Chapter 1: History and Approaches

History

**Wave 1 – Introspection**

In 1879, *William Wundt* set up the first Psychological laboratory in an apartment near the university at Leipzig, Germany. He trained subjects in Introspection – they were asked to record their cognitive reactions to simple stimuli. He eventually described his theory of *structuralism* – the idea that the mind operates by combining subjective emotions and objective sensations. In 1890, *William James* published the first psychological textbook, *The Principles of Psychology.* He described a theory called *functionalism* that describes how Wundt’s theory functioned in our lives. *Mary Whiton* studied with James and became president of the American Psychological Association. *Margaret Floy Washburn* was the first woman to earn a Ph.D. in psychology. Another student of William James was *Stanley Hall*, who pioneered the study of child development and became the first president of the APA.

**Wave 2 - Gestalt Psychology**

*Gestalt psychologists* like *Max Wertheimer* argued against dividing human thought and behavior into discrete structures. *Gestalt Psychology* tried to examine a person’s total experience because the way we experience the world is more than just an accumulation of various perceptual experiences. Like introspective theories, Gestalt psychology has relatively little influence on current psychology.

**Wave 3 – Psychoanalysis**

*Sigmund Freud* revolutionized psychology with his psychoanalytic theory. He believed he discovered the *unconscious* mind, a part on our mind that we do not have conscious control over which determines how we think and behave. He believed this hidden part of us builds up over the years through *repression*, the pushing down of thoughts that cause negative emotions that the conscious mind cannot deal with. He believed that we needed to examine the unconscious mind through dream analysis, word association, and other psychoanalytic therapy techniques to truly understand human thought and behavior. Freud has been criticized for creating unverifiable theories.

**Wave 4 – Behaviorism**

*John Watson* studied the experiments of *Ivan Pavlov* then declared for psychology to be considered a science, it must limit itself to observable phenomena, not the unconscious mind. Watson wanted to establish *Behaviorism*. Behaviorists believe that psychologists should look at only behavior and causes of behavior – *stimuli (environmental events)* and *responses (physical reactions).* Another behaviorist, *B.F. Skinner*, created the idea of *reinforcement* – environmental stimuli that either encourage or discourage certain responses.

**Wave 5 - Multiple Perspectives**

All psychologists think about thought and behavior differently. Most psychologists describe themselves as *Eclectic* – drawing from multiple perspectives.

Psychological Perspectives

**Humanist Perspective**

*Humanists*, including *Abraham Maslow and Carl Rogers*, stressed individual choice and free will. This opposes *deterministic* behaviorists, who theorized that all behaviors are caused by past conditioning. *Humanists* believe that we choose most of our behaviors, which are guided by our physiological, emotional, or spiritual, needs. Humanistic theories are not easily tested by the scientific method.

A humanistic psychologist may explain that someone is introverted because they find that a few close friends better satisfies their social needs.

**Psychoanalytic Perspective**

Psychologists using this perspective believe that the *unconscious* mind controls most of our thought and actions. Psychoanalysts would look for impulses and memories pushed into the unconscious mind through repression.

A psychoanalytic psychologist may explain that someone is introverted because of a repressed memory of trauma in childhood involving a social situation.

**Biopsychology (Neuroscience) Perspective**

*Biopsychologists* explain humanthought and behavior in terms of biological processes. The effects of our *genes, hormones, and neurotransmitters* in the brain may explain human cognition and reactions. Biopsychology is a rapidly growing field.

A biopsychologist may explain that someone is extroverted because of our genes inherited form our parents and the genes’ effects on the abundance of certain neurotransmitters in the brain.

**Evolutionary (Darwinian) Perspective**

*Evolutionary psychologists (sociobiologists)* examine human thoughts and actions in terms of *natural selection*. Some traits may have been advantageous for survival, so they were passed down from the parents to the next generation.

A sociobiologist may explain that someone is extroverted due to this being a survival advantage. These connections could improve the individual’s chances for survival, which increases the person’s chances for passing this trait down the their children.

**Behavioral Perspective**

*Behaviorists* explain human thought and behavior in terms of *conditioning*.

A behaviorist may explain a person’s tendency to be extroverted in terms of reward and punishment.

**Cognitive Perspective**

*Cognitive psychologists* examine human thought and behavior in terms of how we interpret, process, and remember environmental events. The rules that we use to view the world are important to understanding why we think and behave the way we do.

A cognitive psychologist may explain why someone is introverted because of how he or she interprets social situations.

**Social-Cultural (Sociocultural) Perspective**

*Sociocultural psychologists* look at how our thoughts and behaviors vary from people living in other cultures. They emphasize the influence culture has on the way we think and act.

A sociocultural psychologist might explain the person’s tendency to be extroverted by examining his or her culture’s rules about social interaction.

Chapter 2: Methods

*Hindsight Bias*: People have a tendency to believe they knew it all along when hearing about research findings.

*Applied Research*: Research that has clear, practical applications for the real world.

*Basic Research*: Research that explores questions that are of interest to psychologists but are not intended to have immediate, real-world applications.

**Terminology**

HYPOTHESIS AND VARIABLES

*Hypothesis:* Expresses a relationship between two variables.

Examples of variables could be religion, height, and stress level.

There are two variables in an experimental hypothesis: the *Dependent Variable* and the *Independent Variable.* The dependent variable depends on the independent variable. Researchers manipulate the independent variable and measure changes in the dependent variable. I.e. The independent variable could be violent television and the dependent variable could be a child’s behavior.

*Validity*: Measures accuracy of experiment.

*Reliability*: Measures the consistency of results from the experiment.

SAMPLING

*Participants (subjects):* Individuals on which the research will be conducted.

*Sampling:* The process by which participants are selected.

*Sample*: The group of participants.

*Population*: Anyone or anything that could possible be selected to be in a sample.

Samples are selected to be *representatives* of a population. It’s better to specify a larger and more diverse population than randomly choose a sample from it. It is best done with a computer, table of random numbers, or just picking names out of a hat.

Although accurate, large samples cost more time and money.

*Stratified Sampling:* Sampling process that allows a researcher to ensure that the sample represents the population on some criteria. For example, if I thought results from males and females would be different, I would want to make sure I represented both genders in the same proportion that it appears in the overall population. If 50% of the population were boys, 50% of my sample would be boys.

**Experimental Method**

*Laboratory Experiments:* Conducted in a lab, a highly controlled environment.

*Field Experiments:* Conducted in the world, more realistic.

*Confounding Variables:* Any difference between the experimental and control conditions that might affect the dependent variable. In order for an experiment to be accurate, the confounding variables must be eliminated to rule out any other possible cause for the change in the dependent variable.

*Assignment:* The process by which participants are put into a group, experimental or control.

*Random Assignment:* Each participant has an equal chance of being placed into any group. The benefit of this being how it limits the effect of *participant-relevant confounding variables.* The idea behind random assignment is that the groups will be equivalent.

*Group Matching:* To ensure that the experimental and control groups are equivalent on some criterion.

*Situation-Relevant Confounding Variables:* Differences between the control group and experimental group such as the environment, time of day, weather, and the presence of others. Researchers try to limit the differences between the groups to ensure the accuracy of the change in the dependent variable.

*Experimenter Bias*: The unconscious tendency to treat members of the experimental and control groups differently to increase the chance of confirming their hypothesis.

Using a *double-blind procedure* can eliminate it*.*

*Double-blind procedure:* When neither the participants nor the researcher is able to affect the outcome of the research.

*Single-blind procedure:* When only the participants to not know which group they have been assigned to. This minimizes the effect of *demand characteristics* as well as some kinds of *response* or *participant bias.*

*Demand Characteristics:* Cues about the purpose of the study that participants use to try to respond appropriately.

*Response (Subject Bias):* Tendencies for subjects to behave certain ways (ex. Pick the right-hand option more than the left one.)

*Social Desirability:* A type of response bias that is the tendency to try to give answers that reflect well upon them.

Experiments typically involve at least one *experimental group* and one *control group.* The experimental group receives the treatment, as the control group gets none of the independent variable. The control group serves as a basis for comparison. Control groups are needed to know weather changes in the experiment are due to the experimental treatment or due to any treatment at all.

*Hawthorne Effect:* The tendency for people to act differently because they are in an experiment.

*Placebo Effect:* A method of control where participants of both groups ingest a drug but only one of the groups is given the real drug.

*Order Effect:* The affect of the order of multiple treatments has on the outcome. Using *counterbalancing* can eliminate this.

*Counterbalancing:* To have half the subjects to task 1 first and have half the subjects so task 2 first and then switching.

**Correlational Method**

*Correlation*: A relationship between two variables without ascribing cause.

*Positive Correlation:* One thing predicts the presence of another.

*Negative Correlation:* One thing predicts the absence of another.

*Ex Post Facto Study:* To control all aspects of the research process, as one would in an experiment.

*Survey Method:* Asking people to fill out surveys to gather research data. The Survey Method cannot be used to demonstrate a cause-effect relationship. One could use survey method to investigate weather there is a relationship between two variables that cannot be manipulated. One using the survey method cannot control participant-relevant confounding variables.

*Low Response Rate*: When very few people send back a survey.

**Naturalistic Observation**

*Naturalistic Observation*: When researchers opt to observe their participants in their natural habitats without interacting with them at all. It is used to get a realistic and rich picture of the participant’s behavior. However, using this method, control is sacrificed.

**Case Studies**

*Case Study Method:* Used to get a full, detailed picture of one participant or a small group of participants. Clinical psychologists often use case studies to present information about a person suffering from a particular disorder. However, the focus one or a small group of participants means that the findings cannot be applied to a larger population.

**STATISTICS**

**Descriptive Statistics**

*Descriptive Statistics:* Statistics that describe a set of data.

*Frequency Distribution:* A set of data as numbers.

*Frequency Polygon*: A line graph

*Histogram*: A bar graph.

*Central Tendency:* Marks the center of distribution using mean, median, and mode. A distribution can be bimodal meaning two scores appear equally frequently and more frequent than any other score.

*Extreme scores* or *outliers* can distort the Mean. The median is often used as a better measure of central tendency when there are extreme scores or outliers.

*Positively Skewed:* When the skew is cause by a particularly high score. The mean is higher than the median, the opposite for negatively skewed distributions.

*Negatively Skewed*: When the skew is cause by a particularly low score.

*Measures of Variability:* Types of descriptive statistical measures such as *range, variance,* and *standard deviation.* They attempt to depict the diversity of the distribution.

*Range:* The distance between the highest and lowest score in a distribution.

*Variance and standard Deviation:* The variance is closely related to the standard deviation. The standard deviation is the square root of the variance. The higher the variance and standard deviation, the more spread out the distribution.

*Z Scores:* Measures the distance of a score from the mean in units of standard deviation. Scores below the mean are negative and scores above are positive. Ex. If the score were 72 in a distribution with a mean of 80 and a standard deviation of 8, the Z score would be -1.

*Percentile:* Indicates the distance of a score from 0.

**Correlations**

*Correlation*: A relationship between two variables without ascribing cause.

*Positive Correlation:* One thing predicts the presence of another.

*Negative Correlation:* One thing predicts the absence of another.

*Correlation Coefficient:* Measures a correlation. Ranges from -1 to +1, a perfect negative correlation being -1 and a perfect positive correlation being +1. 0 indicates no correlation.

*Scatter Plot*: Graphs pairs of values, one on the *y*-axis and one on the *x*-axis. The closer the points come to falling in a straight line, the stronger the correlation. This line is called the *Line of Best Fit,* or *regression line*.

**Inferential Statistics**

*Inferential Statistics*: Used to determine weather or not findings can be applied to the larger population. Many test exist such as t-tests, chi square tests, and ANOVAs. All these tests yield a *p-value*. The smaller the *p-value*, the more significant the results. The cutoff for *statistically significant* results is 0.05. 0.05 means that a 5 percent chance exists that the results occurred by chance. A *p* value can never equal 0 because we can never be 100 percent certain that results did not happen due to chance.

*Sampling Error*: The extent to which the sample differs form the population.

**APA ETHICAL GUIDELINES**

Any type of academic research must first propose the study to the ethics board or *institutional review board (IRB)* at the institution. The IRB reviews research proposals for ethical violations and/or procedural errors. The board gives researchers permission to go ahead with the research or requires them to revise their procedures.

**Animal Research**

* They must have a clear scientific purpose.
* Research must answer a specific, important scientific question
* The animals chosen must be best suited to answer the question.
* They must care for and house animals in a humane way.
* They must acquire animals legally. If wild animals need to be used, they need to be trapped in a humane manner.
* They must design experimental procedures that employ the least amount of suffering feasible.

**Human Research**

* *No coercion-* Participation should be voluntary.
* *Informed consent –* Participants must know they are involved in research and give their consent. If they are deceived about the nature of the study, the deception cannot be extreme.
* *Anonymity or confidentiality –* Participants’ privacy must be protected. *Anonymity* is provided when a researcher cannot match a participants name with the research data. *Confidentiality* is provided when a researcher cannot provide anonymity but will not identify the source of any of the data.
* *Risk –* Participants cannot be placed in significant mental or physical risk. It is considered permissible for participants to experience temporary discomfort or stress but activities that cause long-term mental or physical stress must be avoided.
* *Debriefing* – After the study, participants should be told the purpose of the study and provide ways to contact the researcher about the results.

Chapter 3: Biological Bases of Behavior

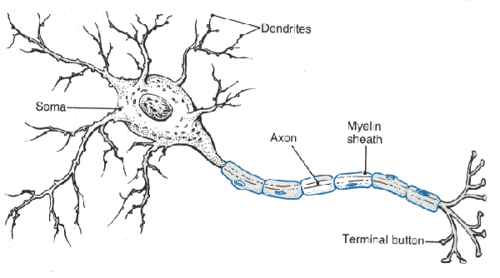
**NEUROANATOMY**

*Neuroanatomy* refers to the study of the parts and function of neurons. *Neurons* are individual nerve cells. Every neuron is made up of discrete parts:

* *Dendrites*: Root like parts of the cell that stretch out from the cell body to make synaptic connections with other neurons.
* *Cell Body (Soma)*: Contains the nucleus and other parts of the cell.
* *Axon:* Wire-like structure ending in terminal buttons that extends from the cell body.
* *Myelin sheath:* Fat covering around the axon of some neuron that speeds neural impulses.
* *Terminal buttons:* Branched end of the axon that contains neurotransmitters.
* *Neurotransmitters:* Chemicals in the terminal buttons that enable neurons to communicate. They fit into receptor sites on the dendrites of neurons.
* *Synapse:* The space between the terminal buttons of one neuron and the dendrites of another neuron.

**How a Neuron “Fires”**

In its resting state, a neuron has an over negative charge. The cell membrane is selectively permeable and prevents ions from mixing. The reaction begins when the terminal buttons of the first neuron are stimulated and release neurotransmitters into the synapse. These neurotransmitters fit into receptor sites on the dendrites of the second neuron. If enough are received, positive ions rush into the cell and travel down the neuron like a bullet from a gun. This firing is called the *action potential.* A neuron needs to receive enough neurotransmitters to pass its threshold to make it fire. A neuron cannot fire a little or a lot, it’s the same every time. This is called the *all-or-none* *principle*.

**Neurotransmitters**

Some neurotransmitters are excitatory, meaning that they excite the next cell into firing. Others are inhibitory, meaning that they inhibit the next cell into firing. Each synaptic gap may contain different kinds of neurotransmitters. The amount and types of neurotransmitters received on the receptor sites determine weather or not it will pass the threshold and fire.

|  |  |  |
| --- | --- | --- |
| **Neurotransmitter** | **Function** | **Problems associated with an excess or deficit.** |
| Acetylcholine | Motor Movement | Lack is associated with Alzheimer’s disease. |
| Dopamine | Motor Movement and Alertness | Lack is associated with Parkinson’s disease, excess is associated with schizophrenia. |
| Endorphins | Pain Control | Involved in addictions |
| Serotonin | Mood Control | Lack is associated with clinical depression. |

**NERVOUS SYSTEM**

Our body needs two sets of neurons, one to take information to the brain and one to take instruction back from the brain to the muscles.

*Afferent Neurons:* They take information from the senses to the brain.

*Interneurons:* Interneurons take the messages and sent them else where in the brain or on to efferent neurons once information reaches the brain or spinal cord.

*Efferent Neurons*: They take information from the brain to the rest of the body.

The nervous system is divided into different categories based on function: The central nervous system and the peripheral nervous system.

**Central Nervous System**

*Central Nervous System (CNS):* Consists of the brain and the spinal cord, all the nerves are housed within bone (the skull and vertebrae). The spinal cord transmits information from the rest of the body to the brain.

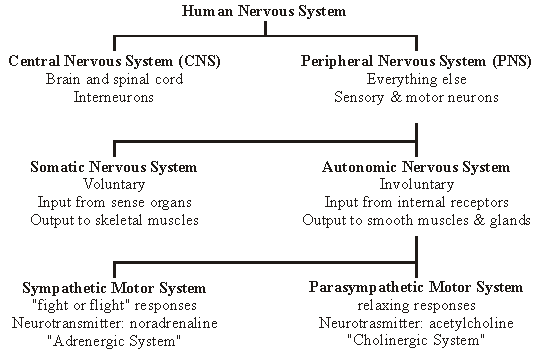
**Peripheral Nervous System**

The peripheral nervous system (PNS) consists of all the other nerves in the body, all the nerves not encased in bone. It is divided into two categories, the somatic and autonomic nervous system.

*Somatic Nervous System:* Controls voluntary muscle movements. The motor cortex of the brain sends impulses to the somatic nervous system, which controls the muscles that allow us to move.

*Autonomic Nervous System:* Controls the automatic (involuntary) functions of our body (ex. The heart). They also control our responses to stress, such as the fight or flight response. It is divided into two categories: the sympathetic and parasympathetic nervous systems.

*Sympathetic Nervous System:* This system mobilizes our body to respond to stress. This part of our nervous system carries messages to the control systems of the organs, glands, and muscles that direst our body’s response to stress.

*Parasympathetic Nervous System:* Responsible for slowing down our body after a stress response by carrying messages to the stress response system.

Example Transmission: You stub your toe. The neurons in your toe are activated and the message is sent to and through the spine through afferent nerves. It goes into the brain stem then is transmitted to the sensory cortex. Then you know you have stubbed your toe. Then it sends a signal down the efferent nerves to make you hop up and down while holing your leg.

The spine processes some sensory information. For example, stimulating a point in your kneecap will cause you leg to jerk forward. Another example would be jerking back when feeling something hot or cold.

**THE BRAIN**

**Methods of Studying the Brain**

* ACCIDENTS – If certain parts of the brain are damaged in accidents, we can observe the results and try to conclude its purpose in the brain.
* LESIONS – Lesioning is the removal of a part of the brain. Sometimes doctors must remove parts of the brain for surgeries (ex. Brain tumor). We can then observe their behavioral changes and try to infer the purpose of the removed part. Historically, frontal lobotomies were used to calm patients and relieve some serious symptoms.
* ELECTROENCEPHALOGRAM – The electroencephalogram (EEG) detects the types of brain waves emitted during different stages of consciousness. It is widely used in sleep research to identify different stages in dreaming.
* COMPUTERIZED AXIAL TOMOGRAPHY – Computerized axial tomography (CAT) scan is a sophisticated x-ray used to create a 3-D image of the brain’s structure.
* MAGNETIC RESONANCE IMAGING – The magnetic resonance imaging (MRI) is uses magnetic fields to measure the density and location of brain material. The patient is not exposed to radiation and the pictures are more detailed image than a CAT scan. Like the CAT scan, it only provides the structure of the parts of the brain, not the function.
* POSITRON EMISSION TOMOGRAPHY – The positron emission tomography (PET) scan lets researches see what parts of the brain are more active during certain tasks by measuring how much of a certain chemical (glucose, for example) parts of the brain are using. Chemicals such as neurotransmitters, drugs, and oxygen level are measured.
* FUNCTIONAL MRI – Functional MRI (fMRI) is a new technology that combines the MRI and PET scan. It can show details of brain structure and blood flow in the brain during cognitive tasks.

**Brain Structure and Function**

HINDBRAIN

Consists of structures in the top parts of the spinal cord it controls the basic biological functions that keep us alive.

* *Medulla* – Controls blood pressure, heart rate, and breathing. It is located above the spinal cord.
* *Pons* – Connects the hindbrain with the midbrain and forebrain. It is also involved in facial expressions. It is located just above the medulla and towards the front.
* *Cerebellum* – Looks like a miniature brain that coordinates some habitual muscle movements, such as tracking a target with our eyes or play the saxophone.

MIDBRAIN

The midbrain is very small in humans but it coordinates simple muscle movements with sensory information.

* *Reticular Formation* – A netlike collection of cells throughout the midbrain that controls general body arousal and the ability to focus our attention. If the reticular formation does not function, we fall into a deep coma.

FOREBRAIN

Areas of the forebrain control what we think of as thought and reason.

* *Thalamus* – It is located on top of the brain stem. Its function is to receive the signals coming up the spinal cord and send them to the appropriate areas in the rest of the forebrain.
* *Hypothalamus* – A small structure next to the thalamus control several metabolic functions, including body temperature, sexual arousal, hunger, thirst, and the endocrine system.
* *Amygdala and Hippocampus* – There are two arms surrounding the thalamus called the hippocampus. Structures near the end of each arm are the amygdala. The amygdala is used for our experiences of emotion and the hippocampus is vital to the memory system. Memories are not permanently stored in this area, but they must be processed through it and sent to other locations in the cerebral cortex.

**Cerebral Cortex**

The cerebral cortex is the 1mm thin wrinkled layer of neurons covering the brain. When we are born, it is full of neurons that are not well connected. As we grow, the dendrites of the neurons in the cerebral cortex grow and connect to other neurons. The wrinkles are called *fissures* and are needed to increase the available surface area of the brain.

HEMISPHERES

The cerebral cortex is made of the left and right hemispheres. The left hemisphere gets sensory messages and controls the motor function of the right side of the body and the right side does the opposite. This is called *contralateral control*. The specification of function in each hemisphere is called *brain lateralization* or *hemispheric specialization.* The research in differences is done in *split-brain* patients. Split brain is when a patient’s *corpus callosum* (the nerve bundle connecting the two hemispheres) has been cut to treat sever epilepsy.

AREAS OF THE CEREBERAL CORTEX

Any area of the cerebral cortex that is not associated in receiving sensory information or motor movement is labeled as an *association area*. Specific functions are not known for these areas but they are very active in various thoughts and behaviors.

* *Frontal Lobes –* Large areas of the cerebral cortex at the top front part of the brain behind the eyes. The front of the lobe is called to *prefrontal cortex* and plays a critical role in thought process. It is believed to be important in foreseeing consequences, pursuing goals, and maintaining emotional control. The frontal lobe in the left hemisphere contains a special area for language processing called *Broca’s area.* Its function is to control muscle movements for speech. A thin vertical strip farthest from the eyes is called the *Motor Cortex*, which sends signals to our muscles. The top of the body is controlled by the bottom of the cortex and the opposite for the top of the body.
* *Parietal Lobes –* Located behind the frontal lobe but still at the top of the brain. It contains the *Sensory Cortex (Somato-Sensory Cortex)*, which is right behind the motor cortex. It is a thin strip that receives incoming touch sensations from the body.
* *Occipital Lobes –* They are in the back of our brain, farthest from our eyes. They interpret messages from our eyes in our visual cortex. Impulses from the right half of each retina are sent to our right occipital lobe and impulses from the left half of each retina are sent to out left occipital lobe.
* *Temporal Lobes –* They process sound sensed by our ears in our auditory cortices. Sound by both ears is processed in both hemispheres. The second language area is located in the temporal lobe. *Wernicke’s Area* interprets both written and spoken speech.

BRAIN PLASTICITY

The brain is somewhat plastic or flexible. Other parts of the brain can adapt themselves to perform other functions if needed. Younger brains are more plastic and are more likely to be able to compensate for damage

**ENDOCRINE SYSTEM**

The endocrine system is a system of glands that secrete hormones that affect many different biological processes in our bodies. The endocrine system is controlled by the hypothalamus.

* *Adrenal Glands* – They produce adrenaline, which signals the rest of the body to prepare for fight or flight.
* *Ovaries and Testes* – They produce our sex hormones, estrogen for women and testosterone for men. Levels of these hormones in men and women may partially explain gender differences.

**GENETICS**

Most human traits, like body shape, introversion, or temper, result from the combined effects of nature (our genetic code) and nurture (the environment where we grow up and live).

**Basic Genetic Concepts**

Every human cell contains 46 chromosomes in 23 pairs. Chromosomes are made up of DNA (deoxyribonucleic acid). Segments of DNA produce specific proteins that control some human traits. These are called genes. They can be dominant or recessive, if we inherit two recessive genes, the trait will be expressed. In any other combination of genes, the dominant trait is expressed.

**Twins**

Since identical twins share the same genetic material, researchers study their traits in order to determine how much of an impact genes have on these traits.

*Effective Psychological Environment:* When a pair of twins grows up in similar environments causing them to have alike traits.

**Chromosomal Abnormalities**

Our gender is determines by our 23rd pair of chromosomes. Men have an X and Y chromosome and women have two X chromosomes. Occasionally, chromosomes will combine in an unusual way, resulting in a chromosomal abnormality. Other chromosomal abnormalities may cause mental retardation, the most common type being *Down syndrome.* Babies with Down syndrome are born with an extra chromosome on their 21st pair.

Chapter 4: Sensation and Perception

*Transduction:* The process of signal being transformed into neural impulses.

*Sensory Adaptation:* Decreasing responsiveness to stimuli due to constant stimulation.

*Sensory Habituation:* Our perception of sensation is partially due to how focused we are on them.

*Cocktail Party Phenomenon:* When your talking to a friend and someone across the room says your name and you involuntarily focus your attention on them.

**ENERGY SENSES**

**Vision**

STEP ONE: GATHERING LIGHT

First, light reflects off objects and gathered by the eye. The color we perceive depends of several factors. One is intensity, which is how much energy the light contains. A second is light wavelength, which determines the hue we see. We see different wavelengths within the visible light spectrum as different colors. A red shirt reflects red light and absorbs other colors.

STEP TWO: WITHIN THE EYE

The reflected light first enters our eyes through the *cornea*, the protective covering. The light then goes through the *pupil*, which is controlled by the *iris* to make it dilate to let more light in and make it smaller to less light in. The *lens,* through a process called accommodation, focuses the light that enters the pupil. When it goes through the lens, the image is flipped upside down and inverted; this image is then projected onto the *retina.* The retina is a screen with specialized neurons that are activated by different wavelengths of light.

STEP THREE: TRANSDUCTION

*Transduction*: The translation of incoming stimuli into neural signals.

The first layer of cells on the retina is directly activated by light. These cells are *cones,* cells that are activated by color, and *rods,* cells that respond to black and white. Rods outnumber cones 20:1 and cones are concentrated toward the center of the retina called the *fovea*. This means that the peripheral vision is not in color. If enough rods and cones fire in the retina, they activate the next layer of bipolar cells. If enough bipolar cells fire, it moves on the next layer of *ganglion cells,* the axons of these cells send impulses to the *lateral geniculate nucleus* through the *blind spot.* The blind spot is split into two parts; the spot where the nerves cross each other is the *optic chasm.* From there, it is sent to the visual cortexes.

STEP FOUR: IN THE BRAIN

The visual cortex of the brain receives impulses from the retina, and the impulses activate *feature detectors*. Perception researchers *David Hubel* and *Torsten Wiesel* discovered that groups of neurons in the visual cortex respond to different types of visual images such as lines, curves, and motion.

**Theories of Color Vision**

TRICHROMATIC THEORY

Trichromatic theory is an old theory that states that we have three types of cones in the retina: blue, red, and green. However, this theory cannot explain some visual phenomena, such as *afterimages* or *color blindness.*

OPPONENT-PROCESS THEORY

The opponent-process theory states that sensory receptors in the retina come in pairs: red-green pairs, yellow/blue pairs, and black/white pairs. If one sensor is stimulated, its pair is inhibited form firing. This theory explains afterimages and colorblindness.

**Hearing**

Sound waves are collected by our ears then are sent to the brain through the process of transduction. Sound waves have an *amplitude (the loudness of the sound)* and *frequency (the pitch).*

Sound waves are collected by the outer ear (pinna). The waves travel down the *ear canal* to the *eardrum* (tympanic membrane. The eardrum is connected to three bones, the *hammer (malleus), anvil (incus),* and *stirrup (stapes).* It s then transmitted to the *oval window* which is attached to the *cochlea.* The cochlea is a structure shaped like a snails shell filled with fluid and lined with hairs. As the fluid moves, the hair cells send the signal to the *organ of Corti.* The organ of Corti then performs transduction and these impulses are transmitted to the brain via the auditory nerve.

**Pitch Theories**

PLACE THEORY

Place theory states that hair cells in the cochlea respond to different frequencies based on where they are located in the cochlea. Some bend in response to high pitches and some to low.

FREQUENCY THEORY

Frequency theory states that place theory validly describes how the hair cells sense high pitches but not low. Lower tones are sensed by the rate at which cells fire.

**Deafness**

*Conduction Deafness:* When something goes wrong with the system of conduction the sound to the cochlea.

*Nerve (sensorineural) Deafness:* Occurs when hair cells in the cochlea are damaged by loud noise. Nerve deafness is much more difficult to treat since no method has been found that will encourage the hair cells to regenerate.

**Touch**

Some nerve endings respond to pressure while others respond to temperature. Our brain interprets the amount of indentation and place where the nerve endings fire.

*Gate-Control Theory:* Theory that explains that pain messages have a higher priority than others. It explains that the gate will “swing” open for high priority messages and swing shut for low priority messages. Endorphins also swing the gate shut when released into the body.

**CHEMICAL SENSES**

**Taste (Gustation)**

Chemicals are absorbed by taste buds, which are located on the *papillae.* Humans sense five types of tastes: sweet, salty, sour, bitter, and umami (savory). What we think as the flavor of food is actually a combination of taste and smell.

**Smell (Olfaction)**

Our sense of smell depends on the chemicals emitted by substances. The molecules of substances rise into the air and some are drawn into our nose. The molecules settle in a mucous membrane at the top of each nostril and are absorbed by the receptor cells there. Researchers estimate that 100 different types of smell receptors may exist. These receptors are linked to the *olfactory bulb,* which sends this information to the brain. The receptors connect to the amygdala, which may explain why smell is such a powerful trigger for memories.

**BODY POSITION SENSES**

**Vestibular Sense**

The vestibular sense tells us how our body is oriented in space using the semicircular canals in the inner ear.

**Kinesthetic Sense**

The kinesthetic sense tells us the position and orientation of specific body parts by using receptor in muscles and joints. This information, combined with visual feedback, lets us keep track of our body.

|  |  |  |
| --- | --- | --- |
| Energy Senses | Vision  Hearing  Touch | Rods, Cones (in Retina)  Hair cells connected to the organ of Corti (in cochlea)  Temperature, pressure, pain nerve endings (in the skin) |
| Chemical Senses | Taste (gustation)  Smell (olfaction) | Sweet, sour, salty, bitter, umami taste buds  Smell receptors connected to the olfactory bulb |
| Body Position Senses | Vestibular Sense  Kinesthetic Sense | Hair-like receptors in three semicircular canals  Receptors in muscles and joints |

**PERCEPTION**

**Thresholds**

*Absolute Threshold:* The smallest amount of stimulus we can detect. Technically, it is the minimal amount of stimulus we can detect 50% of the time, because researchers try to take into account individual variation in sensitivity and interference from other sensory sources. Stimuli below our threshold are *subliminal.*

*Difference Threshold:* The smallest amount of change needed in a stimulus before we detect a change.

*Weber’s Law:* States that the difference threshold is proportional to the original intensity of the stimulus. The constant for hearing is 5% and the constant for vision is 8%.

**Perceptual Theories**

SIGNAL DETECTION THEORY

Signal detection theory tries to investigate the effect of distractions and interference we experience while perceiving the world.

*Response Criteria*: How motivated we are to detect certain stimuli and what we expect to perceive.

*False Positive*: When we think we perceive a stimulus that is not there

*False Negative:* Not perceiving stimulus that is present.

TOP-DOWN PROCESSING

Top-down processing is when you use your background knowledge to fill in gaps in what you perceive.

*Schemata*: Mental representations of how we expect the world to be.

*Perceptual Set:* A predisposition to perceive something a certain way (ex. Seeing pictures in the clouds).

BOTTOM-UP Processing

It is the opposite of top-down processing. Bottom-up processing is using the features of an object to build a complete perception. Feature detectors allow our mind to build a picture using basic characteristics.

**Principles of Visual Perception**

*Figure-ground relationship:* When the brain determines what part of the image is the figure and what part of the image is the background.

**Gestalt Rules**

Gestalt psychologists pointed out that we normally perceive images as groups, not as isolated elements. Several factors influence how we group objects:

* *Proximity:* Objects that are closer together are more likely to be perceived as belonging to the same group.
* *Similarity:* Objects that are similar in appearance are more likely to be perceived as being in the same group.
* *Continuity:* Objects that form a continuous form (a trail or geometric figure) are more likely to be perceived as being in the same group.
* *Closure:* Similar to top-down processing. Objects that make up a recognizable image are more likely to be perceived as belonging to the same group.

**Constancy**

*Constancy:* Our ability to maintain a constant perception of an object despite its changes.

* *Size Constancy:* Objects will change size as it moves closer and farther from vision but we keep a constant size in mind for an object to perceive a constant size.
* *Shape Constancy:* Perceived Objects will change shape when viewed from different angles, but we know the shape of the object remains constant.
* *Brightness Constancy:* We perceive objects as being a constant color even when the light reflecting off the object changes.

**Perceived Motion**

Our brains are able to detect how fast images are moving across our retina and take into account our own motion.

* *Stroboscopic Effect*: Used in flipbooks; Images in a series of still pictures presented at certain speed will appear to be movie.
* *Phi Phenomenon:* A series of light bulbs turned on and off at a particular rate will appear to be one moving light.
* *Autokinetic Effect:* If a spot of light is projected steadily onto the same place on a wall of a dark room, people will support seeing it move.

**Depth Cues**

Without depth perception, we would perceive the world as a two-dimensional surface. *Eleanor Gibson* used the *visual cliff experiment* to determine whether or not babies perceive depth. The infant did not crawl on a glass table. Other experiments demonstrated that depth perception develops when we are three months old.

MONOCULAR CUES

* *Linear Perspective:* A cue used to imply depth in drawings.
* *Relative Size Cue:* Closer objects are larger and farther objects are smaller in drawings.
* *Interposition:* When something closer blocks our view of something farther in a drawing.
* *Texture Gradient:* When farther objects have less detail than closer objects in drawings.
* *Shadowing:* Implying where the light source is in a drawing.

BINOCULAR CUES

We see the world with our eyes a certain distance apart.

* *Binocular Disparity:* Each of our eyes sees any object from a different angle. The brain gets both images. If the image is farther away, the image will be similar. If the object is closer, the more disparity there will be from the images coming from each eye.
* *Convergence:* As an object gets closer to our face, our eyes must move toward each other to keep focused on the object. The brain receives feedback from the muscles controlling eye movement.

**Effect of Culture on Perception**

Some perceptual rules psychologists once thought were innate are actually learned. Some cultures that do not use monocular depth cues in art do not see depth in pictures using these cues.

Chapter 5: States of Consciousness

*Dualism:* Dualists believe humans consist of two materials: thought and matter. They believe that this is what gives humans free will and some believe it continues existing after the brain dies.

*Monism:* Monists disagree and believe everything is the same substance.

**LEVELS OF CONSCIOUSNESS**

Different levels of consciousness can focus on different things.

*Mere-Exposure Effect*: When we prefer stimuli we have seen before over novel stimuli even if we do not consciously remember seeing the old stimuli.

*Priming*: When someone responds more quickly and/or accurately to questions they have seen before.

*Blind Sight*: When a blind person knows where an object is even though they cannot see due to a level of consciousness tracking the object.

Not all researchers agree about what the specific levels are, but these are some of the possible levels of consciousness:

* *Conscious Level:* The information about yourself and your environment you are currently aware of.
* *Nonconscious Level:* Involuntary body processes that we are not (usually) aware of.
* *Preconscious Level:* Information about yourself or your environment you are not currently think about but could if you wanted to.
* *Subconscious Level:* Information we are not consciously aware of but know must exist due to behavior.
* *Unconscious Level:* Psychoanalytic psychologists believe some events and feelings are unacceptable to our conscious mind and are repressed into the unconscious mind.

**SLEEP**

**Sleep Cycle**

*Circadian Rhythm:* The pattern our metabolic and thought processes follow during a 24-hour day.

*Sleep Cycle:* Our typical pattern of sleep that is recorded by using an EEG machine.

*Sleep Onset:* The period when we are falling asleep. This is the stage between wakefulness and sleep. We might experience mind hallucinations before actually falling asleep and entering stage 1.

While we are awake in stages 1 and 2, our brains produce high frequency, low-amplitude, theta waves. Theta waves get progressively slower and higher in amplitude as we go through stages 1 and 2. In stage 2, the EEG shows short bursts of rapid brain waves. We then move into stages 3 and 4, called Delta sleep. Delta sleep is important to replenish the body’s chemicals, releasing growth hormones in children, and fortifying our immune system.

After a period of time in delta sleep, we begin to drift back up to stage 1. But when we reach stage 1, our brain produces intense activity with muscle twitches and rapid eye movement (REM). REM sleep deprivation interferes with memory. Someone deprived of REM sleep will experience REM rebound – experiencing more and longer periods of REM. The more stress experienced throughout the day, the longer our REM periods will be. We cycle through these 90-minute stages about 4-7 times a night.

**Sleep Disorders**

* *Insomnia:* Persistent problems getting to sleep or staying asleep. Usually treated with the reduction of caffeine or other stimulants, exercise at appropriate times, and maintaining a constant sleep pattern. It is very common and affects 10 percent of the population.
* *Narcolepsy:* Suddenly falling into REM sleep at random times during the day. It can be treated with medication and a change in sleep patterns. It affects 0.001 percent of the population.
* *Sleep Apnea*: Causes a person to stop breathing for a period time while sleeping then makes them wake up slightly to grasp for air. Overweight men are at a higher risk. It can be treated with a respiration machine. I can occur as commonly as insomnia.
* *Night Terrors:* They usually affect children and it makes them scream and run around in their room as they sleep.
* *Somnambulism:* Sleep walking. It occurs in the first few hours of the night in stage 4

**DREAMS**

*Sigmund Freud*’s psychoanalytic theory emphasized dream interpretation as a method to uncover the repressed information in the unconscious mind.

*Manifest Content:* The literal content of our dreams.

*Latent Content:* Unconscious meaning of the manifest content.

*Activation-synthesis theory:*  Looks at dreams first as biological phenomena.

*Information-Processing Theory:* States that the function of REM sleep is to integrate the information processed during the day into our memories.

**HYPNOSIS**

*Posthypnotic Amnesia*: Forgetting what happened while hypnotized.

*Posthypnotic Suggestion:* A suggestion that a hypnotized person behave in a certain way after they are brought out of hypnosis.

*Role Theory*: States that hypnosis is not an altered state of consciousness but people are acting out the role of a hypnotized person because that is what is expected of their role. IT also points out that some people are more easily hypnotized then others, a characteristic called *hypnotic suggestibility.* People with high hypnotic suggestibility tend to have richer fantasy lives and follow directions well.

*State Theory:* We seem more or less aware of our environments under hypnosis. It points out that hypnosis meets some parts of the definition for an altered state of consciousness.

*Dissociation Theory (Ernest Hilgard):* States that hypnosis causes us to divide our consciousness voluntarily. One part of our consciousness responds to the suggestions of the hypnotist, while another part retains awareness of reality.

**DRUGS**

*Psychoactive Drugs:* Chemicals that change the chemistry of the brain and induce an altered state of consciousness.

*Blood-Brain Barrier:* Thick walls surrounding the brain’s blood vessels that protect the brain from harmful chemicals. But, psychoactive drugs have molecules that are small enough to pass through the barrier by using *agonists* or *antagonists.* Agonists mimic neurotransmitter receptor sites and antagonists block neurotransmitter receptor sites.

Drugs gradually alter the natural levels of neurotransmitters in the brain, which causes *tolerance.* Tolerance is a physiological change that produces the need for moreof the same drug in order to achieve the same effect. This eventually causes *withdrawal* in users.

There are four main categories of drugs:

* *Stimulants* – Caffeine, cocaine, amphetamines, and nicotine are examples of stimulants. They speed up body processes, including heart and respiration.
* *Depressants* – Alcohol, barbiturates, and anxiolytics like Valium are common depressants. Depressants slow down body processes.
* *Hallucinogens –* LSD, peyote, psilocybin mushrooms, and marijuana are common hallucinogens. They cause changes in perception of reality. It stays in the body for weeks and it is called *reverse tolerance* when you take a second dose on top of the lingering amount.
* *Opiates:* Morphine, heroin, methadone, and codeine all derive from the poppy plant. They are powerful painkillers and mood elevators.

Chapter 6: Learning

**CLASSIC CONDITIONING**

Russian psychologist *Ivan Pavlov* discovered the principle of *classic conditioning* when he caused a dog to salivate when it heard a specific sound. *Classic conditioning* is how people and animals can learn to associate neural stimuli with stimuli that produce reflective, involuntary responses and will learn to respond stimulus as they did to the old one.

*Unconditioned Stimulus (US):* Something that elicits a natural, reflexive response.

*Unconditioned Response (UR):* Natural response to stimulus.

*Conditioned Stimulus (CS):* Stimulus that elicits a CR through repeated pairings of a US with a UR.

*Conditioned Response (CR):* Conditioned response to stimulus through repeated pairings of a US with a UR.

*Acquisition:* Learning where animals respond to the CS without presentation of the US.

The order and timing of the CS and US pairings have an impact on the strength of the conditioning. The most effective method is to present the CS first, then introduce the US as the CS is still evident. This is known as *delayed conditioning.* Less effective methods include:

* *Trace Condition –* The presentation of the CS, followed by a short break, followed by the presentation of the US.
* *Simultaneous Condition –* CS and US are present at the same time.
* *Backward Conditioning –* The US is presented first and is followed by the CS. This method is particularly ineffective.

*Extinction*: The process of unlearning a behavior by repeatedly presenting the CS without the US.

*Spontaneous Recovery:* When a response briefly appears upon presentation of the conditioned stimulus after extinction.

*Generalization:* The tendency to respond to a similar CS.

*John Watson* and *Rosalie Rayner* proved that classical conditioning works on humans by conducting an experiment on a boy to make him fear white rats. This is called *aversive conditioning.*

*Second order (Higher order) conditioning:* To use a CS as a US in order to condition a response to a new stimulus.

**Biology and Classical Conditioning**

Animals and humans are biologically prepared to make certain connections more easily than others.

*Taste Aversions*: If you ingest an unusual food or drink and become nauseous, you will develop an aversion to that food or drink. The Food must be *salient* in order for us to learn it. Salient stimuli are easily noticeable and therefore create a more powerful conditioned response.

*John Garcia* and *Robert Koelling*

**OPERANT CONDITIONING**

*Operant Conditioning:* Learning based on the association with consequences on one’s behavior. *Edward Thorndike* researched this by using a cat in a puzzle box.

*Law of Effect*: Thorndike put this law forth that describes that if the consequences of a behavior are pleasant, the stimulus-response connection will strengthen. But if the consequences of a behavior are unpleasant, the stimulus-response connection will weaken. He called this *instrumental learning.*

*B.F. Skinner* coined the term operant conditioning and invented the *Skinner box*. A skinner box usually has a way to deliver food to an animal by pressing a lever, etc.

*Reinforcer:* The food (positive stimulus)

*Reinforcement:* The process of giving food.

*Positive Reinforcement:* The addition to something pleasant.

*Negative Reinforcement:* The removal of something unpleasant.

*Escape Learning:* Allows one to stop an aversive stimulus.

*Avoidance Learning:* Makes one avoid the unpleasant stimulus altogether.

*Punishment:* Anything that makes a behavior less likely.

*Positive Punishment:* The addition of something unpleasant.

*Negative Punishment (omission training):* The removal of something pleasant.

**Punishment Versus Reinforcement**

*Shaping:* Reinforcing the steps used to reach the desired behavior.

*Chaining:* When a subject is taught to perform a number of responses successively to get a reward.

*Primary Reinforcers:* Basic rewards such as food.

*Secondary Reinforcers:* Things we have learned to value.

*Generalized Reinforcer:* A type of secondary reinforcer that can be traded for virtually anything (ex. Money).

*Token Economy:* A practical application of generalized reinforcements where people receive a token they can trade for a variety of reinforcers by performing a desired behavior.

*Premack Principle*: Whichever of the two activities is preferred can be used to reinforce the activity that is not preferred.

**Reinforcement Schedules**

*Continuous Reinforcement:* Rewarding a new behavior each time it is performed.

*Partial-reinforcement effect:* When a new behavior is not rewarded every time. This makes the behavior more resistant to extinction.

*Fixed Ratio (FR) Schedule:* Provides reinforcement after a set number of responses.

*Variable Ratio (VR) Schedule:* Provides reinforcement after an average number of responses.

*Fixed Interval (FI) Schedule:* Requires a certain amount of time to pass before a behavior is performed to get a reward.

*Variable Interval (VI) Schedule:* Provides reinforcement after the behavior is performed after an average of a set amount of time.

Variable schedules are more resistant to extinction than fixed schedules.

**Biology and Operant Conditioning**

Researchers have found that animals will not perform behavior that goes against their natural inclinations. For instance, rats will not walk backward. The tendency for animals to forgo rewards to pursue their typical patterns of behavior is called *instinctive drift.*

**COGNITIVE LEARNING**

Skinner asserted that learning occurs without thought. Cognitive theorists argue that classical and operant conditioning have a cognitive component.

**The Contingency Model of Classical Conditioning**

*Continuity Model:* The Pavlovian model of classical conditioning that states that the more times that two things are paired, the greater the learning that will take place.

*Robert Rescorla* revisedthe contiguity model into the *contingency model* that stated that A is contingent upon B when A depends on B and vice-versa*.*

Cognitive Theorists have described additional kinds of learning:

* Observational Learning: Also known as *Modeling,* is when an animal or person learns a behavior by watching it being performed. *Albert Bandura* formulated the social-learning theory, which stated that this learning can only take place between members of the same species.
* Latent Learning: Latent learning was studies intensively by *Edward Tolman* and is learning that becomes obvious only once reinforcement is given for demonstrating it.
* Abstract Learning: Understanding concepts such as *tree or same* rather than learning simply to press a bar to secure a reward. For instance, pigeons have been taught to peck pictures of chairs or specific shapes. This suggests that pigeons can understand concepts and are not simply forming S-R connections, as Thorndike and Skinner had argued.
* Insight Learning: *Wolfgang Köhler* is well known for his studies of *insight learning* on chimpanzees. Insight learning occurs when one suddenly realizes how to solve a problem.

Chapter 7: Cognition

**MODELS OF MEMORY**

**Three-Box/Information-Processing Model**

This model proposes the three stages that information passes through before it is stores. External events are first processed by our sensory memory. Then some information is encoded into our short-term memory. Some of that information is then encoded into our long-term memory.

SENSORY MEMORY

Sensory memory is the split-second holding tank for incoming sensory information. *George Sperling* conducted an experiment, which flashed a grid of letters for 1/20 of a second. The participants could recall any three rows perfectly.

*Iconic Memory:* A split-second perfect photograph of a scene.

*Echoic Memory:* 3-4 second memory of sounds.

*Selective Attention:* Determines what memories get encoded into short-term memory.

SHORT-TERM/WORKING MEMORY

Short-term memory are the memories we are currently working with and are aware of in our consciousness. They usually fade in 10-30 seconds if we do noting with them. *George Miller* conducted an experiment that proved that our short-term memory is limited to 7 items on average. But this number can be expanded by a process called *chunking.*

*Mnemonic Devices:* A memory aid that is an example of chunking.

*Rehearse:* Using repetition to hold information in short-term memory.

LONG-TERM MEMORY

Long-term memory is permanent storage for information. Long-term memory can be stored in three different formats:

* *Episodic Memory:* Memories of specific events, stored in a sequential series of events.
* *Semantic Memory:* General knowledge of the world, stored as facts or categories.
* *Procedural Memory:* Memories of skills and how to perform them.

*Explicit Memories:* Conscious memories of facts or events we actively tried to remember.

*Implicit Memories:* Unintentional memories we may not realize we have.

*Eidetic Memory:* Photographic memory studied by psychologist *Alexandra Luria.*

**Levels of Processing Model**

This theory explains why we remember what we do by examining how deeply the memory was processed or thought about. They are *deeply (elaborately)* or *shallowly (maintenance) processed.*

**RETRIEVAL**

*Recognition:* The process of matching a current event with one already in memory.

*Recall:* Retrieving a memory with an external cue.

*Hermann Ebbinghaus* established that the order of items on a list relates to whether or not we will recall them.

*Primacy Effect:* We are more likely to recall the items at the beginning of a list.

*Recency Effect:* We are more likely to recall items at the end of a list.

*Serial Position Effect (Serial Position Curve):* The Primacy and Regency effects combined.

*Tip-of-the-tongue-phenomenon:* Temporary inability to remember information.

*Semantic Network Theory:* States that our brain might form new memories by connecting their meaning and context with meanings already in memory.

*Flashbulb Memories:* When we list traits to gradually retrieve a memory. They can sometimes be inaccurate.

*Mood-congruent memory:* The greater likelihood of recalling an item when our mood matched the mood we were in what the event happened.

*State-Dependent Memory:* Recalling events encoded while in particular states of consciousness (ex. drowsy).

**CONSTRUCTIVE MEMORY**

A *constructed* *memory* can report false details of a real event that never occurred.

**FORGETTING**

One cause of forgetting is decay, forgetting because we do not use a memory for a long period of time.

*Relearning Effect:* It takes less time to memorize something again.

*Interference:* When other information in memory competes with what you are trying to recall.

*Retroactive Interference:* Learning new information interferes with the recall of older information.

*Proactive Interference:* Older information learned previously interferes with the recall of information learned more recently.

**HOW MEMORIES ARE PHYSICALLY STORED IN THE BRAIN**

By studying patient with hippocampus damage, we can conclude that the hippocampus is important in encoding new memories.

*Anterograde Amnesia*: When a patient cannot encode new memories.

*Long-term Potentiation:* A process where neurons strengthen their connection with one another through repeated firings.

**LANGUAGE**

**Elements of Language**

*Phoneme:* Smallest unit of sound used in a language. English speakers use approximately 44 phonemes.

*Morpheme:* Smallest unit of a meaningful sound (a, but, an-, pre-, etc.)

*Syntax:* The grammar of a language.

**Language Acquisition**

*Babbling Stage*: A stage of language acquisition that babies go through that represents experimentation with phonemes. As this progresses, some phonemes are kept and some are forgotten.

*Holophrastic Stage (One-Word Stage):* The second stage of language acquisition where babies imitate the sounds of there caregivers to produce utterances of words.

*Telegraphic Speech (Two-Word Stage)*: The Third Stage of language acquisition where toddlers form simple commands.

*Overgeneralization* and *Overregularization:* The misapplication of grammar rules.

Behaviorists argue that language acquisition like other behavior: through operant conditioning and shaping. Cognitive psychologists challenge this theory and researcher *Noam Chomsky* theorized that humans are born with a *language acquisition device*, the ability to learn a language rapidly as children.

**Language and Cognition**

*Benjamin Whorf* theorized that language might control, and in some ways limit, or thinking. This theory is called the *linguistic relativity hypothesis*.

**THINKING AND CREATIVITY**

**Describing Thought**

*Concepts*: Cognitive rules we apply to stimuli form our environment that allows us to categorize and think about objects, people, and ideas we encounter.

*Prototypes:* What we think is the most typical example of a particular concept.

*Images*: Mental pictures we create in our minds of the outside world. (All senses)

**Problem Solving**

ALGORITHMS

An *algorithm* is a way to solve a problem by trying every possible solution by using a formula or other foolproof method.

HEURISTICS

*Heuristic:* A rules that is generally, but not always, true that we can use to make a judgment in a situation. The following are two specific examples of heuristics:

* *Availability Heuristic:* Judging situations based on examples of similar situations that come to the mind initially. This heuristic might lead to incorrect conclusions due to variability in personal experience.
* *Representativeness Heuristic:* Judging situations based on how similar the aspects are to prototypes the person holds in his or her mind.

*Belief Bias:* Occurs when we make illogical conclusions in order to confirm our preexisting beliefs.

*Belief Perseverance:* Refers to our tendency to maintain a belief even after the evidence we used to form the belief is contradicted.

IMPEDIMENTS TO PROBLEM SOLVING

*Rigidity (Mental Set):* The tendency to fall into established thought patterns. This prevents people from seeing a novel solution.

*Functional Fixedness:* The inability to see a new use for an object.

*Confirmation Bias:* We tend to look for evidence that confirms our beliefs and ignore evidence that contradicts what we think is true.

*Framing*: The way a problem is presented.

**Creativity**

Researchers investigating creative thinking find little correlation between intelligence and creativity.

*Convergent Thinking:* Thinking pointed toward one solution.

*Divergent Thinking:* Thinking that searchers for multiple possible answers. This is more closely related to creativity.

Chapter 8: Motivation and Emotion

**THEORIES OF MOTIVATION**

**Drive Reduction Theory**

*Drive Reduction Theory* states that our behavior is motivated by our biological needs. A drive is our impulse to act in a way that satisfies this need. Our body seeks *homeostasis,* a balanced internal state.

*Primary Drives:* Biological needs.

*Secondary Drives:* Learned drives, such as money.

This theory does not explain all motivations.

**Arousal Theory**

*Arousal Theory* states that we seek an optimum level of excitement or arousal.

*Yerkes-Dodson Law:* We might perform well at an easy task with a high level of arousal, but the same level of arousal would prevent us form performing well on a difficult task.

*Opponent Process Theory of Motivation:* States that people are at a normal, *baseline* state. We might perform an act that moves us from our baseline state but we will eventually feel an *opponent process,* the motivation to return to our baseline.

**Incentive Theory**

*Incentives:* Stimuli we are drawn to due to learning.

States that motivation is driven by the desire for a reward.

**Maslow’s Hierarchy of Needs**

*Abraham Maslow* created the *Hierarchy of Needs* that predicts which needs we will be motivated to satisfy first.

**HUNGER MOTIVATION**

**Biological Basis of Hunger**

The hypothalamus monitors and helps to control body chemistry and makes us feel hungry when we need to eat. When the *Lateral* hypothalamus is stimulated, it causes an animal to eat. When it is destroyed, an animal will starve to death if not forced to eat. Also, when the *ventromedial* hypothalamus is stimulated, it will cause an animal to stop eating. If it is destroyed, the animal will eat more and gain weight. These two areas oppose each other and send impulses to eat and stop eating at appropriate times.

*Set-Point Theory:* States that the hypothalamus wants to maintain a certain optimum body weight. When we drop below that weight, the hypothalamus tells us we should eat and lowers our *metabolic rate*.

**Psychological Factors in Hunger Motivation**

*Externals:* A person motivated to eat by external food cues, such as attractiveness and availability of food.

*Internals:* A person who is motivated to eat by internal hunger cues.

We are most likely to find foods we are raised with more appetizing. We usually prefer foods our family, region, and culture prefer.

**Eating Disorders**

The following are the three most common eating disorders:

* *Bulimia:* Bulimics eat large amounts of food (binging) and then get rid of the food (purging) by vomiting, exercise, etc. Bulimics are obsessed with food and their weight. The majority or bulimics are women.
* *Anorexia Nervosa:* Anorexics starve themselves below 85% of their normal body weight and refuse to eat. The vast majority of anorexics are women.
* *Obesity*: People who are obese are severely overweight and the excess weight threatens their health. Some people may be genetically predisposed to obesity.

**SEXUAL MOTIVATION**

**Sexual Response Cycle**

*William Masters* and *Virginia Johnson* documented the sexual response cycle in men and women. Our sexual response cycle goes through four stages:

1. Initial Excitement: Genital areas become engorged with blood, penis becomes erect, clitoris swells, respiration and heart rate increase.
2. Plateau Phase: Respiration and heart rate continue at an elevated level.
3. Orgasm: Rhythmic genital contractions, males ejaculate.
4. Resolution Phase: Respiration and heart rate return to normal resting states, men experience refractory period.

**Psychological Factors in Sexual Motivation**

Sexual desires can be present even after the ability to have sex is lost, proving that these desires are psychological.

**Sexual Orientation**

Studies show that homosexuality is not related to traumatic childhood experiences, parenting styles, relationships with parents, masculinity or femininity, or homosexual parents. Research indicates that specific parts of the brain differ in size in homosexuals and twin studies indicate that if one is homosexual, the changes of the other one being homosexual are high.

**SOCIAL MOTIVATION**

**Achievement Motivation**

Achievement motivation examines our desires to master complex tasks and knowledge and reach personal goals. Studies that measure achievement motivation do indicate a higher than average achievement motivation in some people.

**Extrinsic/Intrinsic Motivation**

*Extrinsic Motivation:* Rewards we get for accomplishments from outside ourselves.

*Intrinsic Motivation:* Rewards we get internally, such as enjoyment or satisfaction.

Studies show that extrinsic motivations are advantageous for a short period of time but intrinsic motivations are more advantageous altogether.

**Management Theory**

*Theory X:* Managers believe that employees will work only if rewarded with benefits or threatened with punishment.

*Theory Y:* Managers believe that employees are internally motivated to do good work and policies should encourage internal motive.

Cross-Cultural studies show the benefits from moving from a theory X attitude to a theory Y attitude.

**When Motives Conflict**

Psychologists discuss four major types of motivational conflicts:

* *Approach-Approach Conflict:* When you must choose between two desirable outcomes.
* *Avoidance-Avoidance* *Conflict:* When you must choose between two unattractive outcomes.
* *Approach-Avoidance Conflict:* When one event or goal has both attractive and unattractive features.
* *Multiple Approach-Avoidance Conflicts:* When you must choose from two or more things, each of which having attractive and unattractive features.

**THEORIES ABOUT EMOTION**

**James-Lange Versus Cannon-Bard**

*William James* and *Carl Lange* put forth the theory that we feel emotions because of biological changes caused by stress.

*Walter Cannon* and *Phillip Bard* theorized that the biological change and the cognitive awareness of the emotional state occur simultaneously. Cannon believed that when the thalamus receives information about our environment, it sends signals to our cortex and out autonomic nervous system. Research shows that many other structures, such as the amygdala, are involved.

**Two-Factor Theory**

*Stanley Schachter* put forth the *two-factor theory* that states that our physical responses and mental interpretations combine to cause any particular emotional response. He also showed that people who are already physiologically aroused experience more intense emotions then people who aren’t.

**NONVERBAL EXPRESIONS OF EMOTION**

Research shows that the ways we express emotion nonverbally (facial expressions, etc.) are universal, regardless of the culture.

**STRESS**

*Stressors:* Certain life events that cause stress.

*Stress Reactions:* Our reactions to stress.

**Measuring Stress**

*Thomas Holmes* and *Richard Rahe* designed the social readjustment rating scale (SRRS), which measures stress using life-changing units (LCUs). Any major life changes increase the score on a SRRS. A positive event counts for as many or more LCUs than a negative event. Other researchers have designed more sophisticated measures of stress taking into account the individuals perception of an event.

**Seyle’s General Adaptation Syndrome**

*Hans Seyle’s general adaptation syndrome (GAS)* describes the general response animals and humans have to stressful events. The GAS theory describes the following stages:

1. *Alarm Reaction:* Heart rate increases; blood is diverted from other organs to muscles needed to react. The organism readies itself to meet the challenge through activation of the sympathetic nervous system.
2. *Resistance:* The body remains physiologically ready. Hormones are released to maintain this state. If the resistance stage lasts too long, the body can deplete its resources.
3. *Exhaustion:* The parasympathetic nervous system returns the body back to normal and we become more vulnerable to disease in this state.

Stress can lead to some forms of ulcers and heart conditions, and emotional difficulty, such as depression.

**Perceived Control**

Studies show that perceived lack of control over events exacerbates the harmful effects of stress.

Chapter 9: Developmental Psychology

*Nature:* Genetic factors.

*Nurture:* Environmental factors.

**RESEARCH METHODS**

*Cross-Sectional Studies:* Uses participants of different ages to determine how certain variables may change over the life span.

*Longitudinal Studies:* Takes place over a long period of time, IT studies a group of participants over a long period of time.

**PRENATAL INFLUENCES ON DEVELOPMENT**

**Genetics**

Researchers look at identical twins to determine which traits are most influenced by genetic factors.

**Teratogens**

*Teratogens:* Certain chemicals or agents that cause harm if ingests or contracted by the mother. The most common is alcohol.

*Fetal Alcohol Syndrome (FAS):* An effect of heavily drinking during pregnancy that causes small, malformed skulls and mental retardation.

*Fetal Alcohol Effect:* An effect of moderately drinking during pregnancy that causes developmental problems later in life, such as learning disabilities or behavioral problems.

**MOTOR/SENSORY DEVELOPMENT**

**Reflexes**

Early Philosophers and psychologists believed that humans are born as blank states without any skills or reflexes. We now know that babies exhibit a set of specific reflexes:

* *Rooting Reflex:* When touched on the check, a baby will turn his or her head to the side where it was touched to try to put the object in its mouth.
* *Sucking Reflex:* When an object is placed into a baby’s mouth, the infant will suck on it.
* *Grasping Reflex:* If an object is placed into a baby’s palm or footpad, the baby will try to grasp the object with its fingers or toes.
* *Moro Reflex:* When startled, a baby will fling its limbs out and then quickly retract them, making the baby as small as possible.
* *Babinski Reflex:* When a baby’s foot is stroked, he or she will spread the toes.

**The Newborn’s Senses**

Babies have the ability to hear before birth and will turn its head towards its mother’s voice. Babies can only see 8-12 inches in front of them at birth. Babies are born with visual preferences such as face like objects.

**Motor Development**

Our motor control develops as neurons in our brain connect with one another and become *myelinated.* Babies can roll over at 5-1/2 months, stand at 8-9 months, and walk by themselves at 15 months.

**PARENTING**

**Attachment Theory**

*Konrad Lorenz* established that some infant animals become attached to infants or objects they see during the critical period after birth.

*Attachment:* The reciprocal relationship between caregiver and child.

*Harry Harlow* did an experiment on monkeys that prove that monkeys raised by the wire frame mothers became more stressed than monkeys raised with real mothers when placed into new situations.

*Mary Ainsworth* observed infants when their parents placed them alone for a short period and returned. The reactions were divided into three broad categories:

* *Secure Attachments (66%):* Explore the environment when parents are present, are distressed when they leave, and come to the parents when they return.
* *Avoidant Attachments (21%):* Resist being held by parents and explore the environment. They do not go to the parents for comfort when they return after an absence.
* Anxious/Ambivalent Attachments (12%): They show extreme stress when the parents leave but resist being comforted by them when they return.

**Parenting Styles**

*Diana Baumrind* researched parent-child interactions and described three overall categories of parenting styles:

* *Authoritarian Parents:* Set strict standards for their child’s behavior and apply punishments for violations of these rules without explanation or discussion. Children are more likely to distrust others and be separated from their peers.
* *Permissive Parents:* They do not have clear guidelines for their children. Family members may perceive that they can get away with anything at home. Children from permissive homes are more likely to have emotional control problems and are more dependent.
* *Authoritative Parents:* They set consistent standards for their children’s behavior but the standards are reasonable and explained. Children from authoritative homes have higher academic averages and are more sociable.

**STAGE THEORIES**

*Continuity vs. Discontinuity:* Whether we develop continually from birth to death or of it happen in fits or starts with periods of rapid development.

We know our biological growth is discontinuous, but our thought and behavior growth is more confusing. Several theorists conclude that we pass through certain stages in the development of certain psychological traits.

**Sigmund Freud**

*Sigmund Freud* theorized that we pass through 4 psychosexual stages. Freud said we could be *fixated* in one of these stages, making us preoccupied with the behaviors in associate with that stage. The stages are as follows:

* *Oral Stage:* Babies seek pleasure through their mouths and Freud theorized that if we get fixated in this stage we might overeat, smoke, and have childlike dependence on things and people.
* *Anal Stage:* This stage develops during toilet training, if one is fixated in this stage, one might be retentive or expulsive.
* *Phallic Stage:* Babies realize there gender and this causes conflict in the family. Freud said that boys go though the *Oedipus complex*, when boys resent their father’s relationship with their mother. For girls, this is called the *Electra complex.* Fixation in this stage causes relationship problems.
* *Latency Stage:* A period of calm between the ages of 6 and puberty. Sexual feelings are pushed out of conscious awareness.
* *Genital Stage:* The stage where people remain for the rest of their lives, the focus of sexual pleasure is the genitals.

**Erik Erikson**

*Erik Erikson* was a *Neo-Freudian* theorist that created the *psychosocial stage theory.* It consists of eight stages, each stage centering on a specific social conflict:

* *Trust Versus Mistrust:* Babies learn whether or not they can trust that the world provides for their needs.
* *Autonomy Versus Shame and Doubt:* Toddlers begin to exert their will over their own bodies for the first time. Toddlers learn potty training and controlling their temper in this stage.
* *Initiative Versus Guilt:* We feel a natural curiosity about our surroundings. If this initiative is encouraged, we will be comfortable asking questions in the future. If it is scolded, we will feel guilty about asking questions.
* *Industry Versus Inferiority:* This happens around preschool and first grade. If we do as well as our peers, we feel competent. If we feel inferior, we will have an *inferiority complex.*
* *Identity Versus Role Confusion:* Our main social task is to discover what social identity we are most comfortable with. We might try out different roles in this stage. Conflict in this stage may lead to an *identity crisis* later in life.
* *Intimacy Versus Isolation:* Young adults who established stable identities must figure out how to balance their ties and efforts between work and relationships with other people.
* *Generativity Versus Stagnation:* We start looking critically at our life path and we might try to seize control of our lives and ensure that things go as planned.
* *Integrity Versus Despair:* Toward the end of life, we look back at our accomplishments and decide if we are satisfied with them or not.

**COGNITIVE DEVELOPMENT**

**Jean Piaget**

While working for *Alfred Binet,* the creator of the first intelligence test, Piaget noticed that children gave similar answers to some questions, even though they may be wrong. This lead to her theory of cognitive development. Piaget described that children view the world through schemata, cognitive rules we use to interpret the world.

*Assimilation:* The process of incorporating our experiences into existing schema. Sometimes, information does not fit in to or violets our schemata, so we must accommodate and change our schemata.

Piaget theorized that our thinking progresses through four stages:

1. *Sensorimotor Stage (<2 years old):* Babies begin experiencing the world strictly through their senses and begin to develop their first cognitive schemata that explain the world we are experiencing through our senses. Babies also learn *object permanence* in this stage.
2. *Preoperational Stage (2-7 years old):* Children begin to use symbols to represent real-world objects and use this to learn language. In this stage, children are limited in the ways they can think about relationships between objects. Also, children in this stage are *Egocentric,* meaning that they cannot look at the world from anyone’s perspective but their own.
3. *Concrete Operations (8-12 years old):* Children learn to think more logically about the complex relationships between different characteristics of objects. Children also learn the *concepts of conservation*, the realization that the properties of objects remain the same even when there shapes change, etc.,in this stage.
4. *Formal Operations (12-adulthood):* In this stage, we can manipulate objects and contrast ideas in our minds without physically seeing them. *Hypothesis testing* is an example of abstract reasoning. Also in this stage we learn *metacognition*, the ability to think about the way we think. We can trace our thought processes and evaluate the effectiveness of how we solved a problem.

**Criticisms of Piaget: Information-Processing Model**

Most developmental psychologists agree that Piaget underestimated children and that they go through the stages faster than Piaget predicted.

*Information-processing model:* A more continuous alternative to Piaget’s theory. This points out that our abilities to memorize, interpret, and perceive gradually develop as we age rather than developing in distinct stages.

**MORAL DEVELOPMENT**

**Laurence Kohlberg**

Kohlberg’s stage theory showed that our ability to reason about ethical situations changes over our lives. He used the Heinz dilemma, which describes a man names Heinz making a moral choice about weather to steal a drug to save his wife’s life. The responses were placed into three levels:

* *Preconventional –* The youngest children’s reasoning was limited to how it affected themselves to avoid punishment. They chose not to steal the drug to stay out of trouble.
* *Conventional –* Children in this stage were able to see the situation from other points of view. They might say that Heinz should steal the drug to save his wife so that others would see him as a hero.
* *Postconventional –* In this stage, the morality of societal rules are examined and one might say the Heinz should steal the drug because his wife’s right to live outweighs the store owner’s right to personal property.

**Criticisms of Kohlberg**

*Carol Gilligan* pointed out the Kohlberg’s test was more based on boys and she theorized that the way that boys and girls come to moral conclusions in incorrect. She stated that boys have a more absolute view that works applies in every context while girls pay attention to situational factors and relationships of the people before making a decision. Recent research does not support this theory.

|  |  |  |  |
| --- | --- | --- | --- |
| **Freud’s Psychosexual Stages** | **Erikson’s Psychosocial Stages** | **Piaget’s Cognitive Development Stages** | **Kohlberg’s Moral Development Stages** |
| Oral Stage | Trust versus mistrust | Sensorimotor | Preconventional |
| Anal Stage | Autonomy versus shame/doubt | Preoperational |  |
| Phallic Stage | Initiative versus guilt |  |  |
| Latency Stage | Industry versus inferiority | Concrete operations | Conventional |
| Genital Stage | Identity versus role confusion | Formal operations | Postconventional |
|  | Intimacy versus isolation |  |  |
|  | Generativity versus stagnation |  |  |
|  | Integrity versus despair |  |  |

**GENDER AND DEVELOPMENT**

Theories:

* *Biopsychological (neuropsychological) Theory:* Biopsychologists look for the subtle gender differences. One of the most significant findings is that woman have a larger corpus callosum than men. This may affect how to left and right hemispheres communicate and coordinate tasks.
* *Psychodynamic Theory:* Freud viewed gender development as a competition. Young boys unconsciously compete with their father for their mother’s love and young girls do the same with their father. Proper gender development occurs when the child realizes he cannot beat their same-sex parent.
* *Social Cognitive Theory:* Social and cognitive psychologists concentrate on the effects of our own society and our own thoughts about gender have on role development. Cognitive psychologists focus on the internal interpretations we make about the gender message we get from our environment.
* *Gender Schema Theory:* Explains that we internalize messages about gender into cognitive rules about how each gender should behave.

Chapter 10: Personality

**Overview**

*Personality*: Defined as the unique attitudes, behaviors, and emotions that characterize a person.

*Type A Personality*: People that feel a sense of time pressure, are easily angered, competitive, ambitious, and work hard. They are at a higher risk for heart disease than the general population.

*Type B Personality*: People who are relaxed and easygoing.

\* Some people fall into neither types

**PSYCHOANALYTIC THEORY**

**Freudian Theory**

*\*See Chapter 9 in Stage Theories*

*Sigmund Freud* believed that a region of the mind called the *unconscious* controls people’s behavior. He believed that we do not have access to the thoughts in our unconscious and we spend tremendous amounts of psychic energy to keep threatening thoughts in the unconscious.

*Preconscious:* Contains everything that we could potentially summon to conscious awareness with ease.

*Conscious:* Everything we are thinking about at any one moment.

Freud posted that personality contains three parts: the *id, ego, and superego.*

*Id:* The id is in the unconscious and contains instincts and psychic energy. Instincts are divided into *Eros* (Life Instincts) and *Thanatos* (Death Instincts). *Libido* is the energy that drives life instincts. Eros is often evidenced as a desire for sex and Thanatos is seen in aggression. The *id* is propelled by the *pleasure principle*; it wants immediate gratification.

*Ego:* The second part of the personality that develops, it follows that *reality principle,* which means its job is to negotiate between the desires of the id and the limitations of the environment. It is partly in the conscious mind and partly in the unconscious mind. Often, the ego acts as a mediator for the id and superego.

*Superego:* The last part of the personality to develop, it operates on both the conscious and unconscious level. It develops around five and begin to think about what is right and wrong.

The ego uses a variety of defense mechanisms to protect the conscious mind from threatening thoughts in the unconscious:

* *Repression*: Blocking thoughts out from conscious awareness.
* *Denial*:Not accepting the ego-threatening truth.
* *Displacement*: Redirecting one’s feeling toward another person or object. People often displace negative emotions onto people who are less threatening than the source of the emotion.
* *Projection*: Believing that the feelings one has toward someone else are actually held by the other person and directed at oneself.
* *Reaction Formation*:Expressing the opposite of how one truly feels.
* *Regression:* Returning to an earlier, comforting form of behavior.
* *Rationalization*: Coming up with a beneficial result of an undesirable occurrence.
* *Intellectualization*: Undertaking an academic, unemotional study of a topic.
* *Sublimation*: Channeling one’s frustration toward a different goal. Sublimation is viewed as a particularly healthy defense mechanism.

**Criticisms of Freud**

Verifying the existence of things such as the unconscious and Thanatos is difficult, if not impossible. Freudian theory has little predictive power. Psychoanalytic theory is also criticized for overestimating the importance of early childhood and sex. Feminists find much of Freudian theory, such as penis envy, to be unreasonable.

**PSYCHODYNAMIC THEORIES (Neo-Freudian Approaches)**

*Carl Jung* proposed that the unconscious consists of two different parts: The *personal unconscious* andthe *collective unconscious.*

*Personal Unconscious:* Contains the painful or threatening memories and thoughts the person does not wish to confront. He termed these *complexes*.

*Collective Unconscious:* It contains *Archetypes,* a universal concept we all share as part of the human species. Such as a fear of the dark.

*Alfred Adler* believed that people are motivated by the fear of failure, which he termed *inferiority*, and the desire to achieve, which he called *superiority.* Adler is also known for his work about the importance of birth order in shaping personality.

**TRAIT THEORIES**

*Nomothetic:* The approach that believes the same basic set of traits can be used to describe all people’s personalities.

*Hans Eyesenck* believed that we could classify all people along an introversion-extroversion scale and a stable-unstable scale.

*Raymond Cattell* developed the 16 PF (Personality Factor) test to measure what he believed were the 16 basic traits present in all people.

Recently, *Paul Costa* and *Robert McCrae* proposed that personality can be described using the *big five* personality traits: extraversion, agreeableness, conscientiousness, openness to experience, and emotional stability (or neuroticism).

*Factor Analysis*: A statistical technique used to reduce the factors to 5 or 16 traits by using correlation between traits in order to see which traits cluster together as factors.

*Idiographic Theorists:* Believe that it is impossible to classify all people with a set of traits, but that each person has a certain amount of different traits.

*Gordon Allport* believed that a full understanding of one’s personality was impossible without looking at their personal traits. Allport differentiated between three different types of personality traits:

* *Cardinal Dispositions:* One trait that plays a pivotal role in virtually everything they do.
* *Central Dispositions:* Have a larger influence than secondary dispositions. They are more often apparent and describe more significant aspects of personality.
* *Secondary Dispositions:* Has a smaller influence than central and cardinal dispositions.

**BIOLOGICAL THEORIES**

*Heritability*: The measure of the amount of variation in a trait in a given population that is due to genetics. Little evidence exists for the heritability of specific personality traits. The heritability of height is 90% while it is 50-70% for intelligence. A lot of evidence exists that a child’s *temperament* is heritable and this is thought to influence the child’s personality as they grow.

In a very early theory, *Hippocrates* believed that four fluids in the body defined personality: blood, yellow bile, black bile, and phlegm.

*William Sheldon’s somatotype theory:* This theory stated that there are three body types: endomorphs (fat), mesomorphs (muscular), and ectomorphs (thin). He believed that certain personality traits were associated with each body type. Sheldon argued that ectomorphs are shy and secretive, mesomorphs are confident and assertive, and endomorphs are friendly and outgoing.

**BEHAVIORIST THEORIES**

Behaviorists believe that behavior is personality meaning it is determined by the environment and reinforcement. Behaviorists believe that changing people’s environment can alter personalities. However, radical behaviorists are criticized for failing to recognize the importance of cognition.

**SOCIAL-COGNITIVE THEORIES**

* *Albert Bandura* suggested that personality is created by the interaction of the person, environment, and person’s behavior. His model is based on *triadic reciprocity*, meaning that each of these factors influence the other two in a loop-alike fashion. He also posited that personality is affected by people’s self-efficiency, the optimism of one’s own ability.
* *George Kelly* proposed the *personal-construct theory* of personality. This means that people attempt to understand the world with there own personal constructs and this influences their personality. This is based on *fundamental postulate*, which states that people’s behavior is influenced by their cognitions and we can predict how people will behave by how they have in the past.
* *Julian Rotter’s* concept of the *locus of control* states that people can have an internal or external locus of control and this affects people’s personality. An internal locus of control means someone who feels they are responsible for what happens to them while someone with an external locus of control believes that luck and other forces determines what happens to them.

**HUMANISTIC THEORIES**

Humanistic theories of personality view people as innately good and are able to determine their destinies through free will. It focuses on the importance of one’s *self-concept* and *self-esteem.*

**ASSESSMENT TECHNIQUES**

*Projective tests* are used by psychoanalysts and involve asking people to describe ambiguous stimuli such as the *inkblot test*. These tests are seen as unreliable as it relies on the therapist’s interpretations. *Self-Report inventories* are questionnaires that ask people to provide information about them. Radical behaviorists believe that the only way to test personality is by watching one’s behavior.

Chapter 11: Testing and Individual Differences

**STANDARDIZATION AND NORMS**

*Standardized:* The test items have been piloted on a similar population of people as those meant to take the test.

*Psychometrician:* Someone who makes the tests.

Test questions that no one can answer and questions that everyone can are discarded. For example the SAT has questions arranged in difficulty determined by the performance of the standardized sample, making the test equivalent to everyone.

**RELIABILITY AND VALIDITY**

*Split-Half Reliability:* Randomly dividing the test into half and correlating peoples’ performances on both halves.

*Equivalent-form reliability:* The correlation between different forms of the same test.

*Test-Retest Reliability:* The correlation between the original score and the same person’s score of a subsequent administration of the same test.

*Face Validity:* A superficial measure of how valid the test is for a specific skill.

*Content Validity:* How well a measure reflects the entire range of material it is supposed to be testing.

*Criterion-Related Validity:* There are two types of this validity, *concurrent* and *predictive. Concurrent Validity* measures how much of a characteristic a person has now. *Predictive Validity* measures future performance.

*Construct Validity:* The correlation between a valid independent measure and the subject’s answers. However, it is difficult to create a perfectly valid measure.

**TYPES OF TESTS**

*Aptitude Tests:* Test that measures ability or potential.

*Achievement Tests:* Test that measures what one has learned or accomplished.

*Speed Tests:* A large amount of questions given in an insufficient amount of time to test how quickly one can solve problems.

*Power Tests:* Used to gauge the difficulty level of problem’s one can solve. The subject is given sufficient time to complete difficult questions.

*Group Tests:* Tests administered to a large group of people at a time with minimal interaction between the experimenter and subject. This type of test is less expensive and more objective.

*Individual Tests:* A test done on an individual with greater interaction between the examiner and examinee.

**THEORIES OF INTELLIGENCE**

*Fluid Intelligence:* Ability to solve abstract problems and pick up new information and skills.

*Crystallized Intelligence*: Using knowledge accumulated over time.

Fluid intelligence seems to decrease as adults age and research shows that crystallized intelligence holds steady or may even increase.

* **Charles Spearman –** Argues that intelligence could be expressed by a single factor, which he named *g* for general.
* **Howard Gardner –** Suggested the idea of *multiple intelligences*. These intelligences included linguistic, logical-mathematical, spatial, musical (ability to play an instrument), bodily-kinesthetic (physical intelligence), intrapersonal (ability to understand oneself), and naturalist (recognizing and organizing things found in the environment) intelligence.
* **Daniel Goleman –** Suggested *emotional intelligence* (EQ)
* **Robert Sternberg –** Suggested *Triarchic Theory,* stating that intelligence is split into three parts, componential or analytic intelligence, experiential or creative intelligence, and contextual or practical intelligence.

**INTELLIGENCE TESTS**

* *Alfred Binet* created an intelligence test to identify which children needed special attention in schools. He came up with the concept of *mental age*, an idea that supposes intelligence increases as one gets older.
* *Louis Lerman* created a measure we call IQ with a test known as the *Stanford-Binet IQ Test*. Dividing the persons mental age by their chronological age and multiplying it by 100 compute a person’s IQ. He also assigned all adults an arbitrary age of 20.
* *David Wechsler* created three intelligence tests, the *Wechsler Adult intelligence scale, Wechsler intelligence scale for children(6-16),* and the *Wechsler preschool and primary scale of intelligence(4-5).* These tests yield IQ scores based on what is known as a *deviation IQ*. The tests are standardized so the mean is 100 and the standard deviation is 15

The Stanford-Binet IQ test yields a single IQ score while the WAIS has eleven subscales that measure different areas of intelligence.

**BIAS IN TESTING**

Much discussion has centered on whether widely used IQ tests are biased toward certain people groups or sexes.

**NATURE VERSUS NURTURE: INTELLIGENCE**

A lot of research has been put into weather intelligence comes from genetics or from the environment one is surrounded by. Many researchers have studied this issue and some of the findings are presented below:

* Performances on intelligence tests have been steadily increasing throughout the century, a finding known as the *Flynn effect.* This suggests that environmental factors play a role in intelligence.
* Identical twins score more similarly on intelligence tests than fraternal twins, suggesting that intelligence may come from genes.
* Identical twins separated at birth also have strong correlations in intelligence but this may be because they were placed into similar environments.
* It has shown that African-Americans tend to score 10-15 points lower than do the whites but this has been argued to be caused by greater poverty level in those populations rather than genetics.

Chapter 12: Abnormal Psychology

**DEFINING ABNORMALITY**

Common characteristics of abnormality include:

* It is harmful and/or disturbing to the individual.
* It is disturbing to others.
* It is unusual in a population.
* It is irrational; it does not make sense to the average person.

The word *insane* is not a medical term.

Psychologists use the *Diagnostic Statistical* *Manual of Mental Disorders (DSM)* to determine weather or not an individual has a psychological disorder. The latest edition is the *DSM-IV-TR.* It does not have any causes or treatments for disorders. A psychologist assesses the client on the following 5 axes:

* Axis 1 – *Clinical Disorders:* It is generally what we think as the client’s major diagnosis. Examples include depression, anxiety, and paranoid schizophrenia.
* Axis 2 – *Personality and Developmental Disorders*: Maladaptive, long-term ways a person has of interacting with the world. Most developmental disorders emerge during childhood. Examples include antisocial disorders, mental retardation, and autism.
* Axis 3 – *Medical Conditions:* It is clear that physical and mental health are related so psychologists note any physical ailments that could impact a person’s psychological well-being.
* Axis 4 – *Psychosocial Conditions:* Environmental factors that may affect a person’s mental health. Experiences such as divorce, lass of a job, or starting a new school can be stressful for people.
* Axis 5 – *Global Assessment of Functioning*: Psychologists use the global assessment of functioning scale (GAF) that yields a number form 1 to 100.

**CATEGORIES OF DISORDERS**

|  |  |
| --- | --- |
| **Perspective** | **Cause of Disorder** |
| Psychoanalytic/Psychodynamic | Internal, unconscious conflicts |
| Humanistic | Failure to strive toward one’s potential or being out of touch with one’s feelings |
| Behavioral | Reinforcement history, the environment |
| Cognitive | Irrational, dysfunctional thoughts or ways of thinking |
| Sociocultural | Dysfunctional society |
| Biomedical | Organic problems, biomedical imbalances, genetic predispositions |

**Anxiety Disorders**

There are five types of anxiety disorders:

1. *Phobias*: A simple or specific phobia is an intense or unwarranted fear of a situation or object. Examples include claustrophobia, arachnophobia, and social phobias.
2. *Generalized Anxiety Disorder:* Causes the individual to experience a constant, low-level anxiety.
3. *Panic Disorder:* Causes the individual to suffer from acute episodes of intense anxiety without any apparent provocation.
4. *Obsessive-Compulsive Disorder:* Causes persistent, unwanted thoughts to cause someone to feel the need to engage in a particular action.
5. *Posttraumatic Stress Disorder:* Involves flashbacks or nightmares following a person’s involvement in or observation of an extremely troubling event.

THEORIES ABOUT THE CAUSE OF ANXIETY DISORDERS

Psychoanalytic: Believe that they are caused by unresolved, unconscious conflicts between the desires of the id, ego, and superego. Anxiety disorders could be the outward manifestation of this conflict.

Behaviorists: Believe that all behaviors are learned through classical conditioning, operant conditioning, or cognitive learning.

Cognitive: Believe that they are the result of dysfunctional ways of thinking.

**Somatoform Disorders**

Somatoform disorders occur when a person manifests a psychological problem through a physiological symptom. In other words, it is when a person experiences a physical problem without a physical cause. Two examples include *hypochondriasis* and *conversion disorder*.

THEORIES ABOUT THE CAUSE OF SOMATOFORM DISORDERS

Psychodynamic: Would assert that they are merely outward manifestations of unresolved unconscious conflicts.

Behaviorists: Would say that people with somatoform disorders are being reinforced for their behavior.

**Dissociative Disorders**

Dissociative disorders involve disruption in conscious processes. Psychogenic amnesia, fugue, and dissociative identity disorder (DID) are examples of dissociative disorders. *Psychogenic amnesia* is when a person cannot remember things and no physiological basis can be found. *Organic Amnesia* is biologically induced amnesia. *Fugue* is when a person suffers from amnesia and also cannot remember the environment they are in. *DID,* formerly known as multiple personality disorder, is when a person has multiple personalities and often two of them will oppose each other. People with DID commonly have a history of childhood abuse or trauma.

THEORIES ABOUT THE CAUSE OF DISSOCIATIVE DISORDERS

Psychoanalytic: Believe that an extremely traumatic event has been so thoroughly repressed that a split in consciousness results.

Behaviorists: Believe that people who have experienced trauma simply learn that not thinking about the event is rewarding, causing amnesia or DID in extreme cases.

**Mood or Affective Disorders**

Mood disorders cause extreme or inappropriate emotions. *Major depressive disorder (unipolar depression)* is the most common example and causes long periods of unhappiness. *Seasonal affective disorder* is depression at certain times of the year and is cured with light therapy. *Bipolar disorder* is another example that causes both depressed and maniac episodes. *Dysthymic disorder* has symptoms similar to major depressive disorder but the symptoms are less intense.

THEORIES ABOUT THE CAUSE OF MOOD DISORDERS

Psychoanalysis: View depression as the product of anger directed inward, loss during the early psychosexual stages, or an overly punitive superego.

Learning theorists believe it brings out reinforcement such as attention or sympathy.

Cognitive: *Aaron Beck* believes that depression is caused by unreasonably negative ideas that people have of themselves, their world, and their futures (*cognitive triad*).

Cognitive-Behavioral: *Martin Seligman* put forth the idea of *learned helplessness*. If one learns that they have a lack of ability to control their fate, they will become depressed.

Biological: Low levels of the transmitters serotonin or norepinephrine may cause depression. It has also shown that it may be a part of one’s genealogy

**Schizophrenic Disorders**

*Schizophrenia*: Causes disordered, distorted thinking often demonstrated through delusions and/or hallucinations.

*Delusions:* Beliefs that have no basis in reality. There are two types of delusions, delusions of persecution (Belief that people are out to get you) and grandeur (Belief that you enjoy greater power and influence than you do).

*Hallucinations:* Perceptions in the absence of sensory stimulation.

There are four types of schizophrenia:

* *Disorganized Schizophrenia*: Causes one to make up their own words (*neologisms*) or string together a series of nonsense words that rhyme (*clang association*). They also may act inappropriately (*inappropriate affect*) or have no emotional response (*flat affect*).
* *Paranoid Schizophrenia*: The belief that others are trying to hurt you
* *Catatonic Schizophrenia*:Makes one engage in odd movements such as remaining motionless in strange postures for hours or move jerkily and quickly for no reason.
* *Undifferentiated Schizophrenia*: Disordered thinking but no symptoms of one of the other types of schizophrenia.

*Positive symptoms* refer to excess behavior, thought, or mood. *Negative symptoms* refer to correspond to deficits such as flat affect or catatonia.

THEORIES ABOUT THE CAUSE OF SCHIZOPHRENIC DISORDERS

*Dopamine Hypothesis:* The basic idea the high levels of dopamine seem to be associated with schizophrenia. *Antipsychotic drugs* result in lower dopamine levels that decrease disordered thought and behavior but cause muscle tremors and stiffness, a problem known as *tardive dyskinesia.* *Parkinson’s disease* is the result of low dopamine levels and is treated with L-dopa.

Biological: Enlarged brain ventricles and brain asymmetries are associated with schizophrenia. A number of genes identified seem to play a role and there is a 1 in 2 chance of one twin getting it if another has it.

Cognitive-Behavioral: Believe that a cause of schizophrenia may be *double binds.* A double blind is when a person gives contradictory messages and people who live in environments with conflicting messages may develop distorted ways of thinking.

*Diathesis-stress Model:* The idea that environmental stressors can provide the circumstances under which a biological predisposition for illness can express itself.

**Personality Disorders**

Personality disorders are well-established, maladaptive ways of behaving that negatively affect people’s ability to function. There are many different personality disorders:

* *Antisocial Personality Disorder:* People with it have little regard for other’s feelings. They view the world as a hostile place.
* *Dependent Personality Disorder:* People with it rely too much on the attention and help of others.
* *Paranoid Personality Disorder:* Makes one feel persecuted.
* *Narcissistic Personality Disorder:* Involves seeing oneself as the center of the universe.
* *Histrionic Personality Disorder:* Causes overly dramatic behavior.
* *Obsessive-Compulsive Personality Disorder*: Makes one be overly concerned with certain thoughts or performing certain behaviors.

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| **Categories of Disorder** | **Major Symptoms** | **Examples** |
| Anxiety Disorders | Anxiety – autonomic arousal, nervousness | Phobias, GAD, PTSD, OCD |
| Somatoform Disorders | Physical complaints without any organic cause | Conversion disorder, hypochondriasis |
| Dissociative Disorders | Disruption in consciousness | DID, psychogenic amnesia |
| Affective Disorders | Disturbances in mood | Major depressive disorder, bipolar disorder |
| Schizophrenic Disorders | Delusions, Hallucinations | Disorganized, paranoid, catatonic, undifferentiated |
| Personality Disorders | Maladaptive ways of behaving | Antisocial, narcissistic, obsessive |

**Other Examples of Psychological Disorders**

*Paraphilias* or *Psychosexual Disorders:* A sexual attraction to an object, person, or activity not usually seen as sexual.

*Substance Use Disorder:* Regular use of a substance that negatively affects one’s life.

*Substance Dependence:* When a person’s life is disturbed by the use of a chemical substance and who is unable to cut down on his or her use.

*Autism:* A developmental disorder that causes less social and emotional contact with other children. They are also slow to develop language skills and are less likely to seek out parental support when distressed.

*Attention Deficit/Hyperactivity Disorder (ADHD):* A child with ADHD may have difficulty paying attention and sitting still.

Chapter 13: Treatment of Psychological Disorders

**HISTORY**

In many early cultures, the mentally ill were seen as being possessed by evil spirits. Skulls were found with holes in them and researchers theorized that it was an early form of treatment known as *trephining.* The Hippocrates lived in ancient Greece around 500 BC and the Galen who lived in Rome in 200 BC believed that they were caused by biological factors and could be treated. Europeans in the Middle Ages returned to the belief that demons were the cause and persecution resulted. The Enlightenment treated victims of mental illness in a more humanely way. The people leading this were Philippe Pinel in France and Dorothea Dix from the United States.

Following the development of drugs that can moderate the effects of severe mental illnesses in the 1950s, many people began to be *deinstitutionalized.* In the United States, a lot have focus has been put on *preventative efforts,* the prevention of psychological problems before they become severe. Preventative efforts can be describes as primary, secondary, or tertiary. *Primary prevention* attempts to reduce societal problems, such as homelessness or joblessness, which can cause mental illness. *Secondary Prevention* is working with people at-risk for mental illness such as after a trauma such as a natural disaster. *Tertiary prevention* efforts aim to keep current mental health issues from becoming more severe.

**TYPES OF THERAPY**

*Psychotherapy:* A method of treatment used by psychoanalytic, humanistic, behavioral, and cognitive psychologists that involves talking to a therapist.

*Somatic Treatments:* A biomedical model of treatment that involves the use of drugs to treat mental illnesses.

**Psychoanalytic Therapy**

*Psychoanalysis*: A therapeutic technique developed by *Sigmund Freud*. A patient will lie on a couch while the therapist usually sits on a chair out of the patient’s line of vision.

Psychoanalytic theorists view disorders as unconscious conflicts and believe that other methods only can rid a particular symptom but does not address the true problem. This often results in *symptom substitution* and it can only be cured through analysis, which is and lengthy and expensive course of therapy. Freud developed the following techniques to analyze patients:

* *Hypnosis:* To put a patient in an altered state of consciousness where it is believed that people are less likely to repress troubling thoughts.
* *Free Associate:* To say whatever comes to mind, which is believed to reveal clues about what is really bothering us by eluding the ego’s defense.
* *Dream Analysis:* A therapist asks his patient to describe their dreams since the ego’s defenses are relaxed during sleep.

All of these techniques heavily rely on the therapist’s interpretations of the *latent* or hidden content.

*Resistance:* When patients disagree with their therapist’s interpretations.

*Transparence:* When a patient redirects his/her own feelings such as love or hatred onto their therapist.

*Psychodynamic Theorists:* Psychologists who have been influenced by Freud’s work but have significantly modified his original theory.

*Insight Therapies:* Highlight the importance of the patients/clients gaining an understanding of their problems.

**Humanistic Therapies**

Humanistic therapists focus on striving to *self-actualize* and exercise *free will*. *Carl Rogers* was a well-known humanistic therapist who created *client-centered therapy* which hinges on providing the client *unconditional positive regard.* Unconditional positive regard is the blanket acceptance and support of a person regardless of what the person does.

Humanistic therapies are *non-directive*, meaning the therapist allows for the client to make their own decisions and the therapist often talks very little. *Active Listening* iswhen a therapist encourages a client to talk about how they feel and sometimes mirror those feelings.

*Gestalt Therapy:* Developed by *Fritz Perls*, Gestalt psychologists emphasize the importance of the whole. They encourage their clients to explore feelings they were not aware of and emphasize the importance of minute actions.

*Existential Therapies:* Humanistic therapies that focus on helping clients have a meaningful perception of their lives and they see clients as having lost a sense of their lives’ purpose.

**Behavioral Therapies**

*Counterconditioning:* A kind of classical conditioning developed by Mary Cover Jones in which an unpleasant conditioned response is replaced with a pleasant one.

*Systematic Desensitization:* Teaching a client to replace feelings of anxiety with relaxation then constructing an *anxiety hierarchy,* which is an ordered list of what a client fears.

*In Vivo Desensitization:* When a client confronts the actual object or situation.

*Covert Desensitization:* When a client imagines fear-inducing stimuli.

*Flooding:* When a client experiences the most frightening scenario first, and when nothing bad happens as a result, the fear is *extinguished.*

*Modeling:* Extinguishing a fear by observing and imitating the behavior of another.

**Cognitive Therapies**

Cognitive therapists attribute psychological problems to the way we think and they try to change these unhealthy thought patterns.

*Cognitive Therapy:* Created by *Aaron Beck,* is involved in the treatment of depression and involves try to get clients to engage in pursuits that will bring them success.

*Cognitive Triad:* People’s beliefs about themselves, their worlds, and their futures.

**Cognitive Behavioral Therapies**

*Rational Emotive Behavior Therapy:* A method of therapy used to expose and confront dysfunctional thoughts of clients.

**Group Therapy**

*Family Therapy*: A method of therapy that involves addressing the entire family in order to reveal the patterns of interactions between family members and to altar the behavior of the whole family rather than just one member.

*Self Help Groups:* A method of therapy that does not involve a therapist and it involves meeting with a number of people experiencing similar difficulties.

**Somatic Therapies**

*Psychopharmacology (Chemotherapy):* Drugs used to treat many kinds of psychological problems.

*Antipsychotic Drugs:* Drugs such as *Thorazine or Haldol* that treat schizophrenia by blocking the receptor sites for dopamine. However, the side effect of it is *tardive dyskinesia,* which are Parkinson-like muscle tremors.

*Tricyclic antidepressants, monoamine oxidase inhibitors,* and *serotonin-reuptake-inhibitor* drugs treat unipolar depression. They tend to increase the activity of serotonin and *Lithium* is often used to treat the maniac phase of bipolar disorder.

*Barbiturates and Benzodiazepines*: Depress the activity of the central nervous system to treat anxiety and make people feel more relaxed.

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| **Type of Disorder** | **Type of Drug(s)** |
| Anxiety Disorder | Barbiturates, Benzodiazepines |
| Unipolar Depression | Monoamine Oxidase (MAO) inhibitors, tricyclic antidepressants, serotonin-reuptake-inhibitors. |
| Bipolar Disorder | Lithium |
| Schizophrenia | Antipsychotics (Neuroleptics) |

*Electroconvulsive Therapy (ECT):* A less common therapy where an electric current is passed through the hemispheres of the brain. The negative side effects include seizures and loss of memory. It is only used for severe cases of depression after other methods have failed.

*Psychosurgery*: The rarest method of treatment that involves the purposeful destruction of a part of the brain to alter a person’s behavior.

**Eclectic Therapies**

Eclectic therapies are combinations of therapies used to treat a patient. Cognitive-behavioral therapies can be effective for anxiety and mood disorders. Somatic-Cognitive talk therapy is a very common therapy used for mood and other disorders.

**KINDS OF THERAPISTS**

* *Psychiatrists:* Medical doctors that are permitted to prescribe medication who favor a biomedical model of mental illness and are often less extensively trained in psychotherapy.
* *Clinical Psychologists:* They earn doctoral degrees (Ph.D.’s) that require four or more years of study and usually deal with people who are suffering from problems more severe than everyday difficulties
* *Counseling Therapists:* Typically have some kind of graduate degree in psychology and they generally help people whose problems are less severe than those of a clinical psychologist.
* *Psychoanalysts:* People specifically trained in Freudian methods and they may or may not have a degree.

Chapter 14: Social Psychology

**ATTITUDE FORMATION AND CHANGE**

*Attitude:* A set of beliefs and feelings.

*Mere Exposure Affect*: States that the more someone is exposed to something, the more one will come to like it. This is commonly used in advertising.

*Central Route:* Deeply processing the content of the message.

*Peripheral Route:* Involves other aspects if the message including the characteristics of the person imparting the message (communicator).

**THE RELATIONSHIP BETWEEN ATTITUDES AND BEHAVIOR**

Studies have shown the relationship between attitudes and behavior can be distant.

*Cognitive Dissonance Theory:* The idea that one’s attitude can be changed by one’s behavior. It is based on the idea that people are motivated to have consistent attitudes and behaviors and experience unpleasant mental tension or dissonance when they do not.

*Leon Festinger* and *James Carlsmith* conducted an experiment whereparticipant performed a boring task and some were given 1$ and some $20. They were both asked to lie and tell the next subject that they enjoyed the task. The subjects who had been paid $1 enjoyed the task more than those who were paid $20. This was because the $20 group lied only for the money while the 1$ group lacked sufficient motivation to lie and had to change their attitudes toward the experiment to reduce dissonance.

**COMPLIANCE STRATEGIES**

*Compliance Strategies:* Strategies used to get others to comply with one’s wishes.

*Foot-in-the-Door:* A phenomenon that suggests that if you can get someone to comply with a small request, they will become more likely to agree with a larger follow up request.

*Door-in-the-Face*: A phenomenon which suggests that after people refuse a large request, the will look more favorably to a smaller follow-up request.

*Norms of Reciprocity:* People tend to think when someone does something nice for them, they ought to do something nice back.

**ATTRIBUTION THEORY**

*Attribution Theory:* Tries to explain how people determine the cause of what they observe. There are six types of attributions:

Charley got a perfect score on a test, one may think -

* *Dispositional (Person):* He is good at math.
* *Situation:* Situational factor; the test was easy.
* *Stable (Person):* Charley was always good at math
* *Unstable (Person):* He studied a lot for this one test.
* *Stable (Situation):* His teacher is always an easy tester.
* *Unstable (Situation):* His teacher gave one easy test.

*Harold Kelly* put forth a theory that explains the kind of attributions people make based on three kinds of information:

* *Consistency:* How similarly the individual acts in the same situation over time.
* *Distinctiveness:* How similar this situation is to other situations we have seen the individual.
* *Consensus:* How others in the same situation responded.

*Self-Fulfilling Prophecy:* The expectations we have about others that influences how one acts toward another person.

*Robert Rosenthal* and *Lenore Jacobson’s* “Pygmalion in the Classroom” experiment randomly selected student and told their teachers that they were geniuses. At the end of the school year, it was shown that they yielded higher results.

**Attributional Biases**

*Fundamental Attribution Error:* When people look at the behavior of others, people tend to overestimate the importance of dispositional factors and underestimate the role of situational factors. It is shown that people in *collectivist* cultures make less of these errors.

*False-Consensus Effect:* The tendency to overestimate the number of people who agree with them.

*Self-Serving Bias:* The tendency to take more credit for good outcomes than bad ones.

*Just-World Bias:* A bias toward thinking bad things happen to bad people and good things happen to good people.

**STEREOTYPES, PREJUDICE, AND DISCRIMINATION**

*Stereotypes:* Negative or positive ides about what members of different groups are like.

*Prejudice:* Undeserved, usually negative attitude toward a group of people.

*Ethnocentrism:* The belief that one’s culture is superior to others.

*Discrimination:* When one acts on one’s prejudices.

*Out-Group Homogeneity:* When people tend to see members of their own group (*in-group*) as more diverse than members of other groups (*out-groups*).

*In-Group Bias:* A preference for members of one’s own group that is thought to stem from peoples belief that they themselves are good meaning people like them also are.

**Origin of Stereotypes and Prejudice**

Some psychologists believe that people naturally magnify differences between groups as a function of the cognitive process of categorization. Social learning theorists believe that stereotypes and prejudice are often learned through modeling.

**Combating Prejudice**

*Contact Theory:* Suggests that contact between hostile groups can be reduced if they work toward a common goal (*Superordinate Goal*).

*Muzafer Sherif* conducted a camp study where he split the camp into two groups creating prejudices against each other then extinguished the prejudice by making the groups work toward a common goal.

**AGGRESSION AND ANTISOCIAL BEHAVIOR**

Psychologists distinguish between two types of aggression:

* *Instrumental Aggression:* When an aggressive act is intended to secure an end.
* *Hostile Aggression:* An aggressive act with no clear purpose.

Freud suggested that *Thanatos*, the death instinct, causes aggression. Sociobiologists believe aggression is adaptive under certain circumstances.

*Frustration-Aggression Hypothesis:* A hypothesis that suggests that he feeling of frustration makes aggression more likely.

**PROSOCIAL BEHAVIOR**

*Bystander Intervention:* The conditions under which people nearby are more and less likely to help someone in trouble.

*Diffusion of Responsibility:* The larger the group of people who witness a problem, the less responsible anyone feels to help.

*Pluralistic Ignorance:* When people decide what constitutes appropriate behavior in a situation by looking to others.

**ATTRACTION**

It has shown that we like others with the following characteristics:

* *Similarity:* People who share common attitudes, backgrounds, and interests.
* *Proximity:* The greater exposure one has to another.
* *Reciprocal Thinking:* People who return our positive feelings.

It has also shown that people are also attracted to people that are physically attractive as it makes one seem to have positive attributes.

*Self-disclosure:* When one shares a piece of personal information with another.

**THE INFLUENCE OF OTHER ON AN INDIVIDUALS BEHAVIOR**

*Social Facilitation:* When the presence of others improves performance.

*Social Impairment:* When the presence of others hinders performance when the task is observed as being difficult.

*Conformity:* The tendency of people to go along with the ideas of others.

*Solomon Asch* conducted an experiment where a participant an two confederated were asked questions. The participant was always last to answer and 70% of people conformed on at least one of the trials.

*Obedience studies* such as the famous *Milgram* shock experiment proved a participants willingness to do what another asks them to do. It showed when people could see the confederate they shocked less and when there were confederates in the room that objected the number of participants who quit skyrocketed.

**GROUP DYNAMICS**

*Social Loafing:* When individuals do not put in as much effort in a group as they would alone. Being a part of a group encourages members to take advantage of the rewards given without taxing themselves.

*Group Polarization:* The tendency for groups to make more extreme decisions than group members would have made individually.

*Groupthink:* The tendency for some groups to make bad decisions when group members suppress their ideas to support the ideas of the group.

*Deindividuation:* Things people would have never done on their own because loss of self-restraint caused by the feeling of anonymity in a group.

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| **Experimenter** | **Topic** | **Major Finding** |
| LaPiere | Attitudes | Attitudes don’t predict behavior (Chinese couple experiment) |
| Festinger and Carlsmith | Cognitive Dissonance | Changing one’s behavior can change one’s attitude (Boring task experiment) |
| Rosenthal and Jacobson | Self-Fulfilling Prophecy | One person’s attitude can elicit a change in another person’s behavior (Fake IQ tests given to teacher experiment) |
| Sherif | Superordinate Goals | Intergroup prejudice can be reduced by working toward common goals (Camp Experiment) |
| Darley and Latane | Bystander Effect | The more people that witness an emergency, the less likely one in to help (Fake seizure experiment) |
| Asch | Conformity | People don’t like to contradict opinions of a group (group testing experiment with confederates) |
| Milgram | Obedience | People tend to obey authority figures (Shock Experiment) |
| Zimbardo | Roles, Deindividuation | Roles are powerful and can lead to deindividuation (prison Experiment) |

*Phillip Zimbardo’s* prison experiment had students pretend to be guards and prisoners and the guards took too their roles to well, forcing the experiment to end early because of cruel treatment toward the prisoners.