity, and unconventional attitudes.
 - 4) Agreeableness: sympathetic, trusting, cooperative, modest, and straightforward.
 - 5) Conscientious: diligent, disciplined, well-organized, punctual, and dependable.

Psychodynamic Perspectives

Psychodynamic Theories: all of the diverse theories descended from the work of Sigmund Freud, which focus on unconscious mental forces.

Freud's Psychoanalytic Theory

- People's behaviour is governed by unconscious factors of which they are unaware.
- Adult personalities are shaped by childhood experiences and other factors beyond one's control.
- People cope with their sexual urges.

Id: the primitive, instinctive component of personality that operates according to the pleasure principle.

- **Pleasure principle:** demands immediate gratification of its urges.

Ego: the decision-making component of personality that operates according to the reality principle.

- **Reality principle:** seeks to delay gratification of the id's urges until appropriate outlets and situations can be found.

Superego: the moral components of personality that incorporates social standards about what represents right and wrong.

Conscious: whatever one is aware of at that particular point in time.

Preconscious: contains material just beneath the surface of awareness that can easily be retrieved.

E.G.: middle name, what you had for supper.

Unconscious: thoughts, memories, and desires that are well below the surface of conscious awareness but that nonetheless exert great influence on behaviour. E.G.: a forgotten trauma from childhood, repressed sexual desires.

Defense mechanisms: largely unconscious reactions that protect a person from unpleasant emotions such as anxiety and guilt.

Defence Mechanism	Definition	Example
Repression	Keeping distressing thoughts and feelings buried in the unconscious	A traumatized soldier has no recollection of the details of a close brush with death.
Projection	Attributing one's own thoughts, feelings, or motives to another	A woman who dislikes her boss thinks she likes her boss but feels that the boss doesn't like her.
Displacement	Diverting emotional feelings (usually anger) from their original source to a substitute target	After parental scolding, a young girl takes her anger out on her little brother.
Reaction formation	Behaving in a way that is exactly the opposite of one's true feelings	A parent who unconsciously resents a child spoils the child with outlandish gifts.
Regression	A reversion to immature patterns of behaviour	An adult has a temper tantrum when he doesn't get his way.
Rationalization	Creating false but plausible excuses to justify unacceptable behaviour	A student watches TV instead of studying, saying that "additional study wouldn't do any good anyway."
Identification	Bolstering self-esteem by forming an imaginary or real alliance with some person or group	An insecure young man joins a fraternity to boost his self-esteem.

Table 12.1
Defence Mechanisms, with Examples

Psychosexual Stages: developmental periods with a characteristic sexual focus that leave their mark on adult personality.

Fixation: a failure to move forward from one stage to another as expected.

- Fixations left over from childhood affect adult personality; fixation leads to an overemphasis on the psychosexual needs prominent during the fixated stage.

Stage	Approximate Ages	Erotic Focus	Key Tasks and Experiences
Oral	0–1	Mouth (sucking, biting)	Weaning (from breast or bottle)
Anal	2–3	Anus (expelling or retaining feces)	Toilet training
Phallic	4–5	Genitals (masturbating)	Identifying with adult role models; coping with Oedipal crisis
Latency	6–12	None (sexually repressed)	Expanding social contacts
Genital	Puberty onward	Genitals (being sexually intimate)	Establishing intimate relationships; contributing to society through working

Table 12.2
Freud's Stages of Psychosexual Development

Jung's Analytical Psychology

- Emphasized the unconscious determinants of personality like Freud, but proposed that unconscious consists of two layers.

Personal Unconscious: houses material that is not within one's unconscious awareness because it has been repressed or forgotten.

Collective Unconscious: a storehouse of latent memory traces inherited from people's ancestral past.

Archetypes: emotionally charged images and thought forms that have universal meaning.

Introverts: tend to be preoccupied with the internal world of their own thoughts, feelings, and experiences.

Extraverts: tend to be interested in the external world of people and things.

Adler's Individual Psychology

- Foremost source of human motivation is a striving for superiority.

Striving for superiority: a universal drive to adapt, improve oneself, and master life's challenges.

Compensation: involves efforts to overcome imagined or real inferiorities by developing one's abilities.

Inferiority complex: exaggerated feelings of weakness and inadequacy.

Birth order: birth order causes children to be treated by parents differently.

Evaluating Psychodynamic Perspectives

- Poor testability
- Inadequate evidence
- Sexism

Behaviour Perspectives

Behaviorism: a theoretical orientation based on the premise that scientific psychology should study only observable behaviour.

Skinner

- Behaviour is fully determined by environmental stimuli, free will is but an illusion.
- People show some consistent patterns of behaviour because they have some stable response tendencies that they have acquired through experience.
- Most human responses shaped by operant conditioning.

Bandura's Social Cognitive Theory

- Personality is largely shaped through learning.
- Conditioning not a mechanical process where people are passive participants.

Reciprocal Determinism: the idea that internal mental events, external environmental events, and overt behaviour all influence on another.

Observational Learning: occurs when an organism's responding is influenced by the observation of others, who are called models.

Model: a person whose behaviour is observed by another.

Self-efficacy: one's belief about one's ability to perform behaviours that should lead to expected outcomes.

Mischel and the Person-situation Controversy

- Advocate of social learning theory; people try to gauge the reinforcement contingencies and adjust their behaviour to the circumstances.
- Behaviour is characterized by more situational specificity than consistency.

Evaluating Behavioural Perspectives

1. Overdependence on animal research.
2. Dehumanizing nature of radical behaviourism.
3. Fragmentation of personality.

Humanistic Perspectives

Humanism: a theoretical orientation that emphasizes the unique qualities of humans, especially their freedom and potential for personal growth.

Phenomenological Approach: assumes that one has to appreciate individuals' personal, subjective experiences to truly understand their behaviour.

Carl Roger's Person-Centred Theory

Self-concept: a collection of beliefs about one's own nature, unique qualities, and typical behaviour.

- Individuals are aware of their self-concept.

E.G.: You may think you're smart, but your grade transcript might suggest otherwise.

Incongruence: the degree of disparity between one's self-concept and one's actual experience.

- Experiences that threaten the people's personal views of themselves are the principle cause of troublesome anxiety.

Maslow's Theory of Self-Actualization

Human motives are organized into a

Hierarchy of needs: a systematic arrangement of needs, according to priority, in which basic needs must be met before less basic needs are aroused.

- Needs towards the bottom are the most basic.

Self-Actualization: the need to fulfill one's potential; it is the highest need in Maslow's motivation hierarchy.

Evaluating Human Perspectives

1. Poor testability.
2. Unrealistic view of human nature.
3. Inadequate evidence.

Biological Perspectives

Eysenck's Theory

- Views personality as a hierarchy of traits, in which many superficial traits are derived from a smaller number of more basic traits, which are derived from a handful of fundamental higher-order traits.
- Personality emerges from three higher order traits: extraversion, neuroticism, and psychoticism.

Terror Management Theory: concerns the psychological consequences of the "juxtaposition of a biologically rooted desire for life with the awareness of the inevitability of death."

- Culture provides worldviews that solve the existential crisis engendered by the awareness of death.

Self-Enhancement: focusing on positive feedback from others, exaggerating one's strengths, and seeing oneself as above average.

Chapter 16: Social Behaviour

Social psychology: the branch of psychology concerned with the way individuals' thoughts, feelings, and behaviours are influenced by others.

Person perception: the process of forming impressions of others.

Social schemas: organized clusters of ideas about categories of social events and people.

Stereotypes: widely held beliefs that people have certain characteristics because of their membership in a particular group.

Illusory correlation: occurs when people estimate that they have encountered more confirmations of an association between social traits than they have actually seen.

Evolutionary Theory

Humans are programmed by evolution to immediately classify people as members of an **ingroup:** a group one belongs to and identifies with.

Or an **outgroup:** a group that one does not belong to or identify with.

Attributions: inferences that people draw about the causes of events, others' behaviour, and their own behaviour.

Fritz Heider

- People tend to locate the cause of behaviour either within a person, attributing it to personal factors, or outside a person, attributing it to environmental factors.

Internal attributions: ascribe the causes of behaviour to personal dispositions, traits, abilities, and feelings.

External attributions: ascribe the causes of behaviour to situational demands and environmental constraints.

E.G.: If a friend's business fails, you might attribute it to his lack of business acumen (an internal, personal factor) or to negative trends in the nation's economic climate (an external, situational explanation).

Fundamental Attribution Error: refers to observers' bias in favor of internal attributions in explaining others' behaviour.

Defense Attribution: a tendency to blame victims for their misfortune, so that one feels less likely to be victimized in a similar way.

Self-serving Bias: the tendency to attribute one's successes to personal factors and one's failures to situational factors.

Individualism: involves putting personal goals ahead of group goals and defining one's identity in terms of personal attributes rather than group memberships.

Collectivism: involves putting group goals ahead of personal goals and defining one's identity in terms of the groups one belongs to.

Interpersonal Attraction: refers to positive feelings toward another.

Matching Hypothesis: proposes that males and females of approximately equal physical attractiveness are likely to select each other as partners.

Reciprocity: involves liking those who show that they like you.

Passionate and Companionate Love

Romantic relationships are characterized by two kinds of love: passionate love and companionate love.

Passionate love: a complete absorption in another that includes tender sexual feelings and the agony and ecstasy of intense emotion.

Companionate love: warm, trusting, tolerant affection for another whose life is deeply intertwined with one's own.

Sternberg

Love has three facets rather than just two. He subdivides companionate love into intimacy and commitment.

Intimacy: warmth, closeness, and sharing in a relationship.

Commitment an intent to maintain a relationship in spite of the difficulties and costs that may arise.

Attitudes: positive or negative evaluations of objects of thought.

Process of Persuasion

Includes four basic elements: source, receiver, message, and channel.

Source: the person who sends a communication.

Receiver: the person to whom the message is sent.

Message: the information transmitted by the source, and the channel is the medium through which the message is sent.

Dissonance Theory: assumes that inconsistency among attitudes propels people in the direction of attitude change.

Cognitive Dissonance: exists when related cognitions are inconsistent – that is, when they contradict each other.

Self-Perception Theory: people often infer their attitudes from the behaviour.

Elaboration Likelihood Model of Attitude Change: asserts that there are two basic "routes" to persuasion.

Central Route: taken when people carefully ponder the content and logic of persuasive messages.

Peripheral Route: taken when persuasion depends on non-message factors, such as the attractiveness and credibility of the source, or on conditioned emotional responses.

Conformity: occurs when people yield to real or imaged social pressure.

Obedience: a form of compliance that occurs when people follow direct commands, usually from someone in a position of authority.

Group: consists of two or more individuals who interact and are interdependent.

Bystander Effect: people are less likely to provide needed help when they are in groups than when they are alone.

Social Loafing: a reduction in effort by individuals when they work in groups as compared to when they work by themselves.

Group Polarization: occurs when group discussion strengthens a group's dominant point of view and produces a shift toward a more extreme decision in that direction.

Groupthink: occurs when members of a cohesive group emphasize concurrence at the expense of critical thinking in arriving at a decision.

Group Cohesiveness: refers to the strength of the liking relationships linking group members to each other and to the group itself.

Social Neuroscience: an approach to research and theory in social psychology that "integrates models of neuroscience and social psychology to study the mechanisms of social behaviour."

Prejudice: a negative attitude held toward members of a group.

Discrimination: involves behaving differently, usually unfairly, toward the members of a group.

Ethnocentrism: a tendency to view one's own group as superior to others and as the standard for judging the worth of foreign ways.

- Five Factor model of Personality Traits
 - Extraversion
 - Outgoing, assertive
 - Positive emotionality
 - Neuroticism
 - Anxious, hostile, self conscious, insecure, vulnerable
 - Over react in response to stress
 - Openness to experience
 - Curiosity, flexibility, vivid fantasy, imagination, artistic sensitivity, unconventional attitudes
 - Agreeableness
 - Sympathetic, trusting, cooperative, modest, straight forward
 - Opposite: suspicious, antagonistic, aggressive
 - Constructive approach to conflict
 - Conscientiousness
 - Diligent, disciplined, well organized, punctual, dependable

Psychodynamic Perspectives

- Theories

- All the diverse theories descended from the work of Sigmund Freud, which focus on unconscious mental forces
- Freud's Theory
 - Structure of Personality
 - Id
 - Primitive, instinctive component, operates according to pleasure principle
 - Primary process thinking
 - Primitive, irrational, fantasy
 - raw biological urges
 - Pleasure Principle
 - Demands immediate satisfaction
 - Ego
 - Decision making, operates according to the reality principle
 - Mediates between the id and external world
 - Considers social reality, norms and etiquette
 - Wants to maximize gratification
 - Secondary process thinking
 - Rational, realistic and oriented to problem solving
 - Avoid negative consequences from society by behaving
 - Operate at all three levels of awareness
 - Reality Principle
 - Seeks to delay gratification of the id's urges until appropriate outlets and situations can be found
 - Super Ego
 - Moral component incorporating social standards about what represents right and wrong
 - Emerges out of ego at age 5
 - Irrationally demanding
 - Strives for moral perfection
 - Operates at all three levels of awareness
- Levels of Awareness
 - Conscious
 - Consists of whatever one is aware of at a particular point in time
 - Train of thought
 - Preconscious
 - Material just beneath the surface of awareness that can easily be retrieved
 - Middle name, what you ate for dinner
 - Unconscious
 - Thoughts, memories, and desires that are well below the surface of conscious awareness but that nonetheless exert great influence on behaviour

- Forgotten trauma
 - Repressed sexual desires
 - Larger than others
- Anxiety
 - Unconscious conflicts among the 3 levels of personality may lead to anxiety
 -
 - Defense mechanisms
 - Unconscious reactions that protect people from unpleasant emotions such as anxiety and guilt
 - Rationalization
 - Creating false excuses to justify unacceptable behaviour
 - Projection
 - Attributing ones own thoughts feelings or motives to another
 - Repression
 - Keeping distressing thoughts and feelings buried in the unconscious
 - Displacement
 - Diverting emotional feelings (usually from anger) from their original source to a substitute target
 - Reaction
 - Behaving in a way that's exactly the opposite of one's true feelings
 - Regression
 - A reversion to immature patterns of behaviour
 - Identification
 - Bolstering self esteem by forming an imaginary or real alliance with some person or group
- Developmental Stages
 - Psychosexual stages
 - Developmental periods with a characteristic sexual focus that leave their mark on adult personality
 - Fixation
 - Failure to move forward from one stage to another as expected
 - Oral stage
 - 0-1
 - Anal
 - 2-3
 - Phallic
 - 4-5
 - Latency
 - 6-12
 - Genital
- Jung's Analytical Psychology

- o Emphasis on unconscious, made of two parts PU and CU
- o Personal unconscious
 - Houses material that is not within ones conscious awareness because it has been repressed or forgotten
- o Collective Unconscious
 - Is storehouse of latent memory traces inherited from peoples ancestral past
 - Shared with the entire human race
 - Contains
- o Archetypes
 - Emotionally charged images and thought forms that have universal meaning
 - Often appear in dreams
- o Introverts
 - Preoccupied with the internal world of their own feelings and experiences
- o Extraverts
 - interested in the external world of people and things
- Adlers Individual Psychology
 - o Emphasis on people striving for superiority
 - o Striving for Superiority
 - a universal drive to adapt improve oneself and master lifes challenges
 - prime goal of life
 - o Compensation
 - Efforts to overcome imagined or real inferiorities by developing ones abilities
 - Entirely normal
 - o Inferiority complex
 - o Overcompensation
 - o Social context of personality development
 - o Birth order importance
- Criticism Psychodynamic Perspectives
 - o Poor testability
 - o Inadequate evidence
 - o Sexism

Behavioural Perspectives

- Skinner
- Behaviourism
 - o Theoretical orientation based on the premise that scientific psychology should study only observable
- How environment forms behaviour
- Bandura
 - o Some aspects of consciousness

- o Social learning theory
- o Social cognitive theory
- o Reciprocal determinism
 - Internal mental events, external environmental events and overt behaviour all influence one another
- o Observational Learning
 - When an organism responding is influenced by the observation of others who are models
- o Model
 - A person whose behaviour is observed by another
- o Self Efficacy
 - Refers to ones belief about ones ability to perform behaviours that should lead to expected outcomes
- Mischel
 - o Focus on extent to which situational factors govern behaviour
- Criticism
 - o Overdependence on animal research
 - o Dehumanization of nature of radical behaviourism
 - o Fragmentation of personality

Humanistic

- Theoretical orientation that emphasizes the unique qualities of humans especially their freedom and their potential for personal growth
- Phenomenological approach
 - o Assumes that one has to appreciate individuals personal subjective experiences to truly understand behaviour
- Subjective view of the world is more important than objective reality
- Animal research can't give any good information
- Assume
 - o People can rise above their primitive animal heritage and control their biological urges
 - o People are largely conscious and rational beings who are not dominated by unconscious irrational needs and conflicts
- Rogers
 - o Human potential movement
 - o Person-centered theory
 - o The self
 - Collection of beliefs about ones own nature unique qualities and typical behaviour
 - Mental picture of self
 - Subjective
 - Incongruence
 - Degree of disparity between ones self concept and ones actual experience

- Unconditional love fosters congruence, conditional= incongruence
 - Incongruence
 - Frequent anxiety
- Maslow
 - o Self actualization
 - o Hierarchy of Needs
 - Systematic arrangement of needs according to priority in which basic needs must be met before less basic needs are aroused
 - Physiological needs→ safety and security→ belongingness and love→ esteem→ cognitive→ aesthetic→ need for self actualization
 - o Need for self actualization
 - Need to fulfill one's potential.
 - o Health personality
 - Self actualizing persons
 - People with exceptional personalities marked by continued personal growth
 - Clear perception of reality
 - Spontaneous
 - Problem centring
 - Detachment
 - Autonomy
 - Feelings of kinship
 - Un hostile sense of humour
- Criticism
 - o Poor testability
 - o Unrealistic view of human nature
 - o Inadequate evidence

Biological Perspectives

- Eysenck
- Hierarchy of traits
- Heredity influences individual differences in physiological functioning that affect how easily people acquire conditioned inhibitions
- Three higher order traits
 - o Extroversion
 - o Neuroticism
 - o Psychoticism
- Twin studies
 - o 40% is genetics

Terror Management Theory

- Psychological consequences of the “juxtaposition of a biologically rooted desire for life with the awareness of the inevitability of death”
- Goal: why people need self esteem

- What saves us is culture

Chapter 13

Biopsychosocial Model: physical illness is caused by a complex interaction of biological, psychological, and sociocultural factors.

Health Psychology: concerned with how psychosocial factors relate to the promotion and maintenance of health and with the causation, prevention, and treatment of illness.

Stress: any circumstances that threaten or are perceived to threaten one's well-being and that thereby tax one's coping abilities.

Strain: wear and tear on the body trying to adjust or accommodate stress.

Adaptation: adjusting to results of stress (Can result in disease).

Distress: bad things happening.

Eustress: good things – hard on body (date, graduation).

Acute Stressors: threatening events that have a relatively short duration and a clear endpoint. E.G. a major exam.

Chronic Stressors: threatening events that have a relatively long duration and no readily apparent time limit. E.G. persistent financial strains.

Frustration: blocked goal.

Conflict: two or more incompatible motivations or behavioural impulses compete for expression.

Approach-Approach Conflict: a choice must be made between two attractive goals.

Avoidance-Avoidance Conflict: a choice must be made between two unattractive goals.

Approach-Avoidance Conflict: a choice must be made about whether to pursue a single goal that has both attractive and unattractive aspects.

Life Changes: any noticeable alterations in one's living circumstances that require readjustment.

Social Readjustment Rating Scale (SRRS): measure life changes as a form of stress. The scale assigns numerical values to 43 major life events.

Pressure: expectations or demands that one behave in a certain way.

Fight-or-Flight Response: a physiological reaction to threat in which the autonomic nervous system mobilizes that organism for attacking (fight) or fleeing (flight) an enemy.

General Adaptation Syndrome: a model of the body's stress response, consisting of three stages: alarm, resistance, and exhaustion.

Alarm: occurs when an organism first recognizes the existence of a threat.

Resistance: physiological changes stabilize as coping efforts get under way.

Exhaustion: the stress can't be overcome, the body's resources may be depleted.

- *Selye*

Coping: refers to active efforts to master, reduce, or tolerate the demands created by stress.

Learned Helplessness: passive behaviour produced by exposure to unavoidable aversive events.

Aggression: any behaviour that is intended to hurt someone, either physically or verbally.

Catharsis: refer to this release of emotional tension.

Defense Mechanisms: largely unconscious reactions that protect a person from unpleasant emotions such as anxiety and guilt.

Constructive Coping: refer to relatively healthful efforts that people make to deal with stressful events.

Burnout: involves physical and emotional exhaustion, cynicism, and a lowered sense of self-efficacy that can be brought on gradually by chronic work-related stress.

Post-traumatic Stress Disorder (PTSD): involves enduring psychological disturbance attributed to the experience of a major traumatic event.

Psychosomatic Diseases: genuine physical ailments that were thought to be caused in part by stress and other psychological factors.

Type A Personality: includes three elements (1) a strong competitive orientation, (2) impatience and time urgency, and (3) anger and hostility.

Type B Personality: marked by relatively relaxed, patient, easygoing, amicable behaviour.

Immune Response: the body's defensive reaction to invasion by bacteria, viral agents, or other foreign substances.

Social Support: refers to various types of aid and emotional sustenance provided by members of one's social networks.

Optimism: a general tendency to expect good outcomes.

Acquired Immune Deficiency Syndrome (AIDS): a disorder in which the immune system is gradually weakened and eventually disabled by the human immunodeficiency virus (HIV).

Secondary Appraisals: assessing strategies to meet the demands of life events.

Hardiness: personality trait comprised of:

- Control
- Commitment
- Challenge

Chapter 15: Treatment of Psychological Disorders

Treatments: How Many Types Are There?

- Approaches can be classified into three major categories:
 1. Insight therapies
 - “Talk therapy” in the tradition of psychoanalysis.
 - Clients engage in complex verbal interactions with their therapists with the goal of pursuing increased insight regarding the nature of the client’s difficulties and sort through possible solutions.
 2. Behaviour therapies
 - Based on the principles of learning.
 - Make direct efforts to alter problematic responses and maladaptive habits.
 - Work on changing client’s overt behaviours using different procedures for different problems, most involving operant conditioning or observational learning.
 3. Biomedical therapies
 - Involve interventions into a person’s biological functioning; most widely used procedures being drug therapy and electroconvulsive shock therapy.

Psychologists

- Two types may provide therapy: **clinical psychologists**
 - Training emphasizes the treatment of full-fledged disorders.
- And **counselling psychologists**
 - Training is slanted toward the treatment of everyday adjustment problems.
- Both specialize in the diagnosis and treatment of psychological disorders and everyday problems.

Psychiatrists

- Physicians who specialize in the diagnosis and treatment of psychological disorders.
- Psychiatrists devote more time to relatively severe disorders and less time to everyday marital, family, job, and school problems.
- Have an M.D. degree.
- Increasingly emphasize drug therapies.
- More likely to use psychoanalysis and less likely to use group therapies or behavioural therapies.

Clinical Social Workers

Psychiatric Nurses

- Play a large role in hospital inpatient treatment.

Counsellors

- Usually found in schools, colleges, and assorted human service agencies.
- Typically have a master's degree.

Insight Therapies

- Involve verbal interactions intended to enhance clients' self-knowledge and thus promote healthful changes in personality and behaviour.

Psychoanalysis

- An insight therapy that emphasizes the recovery of unconscious conflicts, motives, and defences through techniques such as free association and transference.
- Therapy relies on two techniques:
 - **Free association:** clients spontaneously express their thoughts and feelings exactly as they occur, with as little censorship as possible.
 - **Dream analysis:** the therapist interprets the symbolic meaning of the client's dreams.

Interpretation

- The therapist's attempts to explain inner significance of the client's thoughts, feelings, memories, and behaviours.

Resistance

- Refers to largely unconscious defensive manoeuvres intended to hinder the progress of therapy.
- Takes many forms; clients may show up late for sessions, may merely pretend to engage in free association, or may express hostility towards their therapist.

Transference

- Occurs when clients unconsciously start relating to their therapist in ways that mimic critical relationships in their lives.

Client-Centred Therapy

- An insight therapy that emphasizes providing a supportive emotional climate for clients, who play a major role in determining the pace and direction of their therapy.

Therapeutic Climate

- According to Carl Rogers, the process of therapy is not as important as the emotional climate in which the therapy takes place.
- To create a safe, warm, supportive climate, client-centred therapists must provide three conditions:
 1. **Genuineness**
 - Therapist must be genuine with the client, communicating honestly and spontaneously.
 2. **Unconditional Positive Regard**
 - Therapist must show complete, nonjudgemental acceptance of the client as a person.

3. Empathy

- Therapist must understand the client's world from the client's point of view.

Therapeutic Process

Chapter 14 Psych Disorders

Chapter 14: Psychological Disorders

The Medical Model

- Proposes that it is useful to think of abnormal behaviour as a disease.
- Criticized on the grounds that it turns questions about deviance into medical questions.
- **Diagnosis** involves distinguishing one illness from another.
- **Etiology:** refers to the apparent causation and developmental history of an illness.
- **Prognosis:** forecast about the probably course of an illness.

Criteria of Abnormal Behaviour

- Clinicians rely on variety of criteria:
 1. Deviance
 - Behaviour deviates from what society considers acceptable and goes against norms.
 - E.g. transvestic fetishism
 2. Maladaptive Behaviour
 - Everyday adaptive behaviour is impaired.
 3. Personal Distress
 - Individuals report of great personal distress.
- It is difficult to draw the line that separates normality from abnormality.

Stereotypes of Psychological Disorders

- Rosenham showed that even mental health professionals may have difficulty distinguishing normality from abnormality.
- He arranged for a number of normal people to seek admission into mental hospitals by complaining of hearing voices.
- All patients were admitted and the average length of their hospital stay was 19 days.

Psychodiagnosis: the Classification of Disorders

- A system for classifying psychological disorders—the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM).
 - o In DSM-I the classification described about 100 disorders.
 - o DSM-II had revisions intended to improve the system, but diagnostic guidelines were still sketchy.
 - o DSM-III the diagnostic criteria were made much more explicit, concrete, and detailed to facilitate more consistent diagnoses across clinicians.

- Introduced a new multi-axial system of classification, which asked for judgements about individuals on 5 separate axes.
 - o **Axis I** – Clinical Syndromes
 - Substance-related, anxiety, mood, eating, dissociative disorders, etc.
 - o **Axis II** – Personality Disorders or Mental Retardation
 - Longstanding patterns of extreme, inflexible personality traits that are deviant or maladaptive and lead to impaired functioning or subjective distress.
 - o **Axis III** – General Medical Conditions
 - Physical disorders or conditions. E.g. diabetes, arthritis, hemophilia.
 - o **Axis IV** – Psychosocial and Environmental Problems
 - Types of stress experienced by individual in the previous year.
 - Negative life event, environmental difficulty or deficiency, etc.
 - o **Axis V** – Global Assessment of Functioning
 - Scale (p. 610)
 - Estimates are made of the individual's highest level of functioning in the previous year.
- o Current edition, DSM-IV, made use of intervening research to refine the criteria introduced in DSM-III.

The Prevalence of Psychological Disorders

- Estimates of the prevalence of psychological disorders fall in the domain of **epidemiology**: the study of the distribution of mental or physical disorders in a population.
- **Prevalence**: the percentage of a population that exhibits a disorder during a specified time period.
- **Lifetime prevalence**: the percentage of people who endure a specific disorder at any time in their lives.

Anxiety Disorders

- A class of disorders marked by feelings of excessive apprehension and anxiety.

Generalized Anxiety Disorder

- Marked by a chronic high level of anxiety that is not tied to any specific threat.
- Sometimes called free-floating anxiety because it is non-specific.
- Worry constantly about yesterday's mistakes and tomorrow's problems.
- Dread decisions.
- Symptoms such as trembling, muscle tension, diarrhea, dizziness, faintness, sweating, and heart palpitations.

Phobic Disorders

- Marked by a persistent and irrational fear of an object or situation that presents no realistic danger.
- Fears seriously interfere with their everyday behaviour.
- Physical symptoms of anxiety, such as trembling and palpitations.

Panic Disorder and Agoraphobia

- Characterized by recurrent attacks of overwhelming anxiety that usually occurs suddenly and unexpectedly.
- Physical symptoms of anxiety lead to **agoraphobia**: fear of going out in public places.

Obsessive Compulsive Disorder

- Marked by persistent, uncontrollable intrusions of unwanted thoughts (obsessions) and urges to engage in senseless rituals.

Post-Traumatic Stress Disorder

- Re-experiencing the traumatic event in the form of nightmares and flashbacks, emotional numbing, alienation, problems in social relationships, an increased sense of vulnerability, and elevated levels of arousal, anxiety, anger, and guilt.

Etiology of Anxiety Disorders

Biological Factors

- Investigators look at **concordance rates**: indicate the percentage of twin pairs of relatives who exhibit the same disorder.
- If relatives who share more genetic similarity show higher concordance rates than relatives who share less genetic overlap, this finding supports the genetic hypothesis.
- Anxiety sensitivity may make people vulnerable to anxiety disorders.

Conditioning and Learning

- Many anxiety responses may be acquired through classical conditioning and maintained through operant conditioning.
 - o Stimulus (something originally neutral. E.g. balloons)
 - o A frightening event (choking on a balloon) becomes a conditioned stimulus eliciting anxiety.
 - o Person starts avoiding the anxiety-producing stimulus, negatively reinforcing it by having a decrease in anxiety.
- Observational learning occurs when a new response is acquired through watching the behaviour of another.

Cognitive Factors

- According to theorists, some people are more likely to suffer from problems with anxiety because they tend to:
 - a) Misinterpret harmless situations as threatening.
 - b) Focus excessive attention on perceived threats.
 - c) Selectively recall information that seems threatening.

Stress

- High stress often helps to precipitate the onset of anxiety disorders.

Somatoform Disorders

- Physical ailments that cannot fully be explained by organic conditions and are largely due to psychological factors.
- Recorded on axis 1.

- There are 3 types of somatoform disorders: somatization disorder, conversion disorder, and hypochondriasis.

Somatization Disorder

- Marked by a history of diverse physical complaints that appear to be psychological in origin.
- Victims report an endless succession of minor physical ailments that seem to wax and wane in response to the stress in their lives.

Conversion Disorder

- Characterized by a significant loss of physical function (with no apparent organic basis), usually in a single organ system.
- Common symptoms include partial or complete loss of vision, partial or complete loss of hearing, partial paralysis, severe laryngitis or mutism, and loss of feeling or function in limbs.

Hypochondriasis

- Characterized by excessive preoccupation with health concerns and incessant worry about developing physical illnesses.
- Go shopping for doctors.

Etiology of Somatoform Disorders

Personality Factors

- People with **histrionic** personalities (self-centred, suggestible, excitable, highly emotional, overly dramatic) are prime candidates for somatoform disorders.
- They thrive on the attention they get when they become ill.

Cognitive Factors

- Some people focus attention on their internal physiological processes and amplify normal bodily sensations into symptoms of distress, which lead them to pursue unnecessary medical treatment.

The Sick Role

- Being sick is a way to avoid having to confront lives challenges and people cannot ask much from you.

Dissociative Disorders

- A class of disorders in which people lose contact with portions of their consciousness or memory, resulting in disruptions in their sense of identity.

Dissociative Amnesia and Fugue

- **Dissociative amnesia** is sudden loss of memory of important personal information that is too extensive to be due to normal forgetting.
- Cases have been observed after people have experienced disasters, accidents, combat stress, physical abuse, and rape, or after they have witnessed the violent death of a parent, etc.
- **Fugue** is when people lose their memory of their entire lives, along with their sense of personal identity.
- They remember matters unrelated to their identity, such as how to drive a car.

Dissociative Identity Disorder

- Involves the coexistence in one person of two or more largely complete, and usually different, personalities.

- Various personalities are often unaware of each other.
- Alternate personalities commonly display traits foreign to the original one.

Etiology of Dissociative Disorders

- Many argue that it is a creation of modern North American culture; little known about causes.

Mood Disorders

- A class of disorders marked by emotional disturbances of varied kinds that may spill over to disrupt physical, perceptual, social, and thought processes.
- Disorders tend to be episodic.
- There are two types of mood disorders: *unipolar disorder* and *bipolar disorder*.
 - People with unipolar disorder experience emotional extremes at just one end of the mood continuum, as they are troubled by depression.
 - People with bipolar disorder are vulnerable to emotional extremes at both ends of the mood continuum, going through periods of depression and mania.

Major Depressive Disorder

- People show persistent feelings of sadness and despair and a loss of interest in previous sources of pleasure.
- When people display relatively mild symptoms of depression, they're given a diagnosis of **dysthymic disorder**, consisting of chronic depression that is insufficient in severity to justify diagnosis of a major depressive episode.

Bipolar Disorder

- Characterized by the experience of one or more manic episodes as well as periods of depression.
- In a manic episode, a person's mood becomes elevated to the point of euphoria.
- People are given a diagnosis of **cyclothymic disorder** when they exhibit chronic but relatively mild symptoms of bipolar disturbance.

Mood Disorders and Suicide

- More people around the world die from suicide than are killed in all of the armed conflicts that plague the world.
- About 90% of people who complete suicide suffer from some type of psychological disorder.

Etiology of Mood Disorders

Genetic Vulnerability

- Heredity can create a predisposition to mood disorders.

Biological and Neurochemical Factors

- Correlations found between mood disorders and abnormal levels of two neurotransmitters in the brain: norepinephrine and serotonin.
- The hippocampus tends to be about 8%-10% smaller in depressed subjects.

Dispositional Factors

- Many personality traits can cause people to be vulnerable to depression.

- Perfectionism or the setting of excessively high standards has been a characteristic long associated with depression.
- Sociotropic individuals are especially invested in interpersonal relations; overconcerned with avoiding interpersonal problems and emphasize pleasing others.
- Autonomous individuals are primarily oriented toward their own independence and achievement.

Cognitive Factors

- Martin Seligman proposed that depression is caused by *learned helplessness*—passive giving up behaviour produced by exposure to unavoidable aversive events.
- Negative thinking.

Interpersonal Roots

- Depression-prone people lack the social finesse needed to acquire many important kinds of reinforcers, such as good friends, top jobs, and desirable spouses.
- Depressed people tend to be depressing; irritable and pessimistic.

Stress

Schizophrenic Disorders

- A class disorders marked by delusions, hallucinations, disorganized speech, and deterioration of adaptive behaviour.
- Disturbed thought lies at the core of schizophrenic disorders.

General Symptoms

Delusions and Irrational Thought

- False beliefs that are maintained even though they clearly are out of touch with reality.
- **Delusions of grandeur:** people maintain that they are famous or important.
- A person's train of thought deteriorates.

Deterioration of Adaptive Behaviour

- Noticeable deterioration in the quality of the person's routine functioning in work, social relationships, and personal care.

Hallucinations

- Sensory perceptions that occur in the absence of a real, external stimulus or are gross distortions of perceptual input.

Disturbed Emotions

- Little emotional responses that don't correspond appropriately with the situation.

Subtypes, Course, and Outcome

Paranoid Schizophrenia

- Dominated by delusions or persecutions, along with delusions of grandeur.
- Convinced of being watched and manipulated in malicious ways, become suspicious of friends and relatives.

Catatonic Schizophrenia

- Marked by striking motor disturbances, ranging from muscular rigidity to random motor activity.
- May remain virtually motionless and seem oblivious to the environment around them for long periods of time.
- Others may become hyperactive and incoherent.

Disorganized Schizophrenia

- A particularly severe deterioration of adaptive behaviour is seen.
- Symptoms include emotional indifference, frequent incoherence, and virtually complete social withdrawal.

Undifferentiated Schizophrenia

- Marked by idiosyncratic mixtures of schizophrenic symptoms.
- People who cannot be placed into any of the three previous categories are said to be undifferentiated schizophrenic.

Positive vs. Negative Symptoms

- People criticized the four categories; proposed a new scheme to sub typing schizophrenic disorders into two categories, based on the predominance of negative vs. positive symptoms.
- **Negative Symptoms** involve behavioural deficits, such as flattened emotions, social withdrawal, apathy, impaired attention, and poverty and speech.
- **Positive Symptoms** involve behavioural excesses or peculiarities, such as hallucinations, delusions, bizarre behaviour, and wild flights of ideas.

Course and Outcome

- Schizophrenic disorders usually emerge during adolescence or early adulthood.
- They usually have a long history of peculiar behaviour, along with cognitive and social deficits.

•

Etiology of Schizophrenia

Genetic Vulnerability

Neurochemical Factors

- Tend to be accompanied by changes in the activity of one or more neurotransmitters in the brain.
- Excess dopamine activity has been implicated as a possible cause of schizophrenia.

Structural Abnormalities in the Brain

- Association between enlarged brain ventricles and schizophrenic disturbance.
- Structural and metabolic abnormalities in the temporal and frontal lobes of individuals with schizophrenia.

The Neurodevelopmental Hypothesis

- Posits that schizophrenia is caused in part by various disruptions in the normal maturational processes of the brain before or at birth.

Expressed Emotion

Precipitating Stress

Personality Disorders

- A class of disorders marked by extreme, inflexible personality traits that cause subjective distress or impaired social and occupational functioning.
- Mild disturbances in comparison to most axis 1 disorders.

Cluster	Disorder	Description	% Male / % Female
Anxious/fearful	Avoidant personality disorder	Excessively sensitive to potential rejection, humiliation, or shame; socially withdrawn in spite of desire for acceptance from others	50/50
	Dependent personality disorder	Excessively lacking in self-reliance and self-esteem; passively allowing others to make all decisions; constantly subordinating own needs to others' needs	31/69
	Obsessive-compulsive personality disorder	Preoccupied with organization, rules, schedules, lists, trivial details; extremely conventional, serious, and formal; unable to express warm emotions	50/50
Odd/eccentric	Schizoid personality disorder	Defective in capacity for forming social relationships; showing absence of warm, tender feelings for others	78/22
	Schizotypal personality disorder	Showing social deficits and oddities of thinking, perception, and communication that resemble schizophrenia	55/45
	Paranoid personality disorder	Showing pervasive and unwarranted suspiciousness and mistrust of people; overly sensitive; prone to jealousy	55/45
Dramatic/impulsive	Histrionic personality disorder	Overly dramatic; tending to exaggerated expressions of emotion; egocentric, seeking attention	15/85
	Narcissistic personality disorder	Grandiosely self-important; preoccupied with success fantasies; expecting special treatment; lacking interpersonal empathy	70/30
	Borderline personality disorder	Unstable in self-image, mood, and interpersonal relationships; impulsive and unpredictable	38/62
	Antisocial personality disorder	Chronically violating the rights of others; failing to accept social norms, to form attachments to others, or to sustain consistent work behaviour; exploitive and reckless	82/18

Table 14.2
Personality Disorders

Antisocial Personality Disorder

- Marked by impulsive, callous, manipulative, aggressive, and irresponsible behaviour that reflects a failure to accept social norms.
- People with this disorder are antisocial in that they choose to reject widely accepted social norms regarding moral principles and behaviour.
- Many people with this disorder become involved in illegal activities, rarely experience genuine affection for others.

Etiology

- Tend to come from homes where discipline is erratic and ineffective, and homes where they experience abuse and neglect, where parents exhibit antisocial traits, where parents make haphazard or half-hearted efforts to socialize their children to be respectful, truthful, responsible, unselfish, and so forth.

Psychological Disorders and the Law **Culture and Pathology**

Anorexia Nervosa

- Intense fear of gaining weight, disturbed body image, refusal to maintain normal weight, and dangerous measures to lose weight.

Restricting Type Anorexia

- Drastically reduce intake of food, sometimes starving themselves.

Binge-eating/Purging Type Anorexia

- Attempt to lose weight by forcing themselves to vomit after meals, by misusing laxatives and diuretics, and by engaging in excessive exercise.

Bulimia Nervosa

- Involves habitually engaging in out-of-control overeating followed by unhealthy compensatory efforts, such as self-induced vomiting, fasting, abuse of laxatives and diuretics, and excessive exercise.

Binge Eating Disorder

- Involves distress-induced eating binges that are not accompanied by the purging, fasting, and excessive exercise seen in bulimia.
- Less severe than bulimia.

- DALY, one year is one year lost
 - Disabled, adjusted, yearly suffering
- Psych disorders almost as common as heart disease
- Suffering more than cancer
- For every diagnosed anxiety disorder, there are 20 non diagnosed
- How to Reduce the Stigma
 - Protest
 - Work with the people who are disturbed
- The disturbed
 - Distortions, impoverishments exaggerations of normal behaviour
- Goals of abnormal psych
 - Describe
 - Diagnosis
 - Explain
 - Etiology, cause
 - Predict
 - Predicting dangerousness
 - Modify
 - Treatment
- Biopsychosocial model
- Defining what is abnormal
 - Statistical
 - How far are you away from normal
 - Subjective discomfort
 - Social non conformity
 - Criminals are but they are not all mentally ill
 - Cultural relativity
 - What is acceptable in one culture may not be in another
 - Legal criteria
 - Establish incompetency
 - Legal commitment
 - Dangerous may be committed

- responsibility
 - Those that are exposure to some kind of treatment are mentally ill
 - Told by some professional
- Medical Model
 - Organic Cause
 - Precise Diagnosis
 - Treatment
- Medicalization of Deviance
- Morganson
 - Intelligibility
 - Consistency
 - Can you predict what you will be doing soon
 - Control
- The Body
 - Some disorders are genetic
 - Fluctuating blood sugar
 - Vitamin deficiency
 - Sleep deprivation
 - Neuro transmitters
 - Dopamine
 - Serotonin
 - Hypoglycemia
 - Huntington's Corea
 - Brain damage
 - Generalized,
 - Focused
- Social Cultural
 - Socio-economic status
 - Goes down, schizo goes up
 - Poverty
 - Unemployment
 - Ageing
 - Disorder Increase as you age
 - Gender
- Symptoms of Anxiety Disorders
 - Diffuse negative emotions
 - Sense of uncontrollability
 - Self focus
 - May tend to catastrosize things
- How anxiety is to be handled
 - Remains unfocused in some cases
 - Phobias are highly focused
 - Obsessive Compulsive disorder

- Must perform ritualistic compulsion
 - Converted to physical response
 - Dissociative Disorder
 - Fragments the personality
 - Handle it by not becoming an integrated whole person
- Unfocused
 - Panic attacks
 - Sudden and unexpected, unbearable
 - 4 in 4 weeks have a disorder
 - Derealization
 - World starts to look unfamiliar
 - Depersonalization
 - Feel unlike them selves
- Generalized anxiety disorder
 - Health
 - Work
 - Family
 - Money
 - 6% of the total population
- Post Traumatic stress
 - Trauma caused by people is worse than anything natural (hurricane, earthquake)
 - Something that is outside the usual range of human experience
 - Shock
 - Suggestibility state
 - Recovery period
 - 8% lifetime prevalence
 - Sexual assault and domestic abuse
- Phobias
 - Fear a specific situation or set of circumstances
 - Avoid the situation
 - Aware of the excessiveness
 - Isolated, rest of life is relatively normal
 - 13 %
 - Claustrophobia, acrophobia, zoophobia
 - Social phobias
 - More difficult
 - Fear has basis in reality
 - 2%
 - OCD
 - Checking and cleansing rituals
 - Obsessions of harm
 - Society rewards this behaviour

- Somatoform Disorders/ conversion
 - Body dysmorphic disorder
 - What people see as a flaw
 - Thunder thighs
 - 28% university students
 - Indifference to the implications of the disorder
 - Occur acutely
- Amnesic
- Fugue
 - Found far away from where they started
- Multiple Personality / dissociative identity disorder

Depression

- Bipolar
 - Genetic
 - Related to creativity
 - 30 to 100 times higher, creative impulses
- Manic Depression and creativity
 - Brain goes from hard wired to flexible.
 - Able to synthesize material that seems unrelated
 - Run the entire spectrum of feelings
 - Richer organization in memory banks
 - During the manic phase, excessive energy gives rise to many ideas
 - Correlation, no causal relations
 - They undergo great frustrations
- SAD
 - Seasonal affective disorder
 - Absorbing sunlight??
 - Boosts circadian rhythm
 - Winter blues
 - More severe pattern
 - Must be 3 seasonal episodes, 2 must happen after another
 - Melatonin increases when there is little sunlight
 - Increase amounts create drowsiness
 - Treatment is usually phototherapy
 - Circadian rhythm out of balance
 - Serotonin levels being looked at
 - Serotonin goes lower in the winter time
- Dysthymia
 - Mild depressive state
 - Morose, introverted, over contentions
 - Ambedomia
 - Incapable of having fun
- Cyclothymia

- o Mild manic depression
 - o Learn to live with the low levels
- Earlier and earlier onset of severe depression
- The earlier the onset the most likely that a relative suffers as well
- Comorbidity
 - o Two disorders at the same time
 - o People with anxiety may be depressed
 - o Or depressed about their anxiety
- Internal Attributions vs external
 - o Global vs. specific
 - o Permanent vs. temporary

Suicide

- Early theories
 - o Demons
 - o Considered illegal
 - o Volitional act
- Rational suicide
 - o Assisted suicide
 - o Ambivalence
- 3/5 tried to commit suicide, after they did it knew it was a mistake
- 4:1 in attempts, female to male
- Completed in 1:4 female: male
- Women use less lethal methods so that they can be saved
- 8 out of 10 killed give clear messages of what they are going to do
- Alcohol adds a rigidity
- 3x as many ppl kill themselves than kill others
- When homicide is up suicide is down
- 1/5 suicides leave notes
- Copy cat suicides
- 80% of us have toyed with the idea of our own death
- 25-30% added to the known suicide rate seems to be more accurate
-

March 25, 2010 Suicide cot'd

- Age correlation difference between ages esp 1-24
- Whites have suicide rates
- Abs 10X more than the average population
- Africaa Americans
- Urbanization more likely
 - o High population density
- Protestants
- Peace time up, during war go down

- o Externalize negativity
 - o Clear enemy
- Economic depression, recession
 - o 20-30's
 - o People not wholesaley killing themselves
 - o Blip in the rates
- Copy cats
 - o Blip with Marylyn Monroe
- Upper socio economic classes up
- Military officers than non commissioned status
- Psychiatrists and dentist
 - o Dentists beginning to decline
- Death by police
 - o Want to be gunned down
- Single, divorced, separated higher
- Childless,
- Large families they kill eachother
- Physical illness
- Adolescent Suicide 15-24
 - o 25% highschool though
 - o 10% made attempt
 - o White males early 20s going up
 - o Humiliation in public
 - o Hearing of another's suicide sets off more
 - o Rates go up after a new report
 - o Little genetic component
 - o Death of a parent through suicide influences
- Student Suicides
 - o 23 at Berkley
 - o Seiden: Campus Tragedy
 - o Average suicidal age of students at one school 26 5 month
 - o Reugalr average 22 6
 - o Most are graduate students
 - o More male than female
 - o 1.5 male suicides to female suicides
 - o Nationality
 - 4 foreign, raveges of war
 - o 10 in tough majors
 - o 10 tender minded majorsenglish students the most vulnerable
 - o GPA very high
 - o Set standards way too high
 - o 8 had gone to student mental health
 - o 3 seeing psychiatrists

- o 10 left notes
- Psychological factors for students
 - o Obsessive Concern over Grades
 - o Unusual physical complaints
 - o Difficulty in interpersonal relationships
- Schizophrenia
 - o Regressive behaviour
 - o Disintegration of unity and harmony of normal people
 - o Disorderly thought
 - o Inappropriate emotions
 - o Not a split personality
 - o Several diseases in one??
 - o Was called dementia praecox
 - Early onset of madness

March 30

- Review sessions
 - o 232 king
 - o April 6 12-2
 - o April 12 12-2
- Schizophrenia
 - o Attention deficit problem
 - Difficulty with boundaries, over inclusion
 - Disconnected language
 - o Type 1
 - More positive symptoms
 - Something that is there that normal people don't have
 - Hallucinations
 - Dopamine hypothesis holds
 - Helps with the hallucinations and delusions
 - o Type 2
 - Negative symptoms
 - What should be there isn't
 - Apathy, no motivation, disinterest
 - Dopamine doesn't help
 - o 5 types
 - o Disorganized
 - 5%
 - o Catatonic
 - 10%
 - Posture
 - Stare into space

- Joints and glands enlarged
- Paranoid
 - 40%
 - Paranoid delusions
- Undifferentiated
 - 40%
 - Schizo symptoms
- Residual
 - 5%
- 1.5% of the whole population
- Women more than men
 - Later than males
 - Prognosis is much better
 - Better premorbid personality
- Age
 - Men 25
- Perception problems
 - Hallucinations
 - Auditory voices condemning them, most common
- Thought
 - Delusions
 - False beliefs
 - Someone taking over the world
 - Quite about them
- Behaviour
 - Regressive
 - Hoarding
 - Playing with urine and fecal matter
- Emotion
 - Pre psychotic is very anxious
- Schizo goes up as we go down the socio economic scale
- Behaviourist
 - Not willing to pay attention
 - Concentrate on themselves
 - Not rewarded anymore
 - Impression management
 - Appear more disturbed if it pays off
 - Act strange to keep people away
 - Experiment, interview some told being discharged, closed ward, determine state.
 - During the winter they acted differently according to the possible outcome
 - Act crazy when possibly getting out

- o Etc
- o Twins
 - One parent with 17% likeliness
 - Two parents with 46% likeliness
 - Identical twins 46-48%
- o Diathesis stress hypothesis/vulnerability
 - Come into the world with some problem but if life is not stressful it wont manifest
- o Structural changes
 - Brain
 - Ventricular enlargement often in type 2
- o Families
 - Most are living with their families still
 - Often critical
- o Communication
 - Double bind
 - Child continually told they are loved but parents act in an opposing way
- o EE
 - Expressed emotion
 - Positive
 - Unlikely rehospitalization
 - Negative or hostile
 - Rehospitalized likely
- o Recovery is possible
- o Multi modal approach to therapy
 - Family therapy
 - Talk therapy
 - Psychoanalysis
 - Social skills
 - Cognitive behaviour therapy
 - Music
 - Occupational