

Modules 1-3

- **Psychologists:**
 - Socrates and Plato-mind is separable from body and continues after body dies
 - knowledge is innate-born within us
 - Aristotle-knowledge is not pre existing; it grows from experiences
 - John Locke-at birth our mind is a "blank slate"
 - Wilhelm Wundt-birth of psychology in 1879, created experimental apparatus-time difference between hearing/perceiving ball hitting platform
 - G. Stanley Hall-made first formal U.S. psychology laboratory-1883
 - Edward Titchener-structuralism
 - William James-functionalism, wrote *Principles of Psychology*
 - Mary Whiton Calkins-admitted into Harvard, tutored by William James, and finished all the requirements, but was denied a degree
 - Margaret Floy Washburn-first woman to receive Ph.D. in psychology at Harvard
 - Sigmund Freud-emotions to experiences and unconscious thought processes affect our behavior
 - B.F. Skinner/John B. Watson-psychology is a scientific study of observable behavior; our behavior is influenced by learned associations-conditioning; behaviorism
 - Charles Darwin-natural selection=select traits that best enable an organism to survive and reproduce
- Empiricism- what we know comes from experiences
- Early branches of psychology- structuralism, functionalism, and behaviorism
- Psychology today-science of behavior and mental processes

Perspective	Focus
Behavioral	how we learn observable responses
Biological	how the body and brain enable emotions; how genes combine with the environment
Biopsychosocial	considers the influences of biological, psychological, and social approaches
Cognitive	how we encode, process, store, and retrieve information
Evolutionary	how the natural selection of traits has promoted the survival of genes
Humanistic	how we meet our needs for love and acceptance and achieve self-fulfillment
Psychodynamic	how behavior springs from unconscious drives and conflicts
Social-cultural	how behavior and thinking vary across situations and cultures

- Each perspective is helpful, but not one single one is fully correct
- Nature-nurture=genes or experience?
- Psychometrics-branch of psych that studies the measurement of our abilities, attitudes, and traits

Types of Psychologists	What they do
Biological	explore links between brain and mind

Developmental	study our changing abilities from womb to tomb
Cognitive	experiment with how we perceive, think, and solve problems
Educational	study influences on teaching and learning
Personality	investigate our persistent traits
Social	explore how we view and affect one another

Career in Psych	What they do
Cognitive	study thought processes; focus on perceptive language, problem solving, memory, judgement, and decision making
Developmental	age-related behavioural changes; investigate change
Educational	develop strategies for enhancing the learning process
Experimental	investigate a variety of basic behavioral processes in humans and animals
Psychometric and Quantitative	update existing tests or develop new tests for use in clinical and school settings
Social	study how beliefs, feelings, and behaviors are affected by other people
Forensic	apply psychological principles to legal issues
Health	help individuals lead healthier lives by designing, conducting, and evaluating programs
Industrial-Organizational	study the relationship between people and their working environments
Neuropsychologist	investigate relationship between neurological processes and behavior
Rehabilitation	work with people who have lost optimal functioning
School	assessment of and intervention for children in educational settings
Sport	study psychological factors that influence participation in sports and other physical activities
Clinical	promote psychological health in individuals, groups, and organizations
Community	deal with broad problems of mental health in community settings
Counseling	help people adjust to life transitions or make lifestyle changes

Unit 2~

Module 4~ The need for Psychological Science

Hindsight Bias~ The tendency to believe, after learning an outcome, that you "Knew it all along"

Critical Thinking~ thinking that doesn't blindly accept arguments and conclusions. Rather, it examines assumptions, assesses the source, discerns hidden values, evaluates evidence, and assesses conclusions.

Module 5~The Scientific Method and Description

Theory~ an explanation using an integrated set of principles that organizes observations and predicts behaviors or events

Hypothesis~ a testable prediction, often implied by a theory

Operational Definition~ a carefully worded statement of the exact procedures used in a research study.

Replication~ Repeating the essence of a research study, usually with different participants in different situations, to see whether the basic finding extends to other participants and circumstances

Case Study~ a descriptive technique in which one individual or group is studied in depth in the hope of revealing universal principles

Naturalistic Observation~ observing and recording behavior in naturally occurring situations without trying to manipulate and control the situation

Survey~ a technique for ascertaining the self-reported attitudes or behaviors of a particular group, usually by questioning a representative, random sample of the group.

Sampling Bias~ a flawed sampling process that produces an unrepresentative sample

Population~ all those in a group being studied, from which samples may be drawn

Random Sample~ A sample that fairly represents a population because each member has an equal chance of inclusion

Module 6~ Correlation and Experimentation

Correlation~ a measure of the extent to which two variables change together, and thus how well either variable predicts the other

Correlation Coefficient~ a statistical index of the relationship between two variables

Scatter Plot~ a graphed cluster of dots, each of which represents the values of two variables

Illusory Correlation~ the perception of a relationship where none exists

Experiment~ a research method in which an investigator manipulates one or more factors to observe the effect on some behavior or mental process.

Experimental Group~ the group exposed to the treatment, that is, to one version of the independent variable

Control Group~ the group not exposed to the treatment.

Random Assignment~ assigning participants to experimental and control groups by chance, thus minimizing preexisting differences between the different groups

Double Blind Procedure~ an experimental procedure in which both the research participants and the research staff are ignorant about whether the research participants have received the treatment or a placebo

Placebo Effect~ experimental results caused by expectations alone; any effect on behavior caused by the administration of an inert substance or condition, which the recipient assumes is an active agent

Independent Variable~ the experimental factor that is manipulated; the variable whose effect is being studied

Confounding Variable~ a factor other than the independent variable that might produce an effect in an experiment

Dependent Variable~ the outcome factor; the variable that may change in response to manipulations of the independent variable

Validity~ the extent to which a test or experiment measures or predicts what it is supposed to

Module 7: Statistical Reasoning in Everyday Life

Statistics are needed in descriptive, correlational, and experimental research to help us interpret what the unaided eye might miss.

Descriptive Statistics- numerical data used to measure and describe characteristics of groups. Includes measures of central tendency and measures of variation.

Histogram- a bar graph depicting a frequency distribution.

Measure of Central Tendencies:

- **Mode**- the most frequently occurring score(s) in a distribution.
- **Mean**- the arithmetic average of a distribution, obtained by adding the scores and then dividing by the number of scores.
- **Median**- the middle score in a distribution; half the scores are above it and half are below. (the scores must be lined up from least to greatest when finding the median).

Skewed Distribution- a representation of scores that lack symmetry around their average value.

Range- the difference between the highest and lowest scores in a distribution.

Standard Deviation- a computed measure of how much scores vary around the mean score.

Normal Curve/Normal Distribution- a symmetrical, bell-shaped curve that describes the distribution of many types of data; most scores fall near the mean (about 68% fall within ONE standard deviation of it) and fewer near the extremes.

Inferential Statistics- numerical data that allow one to generalize- to infer from sample data the probability of something being true of a population.

Statistical Significance- a statistical statement of how likely it is that an obtained result occurred by chance.

Module 8: Frequently Asked Questions About Psychology

Culture- the enduring behaviors, ideas, attitudes, values and traditions shared by a group of people and transmitted from one generation to the next.

Animals are used to test ethics and their behavior can be compared to humans because of our similarities.

Informed Consent- an ethical principle that research participants be told enough info to enable them to choose whether they wish to participate.

Debriefing- the post experimental explanation of a study, including its purpose and any deceptions, to its participants. *This can help eliminate possible psychological issues and/or stress that can occur in participants*

Module 9

- Biological psychologists study the link between biological and psychological processes
- humans are biopsychosocial. Biological, psychological, and social-cultural factors interact to influence behavior

Neuron parts - dendrite (fingers), axon (arm), myelin sheath (skin + muscles)

- neuron's receive signals through the dendrites and sends the signal through the axon, when the terminal button is stimulated, neurotransmitters are released
- neurotransmitters carry the signal across a synapse to a receptor site on the receiving neuron

Neurotransmitters
- have designated pathways in the brain

Acetylcholine - enables muscle action, learning, and memory

Dopamine - influences movement, learning, attention, and emotion

Serotonin - affects mood, hunger, sleep, and arousal

Norepinephrine - helps control alertness + arousal

GABA - inhibitory neurotransmitter

Glutamate - excitatory neurotransmitter

- Drugs + other chemicals affect brain chemistry at synapses

- opiate drugs (heroin + morphine) may stop the brain from producing its natural opiates

Endorphines - natural opiate-like neurotransmitters

Agonist - molecule that, by binding to a receptor site, stimulates a response

Antagonist - molecule that, by binding to a receptor site, inhibits/blocks a response

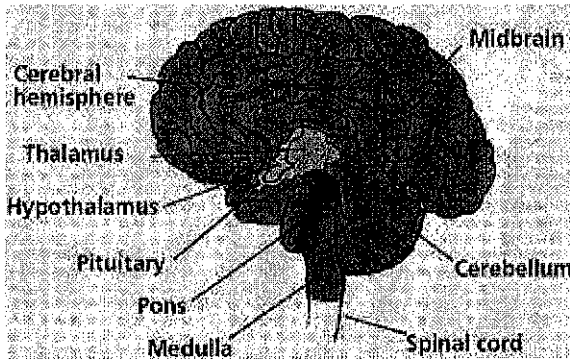
Module 10: The Nervous and Endocrine Systems

The nervous system allows us to make decisions and to send back information and orders to the body's tissues. The brain and spinal cord form the central nervous system, the body's decision maker. The peripheral nervous system is responsible for gathering information and for transmitting central nervous system decisions to other body parts. Nerves are electrical cables formed of bundles of axons, link the central nervous system with the body's sensory receptors, muscles and glands. Sensory neurons carry messages from the body's tissues and sensory receptors inward to the brain and spinal cord for processing. Motor neurons carry instructions from the central nervous system out to the body's muscles and glands. Between the sensory input and motor output, information is processed in the brain's internal communication system via its interneurons. Our peripheral system has two parts- somatic and autonomic. Somatic nervous system enables voluntary control of our skeletal muscles. The autonomic nervous system controls self-regulated action of internal organs and glands, this part operates "automatically". This autonomic nervous system serves two important functions. The sympathetic is one part, and this is in charge of arousing unlike the parasympathetic nervous system is in charge of calming. The endocrine system is a set of glands that secrete hormones into the bloodstream. For example the adrenal glands release the hormones that trigger the fight-or-flight response. The endocrine system's master gland, the pituitary, influences hormone release by other glands. The brain's hypothalamus influences the pituitary gland.

Module 12: Studying the Brain, and Older Brain Structures

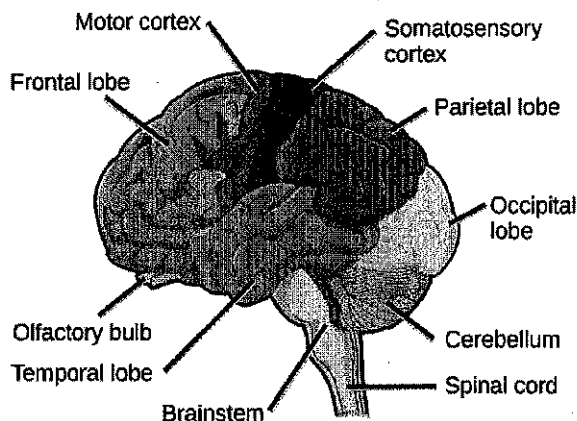
Neuroscientists are able to study the brain connections to behavior and mind due to many different technologies. An electroencephalogram (EEG) is an amplified recording of the waves of electrical activity sweeping across the brain's surface. These waves are measured by electrodes placed on the scalp. With a CT scan a series of x-ray photographs taken from different angles and combined by computer into a composite representation of a slice of the brain's structure, also called a CAT scan. A PET scan is a visual display of brain activity that detects where a radioactive form of glucose goes while the brain performs a given task. An MRI uses magnetic fields and radio waves to produce computer generated images of soft tissue, shows brain anatomy. Lastly an fMRI reveals blood flow and therefore brain activity by comparing successive MRI scans. fMRI scans show brain function as well as its structure. The brain's oldest and innermost region is the brainstem. The medulla is the base of the brainstem; controls heartbeat and breathing. The thalamus is the brain's sensory control center (office lady). It is located on the top of the brainstem; directs messages to the sensory receiving areas in the cortex and transmits replies to the cerebellum and medulla. Reticular formation is a nerve network that travels through the brainstem and thalamus and plays an important role in controlling arousal. Cerebellum, "little brain", enables nonverbal learning and memory. It also helps us coordinate voluntary movement, judge time, modulate our emotions and discriminate sounds and textures. The limbic system contains the amygdala, hypothalamus, and hippocampus. Amygdala, is linked to emotion (hint: Aggression). Hypothalamus directs

maintenance activities like eating, drinking, body temperature, helps govern the endocrine system via the pituitary gland and is linked to emotion and reward. The hippocampus processes conscious memories. Hint: Seeing a hippo on campus would be quite the memory.



Module 12: The Cerebral Cortex

The cerebral cortex is a thin surface layer of interconnected neural cells. Glial cells support, nourish, and protect neurons; they also play a role in learning and thinking. There are four lobes. First is the frontal lobes which lies behind the forehead. involved in speaking and muscle movements and in making plans and judgements. The parietal lobes located at the top rear part of the head, receives sensory input for touch and body position. The occipital lobes located at the back bottom part of the head; includes areas that receive information from the visual fields. The temporal lobes lie roughly right above the ears; includes the auditory areas. The motor cortex is at the rear of the frontal lobes and it controls voluntary movements. The somatosensory cortex, located at the front of the parietal lobes, registers and processes body touch and movement sensations. Association areas in these, neurons are busy with higher mental functions such as learning, remembering, thinking and speaking. If one hemisphere of the brain becomes damaged, the other will pick up many of its functions by reorganizing or building new pathways; this is otherwise known as plasticity.



Module 13: Brain Hemisphere Organization and the Biology of Consciousness

In 1961 speculation pointed to that major epileptic seizures were caused by a high amplification of brain activity bouncing back and forth from two cerebral hemispheres through the corpus callosum (the large band of neural fibers connecting the two brain hemispheres and carrying messages between them). The surgical operation they came up with to end these seizures was known as a split brain (a condition resulting from surgery that isolate the brain's two hemispheres by cutting the fibers connecting them). Gazzaniga then studied the impacts of a person with a split brain, the study showed patients were normal and their personality and intellect were hardly affected. They also confirmed that for most individuals the left hemisphere is the more verbal side and the right hemisphere is the visual perception and the recognition of emotions. Much of today's science studies the biology of consciousness (our awareness of ourselves and our environment), which they do through cognitive neuroscience (the interdisciplinary study of the brain activity linked with cognition). Cognitive neuroscientists use fMRI's to study the activity and region of where a person is consciously thinking. Through this they have determined that the mind processes information two different ways, one operating at an explicit, conscious level and the other at an implicit, unconscious level. That is known as dual processing and it can affect our perceptions, memories, attitudes, and other conditions.

Module 14: Behavior Genetics: Predicting Individual Differences

Behavior geneticists are people who study our differences and weigh the effects and inter play of heredity and environment. Every human has 46 chromosomes, that is composed threadlike structures of DNA (A complex molecule containing the genetic information that makes up the chromosomes) and inside DNA are genes (the biochemical units of heredity that make up the chromosomes). Human traits are most of the time influenced by many genes acting together. Behavior geneticists through studies of identical twins (monozygotic), fraternal twins (dizygotic), and adoptive families seek to quantify genetic and environmental influences on our traits. Personality is a genetic predisposition because shared family environment has little to no effect on personality. Molecular geneticists is the subfield of biology that studies the molecular structure and function of genes, which includes those that affect behavior. Cooperating to identify specific genes, psychologists and molecular geneticists, are trying to find teams of genes that put people at risk for disorders. Heritability describes the extent to which variation among members of a group can be attributed to genes. Genes can explain why some people today are different from one another, but not why people are different today than they were a long period of time ago. Heritable individual differences do not necessarily imply that there are heritable group differences. The epigenetics field studies the influences on gene expression that occur without changes in DNA.

Module 15: Evolutionary Psychology: Understanding Human Nature

Evolutionary psychologists look to understand how human traits and behavior tendencies are shaped by Charles Darwin's natural selection principle, which is the principle that among the range of inherited trait variations, those contributing to reproduction and survival will most likely be passed on to succeeding generations. Variations in genes can arise from mutations, while others from new gene combinations. Evolutionary psychologist would look at mating preferences by seeing that men are more likely to have a recreational view of sexual activities while women have a relation view. Many people criticize the evolutionary psychologist point of view, because they start with an effect and work backward to explain it, they do not take into account social and cultural influences, and they absolve people from taking responsibility for the sexual behaviors. Individual development relies on interactions between biological, psychological, and social-cultural influences. Biological influences are our shared human genomes, psychological influences are gene-environment interactions, and social-cultural include people you interact with on a daily basis.

Module 16

Sensation and perception

- Sensation is the process by which sensory receptors and nervous system receive and represent stimulus energies from our environment.
- Perception is the process of organizing and interpreting sensory information, enabling us to recognize meaningful objects and events.
- Bottom up processing starts at the sensory receptors and works up to the higher levels of processing.
- Top-down processing constructs perceptions from the sensory input by drawing on our experience and expectations

Selective attention

- Selective attention is the focusing of conscious awareness on a particular stimulus. For example while reading this sentence you have been unaware that your shoes were pressing into your feet and your nose was in your line of vision but now you are aware of those things because your attention spotlight shifts.
- Inattention blindness is failing to see visible objects when our attention is directed elsewhere. For example, in a video a group of men, some wearing white shirts and some wearing black, toss a basketball around a circle. The viewer is supposed to raise a key when a black shirt player gets the ball. Most focused their attention so completely on the game that they failed to notice a young woman carrying an umbrella walk across the screen midway through the video. Seeing a replay of the video viewer is where astonished to see her.

Transduction

- Transduction is the process of converting one form of energy into another that your brain can use.
- Psychophysics is the study of relationships between the physical characteristics of stimuli such as their intensity and our psychological experience.
- Absolute Thresholds is the minimum stimulation necessary to detect a particular light, sound, pressure, taste, or odor 50% of the time. For example to test your absolute threshold for sounds, a hearing specialist would expose each of your ears to varying sound levels for each tone the test would detect where half the time you could detect the sound and half the time you couldn't.
- Signal detection theory predicts when we will detect weak signals which is measured as a ratio of hits to false alarms. Signal detection theory us look to understand why people respond differently to the same stimuli. For example some teachers are more likely than others to detect students texting during class.

Difference thresholds

- The difference threshold is the minimum difference a person can detect between any stimuli half the time.
- Sensory adaptation diminishes sensitivity as a consequence of constant stimulation. When we are constantly exposed to a stimulus that does not change we become less aware of it because nerve cells fire less frequently. Although sensory adaptation reduces our sensitivity, it offers an important benefit, freedom to focus on informative changes in our environment without being distracted by background chatter.

Module 17

Perceptual Set

- Perceptual set is a set of mental tendencies that affects how we perceive things.

Emotion and Motivation

- Researchers have shown how our emotions change perception for example a walking trail may look longer to someone who have been fatigued by earlier exercise.

Premonitions or Pretensions

- Psychic powers were tested in the British population. They created a mind machine and tested to see if people could predict a coin toss. Visitors to festivals were given four chances to predict heads or tails. One need only produce a single person who can demonstrate a single, reproducible ESP event. But so far nobody has emerged.

Module 18- Vision

- Light energy: what we see as visible light is a thin slice of the whole spectrum of electromagnetic energy for example when you see a bright red tulip, what strikes your eyes is not particles of the color red but pulses of electromagnetic energy that your visual system perceived as red.
- The eye: light enters the eye through the cornea, then light passes through the pupil and adjustable opening so surrounding the pupil is the iris which controls its size. The lens focuses incoming light rays into an image of the retina which is a multilayered tissue on the eyeball sensitive inner surface when the lens focuses the rays by changing its current vacation that is known as accommodation.

The retina

- The retina's outer layer of cells, receptor cells, the rods and cones. There you would see the light energy triggered chemical changes that would spark neural signals activating nearby bipolar cells.
- The optic nerve carries neural impulses from the eye to the brain.
- The blind spot is the point at which the optic nerve leaves the eye creating a blind spot because no receptor cells are located there.
- The fovea is the center focal point in the retina around which the eye's cones cluster.
- Information processing begins in the retina's neural layers which are actually brain tissue that has migrated in the eye during early fetal development.
- Feature detectors are nerve cells in the brain that respond to specific features of the stimulus such as sharp, angle, or movement. They pass that information to other cortical areas where teams of cells respond to more complex patterns. One Temporal lobe area by her right ear enables you to perceive faces into recognize them from varied viewpoints. If this were to be damaged you might recognize other forms and objects but not familiar Faces.
- Parallel processing is the processing of many aspects of a problem simultaneously. After damage to the brain's visual cortex others have experienced blind site. When showing a series of sticks they report seen nothing yet when asked to guess whether the sticks are vertical or horizontal their visual intuition typically offer is the correct response.
- Afterimages: stare at a green square for a while and then look at a white sheet of paper you will see red, green's opponent color stare at a yellow square and it's upon a color blue will appear on a white paper.
- Opponent process theory is the theory that opposing retinal processes enable color vision for example some cells are stimulated by green and inhibited by red others are stimulated by red and inhibited by green.

Module 19,20,21

Module 19- Visual Organization and Interpretation

Visual Organization

- **Gestalt**- German psychologists noticed that when given a cluster so sensations, people tend to organize them into a gestalt, a German word meaning a "form" or a "whole".
Form Perception
- **Figure and Ground**
 - **Figure ground**- The organization of the visual field into objects (the figures) that stand out from their surroundings (the ground).
- **Groupings**
 - **Grouping**- The perceptual tendency to organize stimuli into coherent groups
 - **Rules of grouping**
 - **Proximity**- We group nearby figures together.
 - **Continuity**- We perceive smooth, continuous patterns rather than discontinuous ones.
 - **Closure**- We fill in gaps to create a complete, whole object.

Depth Perception

- **Depth Perception**- the ability to see objects in three dimensions although the images that strike the retina are two-dimensional, allows us to judge perception.
- **Visual Cliff**- a laboratory device for testing depth perception in infants and young animals.
 - **Binocular Cues**
 - **Binocular Cues**- depth cues, such as retinal disparity, that depend on the use of two eyes.
 - **Retinal Disparity**- a binocular cue for perceiving depth. By comparing images from the retinas in the two eyes, the brain computes distance- the greater the disparity (difference) between the two images, the closer the object.
 - **Monocular Cues**
 - **Monocular Cues**- depth cues, such as interposition and linear perspective, available to either eye alone.

Motion Perception

- **Phi Phenomemon**- an illusion of movement created when two or more adjacent lights blink on and off in quick succession.

Perceptual Constancy

- **Perceptual Constancy**- Perceiving objects as unchanging (having consistent shape, size, brightness, and color) even as illumination and retinal images change.
 - **Color & Brightness Constancies**
 - **Color Constancy**- Perceiving familiar objects as having consistent color, even if changing illumination alters the wavelengths reflected by the object.

Visual Interpretation

- **Perceptual Adaptation**- In vision, the ability to adjust to an artificially displaced or even inverted visual field.

Module 20- Hearing

- **Audition**- The sense or act of hearing.

The Stimulus Input: Sound Waves

- **Frequency**- The number of complete wavelengths that pass a point in a given time (for example, per second).
- **Pitch**- A tone's experienced highness or lowness; depends on frequency.

The Ear

- **Middle Ear**- The chamber between the eardrum and cochlea containing three tiny bones (hammer, anvil, and stirrup) that concentrate the vibrations of the eardrum on the cochlea's oval window.
- **Cochlea**- A coiled, bony, fluid-filled tube in the inner ear; sound waves traveling through the cochlear fluid trigger nerve impulses.

- **Inner Ear-** The innermost part of the ear, containing the cochlea, semicircular canals and vestibular sacs.
- **Cochlear Implant-** A device for converting sounds into electrical signals and stimulating the auditory nerve through electrodes threaded into the cochlea.
- **Perceiving Pitch**
- **Pitch Theory-** In hearing, the theory that links the pitch we hear with the place where the cochlea's membrane is stimulated.
- **Frequency Theory-** In hearing, the theory that the rate of nerve impulses traveling up the auditory nerve matches the frequency of a tone, thus enabling us to sense its pitch.

Module 21- The Other Senses

- **Transduction-** Conversion of one form of energy into another, in the sensation the transforming of stimulus energies, such as sights, sounds, etc. into neural impulses.

Touch

- Transduction in touch begins when sensory receptors respond to stimuli such as pressure, hot, cold and pain by sending impulses to the spinal cord which then passes the message to the brain.
- **Gate-control Theory-** The theory that the spinal cord contains a neurological "gate" that blocks pain signals or allows them to pass on to the brain. The "gate" is opened by the activity of pain signals traveling up small nerve fibers and is closed by activity in larger fibers or by information coming from the brain.

Taste

- Transduction in taste occurs when different tasting substances cause a change in the flow of ions across a cell. Electrical signals are generated in the taste cells in three ways, the chorda tympani nerve, glosso-pharyngeal nerve, and the vagus nerve. The three nerves make connections into the brain stem and then to the thalamus and then to the frontal lobe.

Smell

- While smelling airborne molecules of its smell reaches receptors at the top of your nose while sniffing, this swirls up the air to the receptors which enhances its smell. The receptor cells then send messages to the brain's olfactory bulb, then to the temporal lobes primary smell cortex which promotes a memory.

Body Position & Movement

- **Kinesthesia-** The system for sensing the position and movement of individual body parts.
- **Vestibular Sense-** The sense of body movement and position including the sense of balance.

Sensory Interaction

- **Sensory Interaction-** The principle that one sense may influence another, as the smell of food influences its taste.
- **Embodied Cognition-** In psychological science, the influence of bodily sensations, gestures, and other states on cognitive preferences and judgments.

States of Consciousness

Module 22

- Consciousness is our awareness of ourselves and our environment. Our awareness is a part of the dual processing system, meaning that much of our information is conscious, the other amount is done unconsciously and automatically.
- Hypnosis is an example of an altered state of consciousness. Hypnosis is a social interaction in which one person responds to another person's suggestions that certain perceptions, feelings, thoughts, or behaviors will spontaneously occur.
- Hypnosis does not enhance recall of forgotten events, although it may cause false memories.
- Hypnosis cannot force people to act against their own will, though hypnotized people may perform unusual acts.
- Posthypnotic suggestions have helped people relieve pain, but it has not been very effective in treating addiction.
- Many psychologists believe that hypnosis is a form of normal social influence and that hypnotized people follow directions given by an authoritative person. Yet other psychologists view hypnosis as a dissociation, a split between normal sensations and conscious awareness.

Module 23

- Our bodies have an internal biological clock, this clock is very closely synchronized with a 24-hour day.
- The circadian rhythm appears in our daily patterns of body temperature, arousal, sleeping and waking up. There are many things that can alter our clock, such as age and experiences.
- We cycle through four specific sleep stages that occur about every 90 minutes.
- First we leave the alpha waves, which is the relaxed stage, and go into the irregular brain waves on non-REM stage 1 sleep, often with the sensation of falling or floating.
- NREM-2 sleep is where we spend most of our time, and lasts about twenty minutes.
- NREM-3 sleep lasts about thirty minutes, and it has long slow delta waves.
- After we fall asleep, we begin periods of REM sleep, which stands for rapid eye movement, this is where most dreaming occurs.
- During a normal night's sleep, NREM-3 sleep shortens and REM and NREM-2 sleep lengthens.
- Sleeping may have played a protective role in human evolution by keeping people safe in potentially dangerous times. Sleep also helps restore damaged neurons.

Module 24

- Sleep deprivation causes fatigue and irritability, and it impairs concentration, productivity and memory consolidation. It can also lead to depression, obesity and joint pain.
- Common sleep disorders include **insomnia**, reoccurring wakefulness, **Narcolepsy**, sudden uncontrollable sleepiness or lapsing into REM sleep. **Sleep apnea**, stopping of

breathing while asleep. **Night terrors**, high arousal and the appearance of being terrified. **Sleepwalking and sleep talking** also.

- We dream usually about ordinary events and everyday experiences, most involving some anxiety or misfortune.
- Most dreams occur during REM sleep, and those that happen during NREM sleep tend to be vague images.
- There are about five major psych views on dreams.
- Freud believes dreams have manifest content, a storyline, censoring the latent content, or the underlying meaning.
- There is also information processing, dreams help us sort out the day's events and store them into memory.
- Psychological function: regular brain stimulation may help develop new pathways in the brain.
- Neural activation: the brain attempts to make sense of the neural static by putting it in a story.
- Cognitive development: dreams reflect the dreamer's level of development.
- Most psychologists believe that REM sleep and dreams are important functions, shown by REM rebound, meaning the more deprived we are of REM sleep the longer it becomes.

Module 25: Psychoactive Drugs

This module discusses the psychological and physical effects of various types of drugs.

Psychoactive Drug: chemical substances that alter perceptions and moods.

Substance Use Disorder: which is a dependence/craving of substances despite physical risk or life disruption.

Tolerance: The diminishing effect of drugs over time, meaning more is required for the same effect as before.

Depressants: Drugs that reduce neural activity and slow body functions.

Addiction: Compulsive craving of drugs or certain behaviors despite known adverse effects.

Withdrawal: The discomfort and distress that follow discontinuing the use of an addictive drug or behavior.

Alcohol; use disorder: Alcohol use marked by tolerance, withdrawal, and a drive to continue problematic use.

Barbiturates: Drugs that depress central nervous system activity, reducing anxiety but impairing memory and judgement.

Opiates: Substances that depress neural activity, temporarily lessening pain and anxiety. (Morphine and Heroin)

Stimulants: Drugs that excite neural activity and speed up body functions.
(Caffeine, Nicotine, cocaine, ecstasy, methamphetamine)

Amphetamines: Drugs that stimulate neural activity, causing speeded-up body functions and associated energy and mood changes.

Hallucinogens: Psychedelic (Mind-manifesting) drugs that distort perceptions and evoke sensory images in the absence of sensory input. (LSD and marijuana)

Near-death experience: An altered state of consciousness reported after a close brush with death (such as by cardiac arrest), often similar to drug-induced hallucinogens.

THC Triggers a variety of effects, including mild hallucinations.

Module 26: How We Learn and Classical Conditioning

Learning: The process of acquiring new and relatively enduring information or behaviors.

Habituation: an organism's decreasing response to a stimulus with repeated exposure to it.

Associative learning: Learning that certain events occur together. Can be two stimuli or a response and its consequences.

Stimulus: Any event or situation that evokes a response.

Cognitive Learning: The acquisition of mental information, whether by observing events, by watching others, or through language.

Classical condition: a type of learning in which one learns to link two or more stimuli and anticipate events.

behaviorism: The view that psychology should be 1) an objective science that 2) studies behavior without reference to mental processes. Most research psychologists today agree with 1 but not 2.

Neutral stimulus: In classical conditioning, a stimulus that elicits no response before conditioning.

Unconditional response: In classical conditioning, an unlearned, naturally occurring response (like salivating) to an unconditioned stimulus. (Like food in the mouth)

Unconditioned stimulus: In classical conditioning, a stimulus that unconditionally- naturally and automatically- triggers a response.

Conditioned response: In classical conditioning, a learned response to a previously neutral (but now conditioned) stimulus.

Conditioned Stimulus: In classical conditioning, an originally irrelevant stimulus that, after association with an unconditioned stimulus, comes to trigger a conditioned response.

Acquisition: In classical conditioning, the initial stage, when one links a neutral stimulus and an unconditioned stimulus so that the neutral stimulus begins triggering conditioned response. In operant conditioning, strengthening of a reinforced response.

Higher-order conditioning a procedure in which the conditioned stimulus in one conditioning experience is paired with a new neutral stimulus, creating a second (often weaker) conditioned stimulus. For example, For example, an animal that has learned that a tone predicts food might then learn that a light predicts the tone and begin responding to the light alone. Mad Rhymes.

Extinction: The diminishing of a conditioned response; occurs in classical conditioning when an unconditioned stimulus does not follow a conditioned stimulus; occurs in operant conditioning when a response is no longer enforced.

Spontaneous recovery: The reappearance, after a pause, of an extinguished conditioned response.

Generalization: The tendency, once a conditioned, for stimuli similar to the conditioned stimulus to elicit similar responses.

Discrimination: In classical conditioning, the learned ability to distinguish between a conditioned stimulus and stimuli that do not signal a conditioned stimulus.

Module 27: Operant Conditioning

Operant conditioning: A type of learning in which behavior is strengthened if followed by a reinforcer or diminished if followed by a punisher.

Law of Effect: Thorndike's principle that behaviors followed by favorable consequences become more likely, and that behaviors followed by unfavorable consequences become less likely.

Operant Chamber: In operant conditioning research, a chamber containing a bar or key that an animal can manipulate to obtain a food or water reinforcer; attached devices record the animal's rate of bar pressing or key pecking.

Reinforcement: In operant conditioning, any event that strengthens the behavior it follows.

Shaping: An operant conditioning procedure in which reinforcers guide behavior toward closer and closer approximations of the desired behavior.

Discriminative stimulus: In operant conditioning, a stimulus that elicits a response after association with reinforcement.

Positive reinforcement: Increasing behaviors by presenting positive reinforcers. A positive reinforcer is any stimulus that, when presented after a response, strengthens the response.

Negative reinforcement: Increasing behaviors by stopping or reducing negative stimuli. A negative reinforcer in any stimulus that, when removed after a response, strengthens the response

Primary reinforcer: An innately reinforcing stimulus, such as one that satisfies a biological need.

Conditioned reinforcer: A stimulus that gains its reinforcing power through its association with a primary reinforcer: also known as a secondary reinforcer.

Reinforcement schedule: a pattern that defines how often a desired response will be reinforced.

Continuous Reinforcement: Reinforcing the desired response every time it occurs.

Partial Reinforcement: Reinforcing a response only part of the time; results in slower acquisition of a response but much greater resistance to extinction than does continuous reinforcement.

Fixed-Ratio Schedule: In operant conditioning, a reinforcement schedule that reinforces a response only after a specified number of responses.

Variable-Ratio: In operant conditioning, a reinforcement schedule that reinforces a response after an unpredictable number of responses.

Fixed-Interval schedule: In operant conditioning, a reinforcement schedule that reinforces a response only after a specified time has elapsed.

Variable-interval schedule: In operant conditioning, a reinforcement schedule that reinforces a response only after an unpredictable amount of time has elapsed.

Punishment: An event that tends to decrease the behavior it follows.