

AP Psychology

Review Material for the AP Exam

2016-2017 School Year

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Students,

The following packet of material was compiled to assist you in reviewing for the above mentioned exams. It is in no way all inclusive of the content of the class, but is designed to assist you in reviewing the material and identifying areas of mastery as well as those where more work is needed. For web-based resources and videos, please check out the exam review portion of my website (<http://cwdunn.weebly.com/exam-review.html>).

I also have a detailed outline for the whole course (roughly 80 pages). I can give you a digital copy if you would like, but due to its length, I cannot make copies for everyone, and many of you have stated you liked the flow of this booklet better. If you are interested, please let me know and I will give you one.

I would recommend taking a hard look at the breakdown of the practice test you took to help you start your review process and see what areas you feel you need to review the most. Once you get started, use the checklist found early in this packet to check things off once you have fully mastered them. This will prevent you from spending too much time on material you know, and allow you to focus more on what you are struggling with. Be sure to go back occasionally and skim through the stuff you checked off to keep it fresh in your mind, but don't dwell on the things you know.

The content of the packet has been compiled from 12 years of teaching AP Psychology and gathering comments from students after the AP Exams, discussing things with other AP teachers on what their students struggled with, and talking with teachers that score AP exams and what they feel would help students. If you find any additional resources that would be beneficial, please share them with me so I can add them to the packet in the future as well as with your classmates this year.

Good Luck,

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AP PSYCHOLOGY STANDARDS CHECK-LIST

I. History and Approaches (2–4%)

- _____ • Recognize how philosophical perspectives shaped the development of psychological thought.
- _____ • Describe and compare different theoretical approaches in explaining behavior:
 - structuralism, functionalism, and behaviorism in the early years;
 - Gestalt, psychoanalytic/psychodynamic, and humanism emerging later;
 - evolutionary, biological, and cognitive as more contemporary approaches.
- _____ • Recognize the strengths and limitations of applying theories to explain behavior.
- _____ • Distinguish the different domains of psychology:
 - biological, clinical, cognitive, counseling, developmental, educational, experimental, human factors, industrial–organizational, personality, psychometric, and social.
- _____ • Identify the major historical figures in psychology (e.g., Mary Whiton Calkins, Charles Darwin, Dorothea Dix, Sigmund Freud, G. Stanley Hall, William James, Ivan Pavlov, Jean Piaget, Carl Rogers, B. F. Skinner, Margaret Floy Washburn, John B. Watson, Wilhelm Wundt).

II. Research Methods (8–10%)

- _____ • Differentiate types of research (e.g., experiments, correlational studies, survey research, naturalistic observations, and case studies) with regard to purpose, strengths, and weaknesses.
- _____ • Describe how research design drives the reasonable conclusions that can be drawn (e.g., experiments are useful for determining cause and effect; the use of experimental controls reduces alternative explanations).
- _____ • Identify independent, dependent, confounding, and control variables in experimental designs.
- _____ • Distinguish between random assignment of participants to conditions in experiments and random selection of participants, primarily in correlational studies and surveys.
- _____ • Predict the validity of behavioral explanations based on the quality of research design (e.g., confounding variables limit confidence in research conclusions).
- _____ • Distinguish the purposes of descriptive statistics and inferential statistics.
- _____ • Apply basic descriptive statistical concepts, including interpreting and constructing graphs and calculating simple descriptive statistics (e.g., measures of central tendency, standard deviation).
- _____ • Discuss the value of reliance on operational definitions and measurement in behavioral research.
- _____ • Identify how ethical issues inform and constrain research practices.
- _____ • Describe how ethical and legal guidelines (e.g., those provided by the American Psychological Association, federal regulations, local institutional review boards) protect research participants and promote sound ethical practice.

III. Biological Bases of Behavior (8–10%)

- _____ • Identify basic processes and systems in the biological bases of behavior, including parts of the neuron and the process of transmission of a signal between neurons.

AP PSYCHOLOGY STANDARDS CHECK-LIST

- _____ • Discuss the influence of drugs on neurotransmitters (e.g., reuptake mechanisms).
- _____ • Discuss the effect of the endocrine system on behavior.
- _____ • Describe the nervous system and its subdivisions and functions:
 - central and peripheral nervous systems;
 - major brain regions, lobes, and cortical areas;
 - brain lateralization and hemispheric specialization.
- _____ • Recount historic and contemporary research strategies and technologies that support research (e.g., case studies, split-brain research, imaging techniques).
- _____ • Discuss psychology's abiding interest in how heredity, environment, and evolution work together to shape behavior.
- _____ • Predict how traits and behavior can be selected for their adaptive value.
- _____ • Identify key contributors (e.g., Paul Broca, Charles Darwin, Michael Gazzaniga, Roger Sperry, Carl Wernicke).

IV. Sensation and Perception (6–8%)

- _____ • Discuss basic principles of sensory transduction, including absolute threshold, difference threshold, signal detection, and sensory adaptation.
- _____ • Describe sensory processes (e.g., hearing, vision, touch, taste, smell, vestibular, kinesthesia, pain), including the specific nature of energy transduction, relevant anatomical structures, and specialized pathways in the brain for each of the senses.
- _____ • Explain common sensory disorders (e.g., visual and hearing impairments).
- _____ • Describe general principles of organizing and integrating sensation to promote stable awareness of the external world (e.g., Gestalt principles, depth perception).
- _____ • Discuss how experience and culture can influence perceptual processes (e.g., perceptual set, context effects).
- _____ • Explain the role of top-down processing in producing vulnerability to illusion.
- _____ • Discuss the role of attention in behavior.
- _____ • Challenge common beliefs in parapsychological phenomena.
- _____ • Identify the major historical figures in sensation and perception (e.g., Gustav Fechner, David Hubel, Ernst Weber, Torsten Wiesel).

V. States of Consciousness (2–4%)

- _____ • Describe various states of consciousness and their impact on behavior.
- _____ • Discuss aspects of sleep and dreaming:
 - stages and characteristics of the sleep cycle
 - theories of sleep and dreaming;
 - symptoms and treatments of sleep disorders.
- _____ • Describe historic and contemporary uses of hypnosis (e.g., pain control, psychotherapy).

AP PSYCHOLOGY STANDARDS CHECK-LIST

- _____ • Explain hypnotic phenomena (e.g., suggestibility, dissociation).
- _____ • Identify the major psychoactive drug categories (e.g., depressants, stimulants) and classify specific drugs, including their psychological and physiological effects.
- _____ • Discuss drug dependence, addiction, tolerance, and withdrawal.
- _____ • Identify the major figures in consciousness research (e.g., William James, Sigmund Freud, Ernest Hilgard).

VI. Learning (7–9%)

- _____ • Distinguish general differences between principles of classical conditioning, operant conditioning, and observational learning (e.g., contingencies).
- _____ • Describe basic classical conditioning phenomena, such as acquisition, extinction, spontaneous recovery, generalization, discrimination, and higher-order learning.
- _____ • Predict the effects of operant conditioning (e.g., positive reinforcement, negative reinforcement, punishment, schedules of reinforcement).
- _____ • Predict how practice, schedules of reinforcement, and motivation will influence quality of learning.
- _____ • Interpret graphs that exhibit the results of learning experiments.
- _____ • Provide examples of how biological constraints create learning predispositions.
- _____ • Describe the essential characteristics of insight learning, latent learning, and social learning.
- _____ • Apply learning principles to explain emotional learning, taste aversion, superstitious behavior, and learned helplessness.
- _____ • Suggest how behavior modification, biofeedback, coping strategies, and selfcontrol can be used to address behavioral problems.
- _____ • Identify key contributors in the psychology of learning (e.g., Albert Bandura, John Garcia, Ivan Pavlov, Robert Rescorla, B. F. Skinner, Edward Thorndike, Edward Tolman, John B. Watson).

VII. Cognition (8–10%)

- _____ • Compare and contrast various cognitive processes:
 - effortful versus automatic processing;
 - deep versus shallow processing;
 - focused versus divided attention.
- _____ • Describe and differentiate psychological and physiological systems of memory (e.g., short-term memory, procedural memory).
- _____ • Outline the principles that underlie effective encoding, storage, and construction of memories.
- _____ • Describe strategies for memory improvement.
- _____ • Synthesize how biological, cognitive, and cultural factors converge to facilitate acquisition, development, and use of language.

AP PSYCHOLOGY STANDARDS CHECK-LIST

- _____ • Identify problem-solving strategies as well as factors that influence their effectiveness.
- _____ • List the characteristics of creative thought and creative thinkers.
- _____ • Identify key contributors in cognitive psychology (e.g., Noam Chomsky, Hermann Ebbinghaus, Wolfgang Köhler, Elizabeth Loftus, George A. Miller).

VIII. Motivation and Emotion (6–8%)

- _____ • Identify and apply basic motivational concepts to understand the behavior of humans and other animals (e.g., instincts, incentives, intrinsic versus extrinsic motivation).
- _____ • Discuss the biological underpinnings of motivation, including needs, drives, and homeostasis.
- _____ • Compare and contrast motivational theories (e.g., drive reduction theory, arousal theory, general adaptation theory), including the strengths and weaknesses of each.
- _____ • Describe classic research findings in specific motivation systems (e.g., eating, sex, social)
- _____ • Discuss theories of stress and the effects of stress on psychological and physical well-being.
- _____ • Compare and contrast major theories of emotion (e.g., James–Lange, Cannon–Bard, Schachter two-factor theory).
- _____ • Describe how cultural influences shape emotional expression, including variations in body language.
- _____ • Identify key contributors in the psychology of motivation and emotion (e.g., William James, Alfred Kinsey, Abraham Maslow, Stanley Schachter, Hans Selye).

IX. Developmental Psychology (7–9%)

- _____ • Discuss the interaction of nature and nurture (including cultural variations) in the determination of behavior.
- _____ • Explain the process of conception and gestation, including factors that influence successful fetal development (e.g., nutrition, illness, substance abuse).
- _____ • Discuss maturation of motor skills.
- _____ • Describe the influence of temperament and other social factors on attachment and appropriate socialization.
- _____ • Explain the maturation of cognitive abilities (e.g., Piaget’s stages, information processing).
- _____ • Compare and contrast models of moral development (e.g., Kohlberg, Gilligan).
- _____ • Discuss maturational challenges in adolescence, including related family conflicts.
- _____ • Characterize the development of decisions related to intimacy as people mature.
- _____ • Predict the physical and cognitive changes that emerge as people age, including steps that can be taken to maximize function.
- _____ • Describe how sex and gender influence socialization and other aspects of development.

AP PSYCHOLOGY STANDARDS CHECK-LIST

- _____ • Identify key contributors in developmental psychology (e.g., Mary Ainsworth, Albert Bandura, Diana Baumrind, Erik Erikson, Sigmund Freud, Carol Gilligan, Harry Harlow, Lawrence Kohlberg, Konrad Lorenz, Jean Piaget, Lev Vygotsky).

X. Personality (5–7%)

- _____ • Compare and contrast the major theories and approaches to explaining personality: psychoanalytic, humanist, cognitive, trait, social learning, and behavioral.
- _____ • Describe and compare research methods (e.g., case studies and surveys) that psychologists use to investigate personality.
- _____ • Identify frequently used assessment strategies (e.g., the Minnesota Multiphasic Personality Inventory [MMPI], the Thematic Apperception Test [TAT]), and evaluate relative test quality based on reliability and validity of the instruments.
- _____ • Speculate how cultural context can facilitate or constrain personality development, especially as it relates to self-concept (e.g., collectivistic versus individualistic cultures).
- _____ • Identify key contributors to personality theory (e.g., Alfred Adler, Albert Bandura, Paul Costa and Robert McCrae, Sigmund Freud, Carl Jung, Abraham Maslow, Carl Rogers).

XI. Testing and Individual Differences (5–7%)

- _____ • Define intelligence and list characteristics of how psychologists measure intelligence:
 - abstract versus verbal measures;
 - speed of processing.
- _____ • Discuss how culture influences the definition of intelligence.
- _____ • Compare and contrast historic and contemporary theories of intelligence (e.g., Charles Spearman, Howard Gardner, Robert Sternberg).
- _____ • Explain how psychologists design tests, including standardization strategies and other techniques to establish reliability and validity.
- _____ • Interpret the meaning of scores in terms of the normal curve.
- _____ • Describe relevant labels related to intelligence testing (e.g., gifted, cognitively disabled).
- _____ • Debate the appropriate testing practices, particularly in relation to culture-fair test uses.
- _____ • Identify key contributors in intelligence research and testing (e.g., Alfred Binet, Francis Galton, Howard Gardner, Charles Spearman, Robert Sternberg, Louis Terman, David Wechsler).

XII. Abnormal Behavior (7–9%)

- _____ • Describe contemporary and historical conceptions of what constitutes psychological disorders.
- _____ • Recognize the use of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) published by the American Psychiatric Association as the primary reference for making diagnostic judgments.
- _____ • Discuss the major diagnostic categories, including anxiety and somatoform disorders, mood disorders, schizophrenia, organic disturbance, personality disorders, and dissociative disorders, and their corresponding symptoms.

AP PSYCHOLOGY STANDARDS CHECK-LIST

- _____ • Evaluate the strengths and limitations of various approaches to explaining psychological disorders: medical model, psychoanalytic, humanistic, cognitive, biological, and sociocultural.
- _____ • Identify the positive and negative consequences of diagnostic labels (e.g., the Rosenhan study).
- _____ • Discuss the intersection between psychology and the legal system (e.g., confidentiality, insanity defense).

XIII. Treatment of Abnormal Behavior (5–7%)

- _____ • Describe the central characteristics of psychotherapeutic intervention.
- _____ • Describe major treatment orientations used in therapy (e.g., behavioral, cognitive, humanistic) and how those orientations influence therapeutic planning.
- _____ • Compare and contrast different treatment formats (e.g., individual, group).
- _____ • Summarize effectiveness of specific treatments used to address specific problems.
- _____ • Discuss how cultural and ethnic context influence choice and success of treatment (e.g., factors that lead to premature termination of treatment).
- _____ • Describe prevention strategies that build resilience and promote competence.
- _____ • Identify major figures in psychological treatment (e.g., Aaron Beck, Albert Ellis, Sigmund Freud, Mary Cover Jones, Carl Rogers, B. F. Skinner, Joseph Wolpe).

XIV. Social Psychology (8–10%)

- _____ • Apply attribution theory to explain motives (e.g., fundamental attribution error, self-serving bias).
- _____ • Describe the structure and function of different kinds of group behavior (e.g., deindividuation, group polarization).
- _____ • Explain how individuals respond to expectations of others, including groupthink, conformity, and obedience to authority.
- _____ • Discuss attitudes and how they change (e.g., central route to persuasion).
- _____ • Predict the impact of the presence of others on individual behavior (e.g., bystander effect, social facilitation).
- _____ • Describe processes that contribute to differential treatment of group members (e.g., in-group/out-group dynamics, ethnocentrism, prejudice).
- _____ • Articulate the impact of social and cultural categories (e.g., gender, race, ethnicity) on self-concept and relations with others.
- _____ • Anticipate the impact of behavior on a self-fulfilling prophecy.
- _____ • Describe the variables that contribute to altruism, aggression, and attraction.
- _____ • Discuss attitude formation and change, including persuasion strategies and cognitive dissonance.
- _____ • Identify important figures in social psychology (e.g., Solomon Asch, Leon Festinger, Stanley Milgram, Philip Zimbardo).

The Definition of Psychology

Psychology is the scientific study of behavior and mental processes.

Psychology's Four Goals

► Description ► Explanation ► Prediction ► Control

The Beginnings of Psychology

Structuralism and Functionalism

Structuralism: focused on structure or basic elements of the mind
Wundt's psychology laboratory, Germany In 1879: developed the technique of objective introspection

Titchener: Wundt's student, brought structuralism to America

William James and Functionalism: Stressing the way mind allows adaptation

Gestalt Psychology, Psychoanalysis, and Behaviorism

Gestalt Psychology: Wertheimer and others studied sensation and perception. Known for the statement: *The whole is greater than the sum of its parts.*

Sigmund Freud and Psychoanalysis: unconscious mind controls much of conscious behavior

Watson and Behaviorism: study of observable stimuli and responses

Psychology: Modern Perspectives

Psychodynamics: modern version of psychoanalysis

Behaviorism: operant conditioning of voluntary behavior (Skinner)

Humanism: emphasizes free will and human potential (Maslow and Rogers)

Biopsychology: behavior as a direct result of events in the body

Cognitive: memory, intelligence, perception, problem solving, and learning

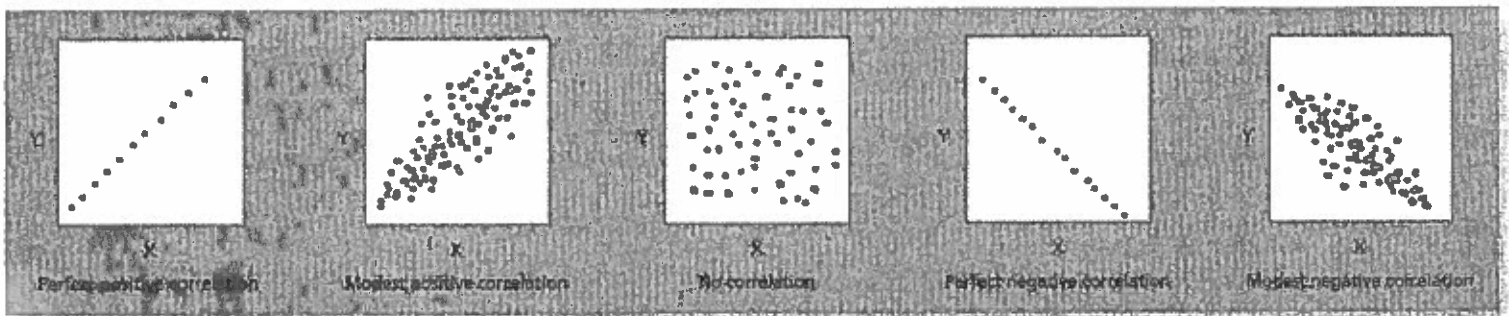
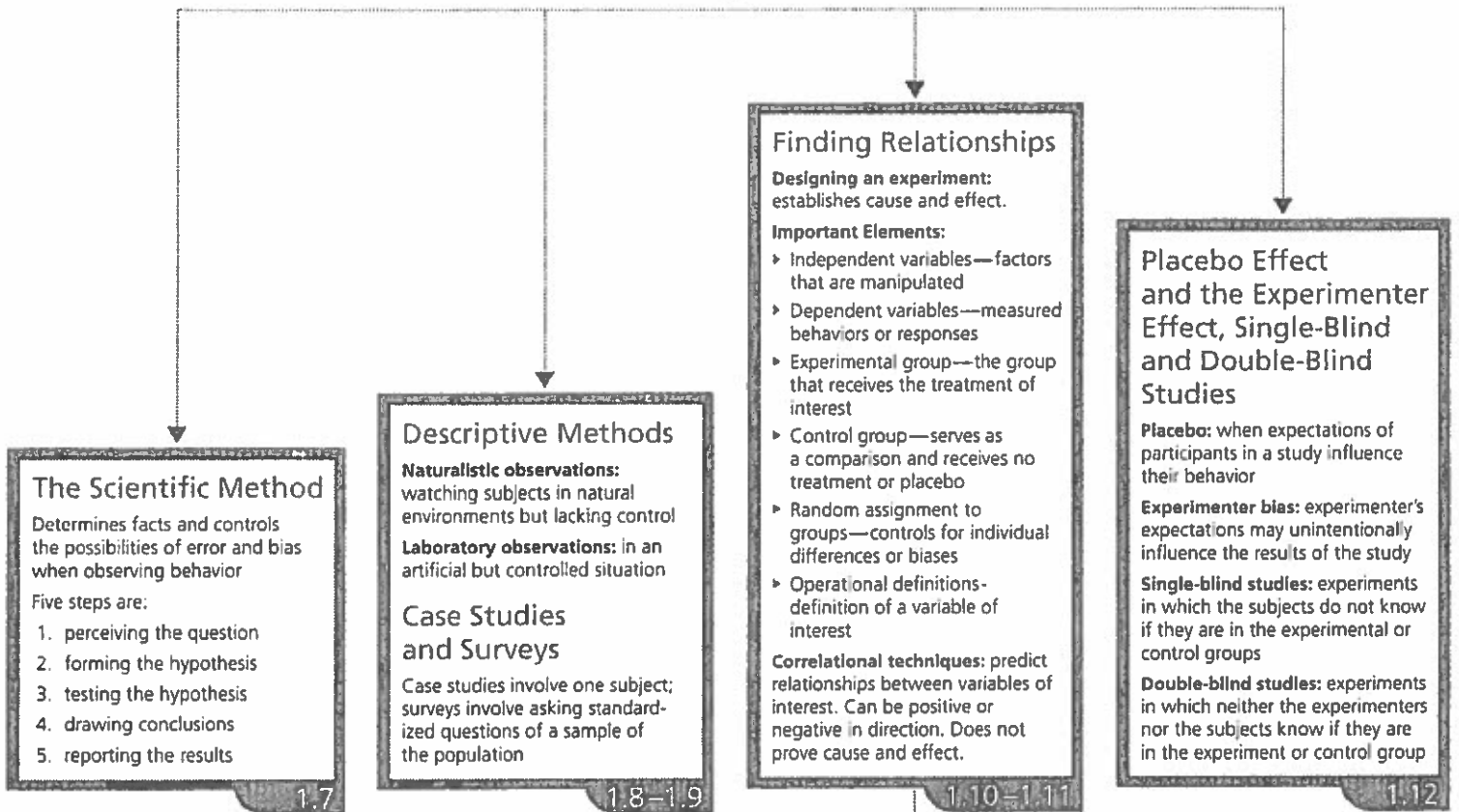
Evolutionary: biological bases for behavior based on evolution

Sociocultural: relationship of social behavior and culture

Types of Psychological Professionals

SPECIALTY AREA	MAIN FOCUS
Clinical	Mild to severe psychological disorders
Counseling	Adjustment disorders and milder disorders
Developmental	Age-related changes across the life span
Educational	Educational learning and development
School	Working with children in the schools
Experimental/Cognitive	Thinking, memory, motivation, learning, perception
Social	Study of group behavior and influence on individuals
Personality	Individual differences and development of personality
Physiological	Study of the biological bases of behavior
Comparative	Comparison of animal and human behavior

Psychology: The Science



Research Ethics
Ethical guidelines for doing research with human beings protect the rights and well-being of participants.
Animals in psychological research must not be exposed to unnecessary pain or suffering.
1.14

Critical Thinking
Critical thinking is the ability to make reasoned judgments. Four basic criteria of critical thinking:
1. There are few concepts that do not need to be tested
2. Evidence can vary in quality
3. Experts and authorities do not automatically make something true
4. Keep an open mind
1.15

The Nervous System

Complex neural network carrying information in your body

2.1

Neurons and Nerves: Building the Network

Structure of the Neuron

Composition of Neurons:

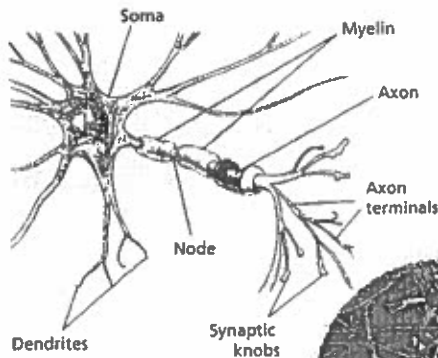
- ▶ Dendrites, which receive input
- ▶ Soma or cell body
- ▶ Axons, which carry neural messages to other cells

Glial cells: separate, support, and insulate the neurons

Myelin: insulates and protects axons and speeds transmission

Nerves: axons bundle together in "cables"

2.2



The Neural Impulse and Synapse

Action Potentials

At rest:

- ▶ Neuron is negatively charged on the inside
- ▶ Outside of the cell is positively charged

Action potential:

- ▶ Neurons fire in an all-or-nothing manner
- ▶ Excitatory transmitters allow positive sodium ions to enter the cell leading to the action potential

Sending the Message to Other Cells: The Synapse

- ▶ Synaptic vesicles are found at the end of the axon terminal
- ▶ Action potentials cause transmitter release from the axon terminal
- ▶ Neurotransmitter molecules fit into dendrites' receptor, stimulating or inhibiting that cell

Neurotransmitters: Messengers of the Network

Acetylcholine:

Stimulates muscle, memory formation

GABA (γ -aminobutyric acid) inhibitory transmitter

Serotonin: associated with sleep, mood, and appetite

Endorphin: neural regulator for pain responses

Dopamine: movement, pleasure sensations

Cleaning Up the Synapse: Reuptake and Enzymes

- ▶ Most neurotransmitters are taken back into the synaptic vesicles during reuptake
- ▶ Acetylcholine is cleared out of the synapse by enzymes that break up the molecules

2.3

The Peripheral Nervous System

Somatic Nervous System

- ▶ Sensory pathway neurons —messages to central nervous system
- ▶ Motor pathway neurons —central nervous system to voluntary muscles

Autonomic Nervous System: Its Two Divisions

- ▶ Sympathetic division is our fight-or-flight system, reacting to stress
- ▶ Parasympathetic division restores and maintains normal functioning

The Central Nervous System

The Brain and Spinal Cord

Spinal cord serves two functions:

- ▶ Transmits messages to and from the brain
- ▶ Controls life-saving reflexes

2.5

The Brain Stem

Medulla: life-sustaining functions (i.e., breathing, heart rate)

Pons: involved in sleep, dreaming, arousal, coordination of movement

Reticular formation: involved in selective attention and arousal

Cerebellum: motor movement, learned reflexes, posture

2.9

Structures Under the Cortex

Limbic system: thalamus, hypothalamus, hippocampus, amygdala, fornix

Thalamus: switching station that sends sensory information to areas of cortex

Hypothalamus: hunger, thirst, sleep, sexual behavior, sleeping-waking, emotions, pituitary gland

Hippocampus: storing memories and remembering locations of objects

Amygdala: fear responses and memory of fearful stimuli

Fornix: pleasure center, connects hippocampus to cortex

2.10

The Cortex

- ▶ Outer covering of the brain
- ▶ Tightly packed layer of neurons: .01 inch in thickness.
- ▶ Corticalization or wrinkles allows for greater cortical area
- ▶ Two cerebral hemispheres connected by corpus callosum

Senses and Movement

Occipital lobe: contains the primary visual cortex

Parietal lobe: somatosensory area, body and chemical senses

Temporal lobe: primary auditory area

Frontal lobe: motor cortex

2.11

Higher Forms of Thought and Language

Association areas: integration of cortical processing

Broca's area: left frontal lobe — produces fluent speech.

Wernicke's area: left temporal lobe — understands language

2.12

Studying the Brain

Deep lesioning: destroys certain areas of the brain

ESB: electrical stimulation of the brain

Case studies. EEGs: measure activity of the brain through microelectrodes

CT scans: computer-aided X-rays

MRI: use magnetic energy to measure brain activity

PET scans: use a radioactive sugar to track the activity of brain cells

2.8



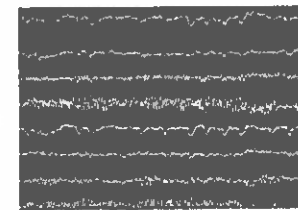
MRI



CT scan



PET scan



EEG

The Cerebral Hemispheres: Are You in Your Right Mind?

Split-brain patients: corpus callosum severed to control epilepsy

Left hemisphere: language, writing, logical thought, information processed sequentially

Right hemisphere: processes information globally, emotional expression, spatial perception, recognition of faces, patterns, melodies, and emotions

2.13

The Chemical Connection: The Endocrine Glands

Endocrine glands secrete hormones to influence activity of muscles and organs.

Pituitary gland: growth hormone and influences other glands

Pineal gland: melatonin, regulates sleep-wake cycle

Thyroid gland: metabolism by secreting thyroxin

Pancreas: blood sugar by secreting insulin and glucagons

Gonads: hormones regulate sexual growth, activity, reproduction

Adrenal glands: stress reaction with epinephrine and norepinephrine

Adrenal cortex: salt intake, stress, and sexual development

2.14

The ABCs of Sensation

Sensation and the Central Nervous System

Sensation: activation of sense organ receptors
Sensory receptors: specialized neurons activated by stimuli
Thresholds:

- ▶ **Just noticeable difference:** smallest detectable stimulus change
- ▶ **Absolute thresholds:** smallest amount of energy for stimulus detection
- ▶ **Subliminal stimuli:** Not been shown to affect day-to-day behavior

3.1

Ignoring Sensations

Habituation: ignoring a constant stimulus
Sensory adaptation: sensory neurons stop responding to constant stimuli

3.2

Color Vision

Trichromatic and opponent-process theories: two processes that work together

Trichromatic theory of color perception: three types of cones for long, medium, and short wavelengths

Opponent processes: at the ganglion cell level combine long versus medium cones to produce red and green. Medium and long cones combine together versus the short-wavelength cone to produce yellow and blue

Color blindness: total lack of color perception or color perception that is limited to yellows and blues or reds and greens only

The Science of Seeing

How the Eyes See and How the Eyes See Different Colors

3.5

Light

Light: form of electromagnetic radiation described by wavelength and amplitude

Color or hue: in part determined by wavelength.

- ▶ Long wavelengths—red end of the visible spectrum
- ▶ Shorter wavelengths—blue end of the visible spectrum

Brightness: corresponds to the amplitude of light waves

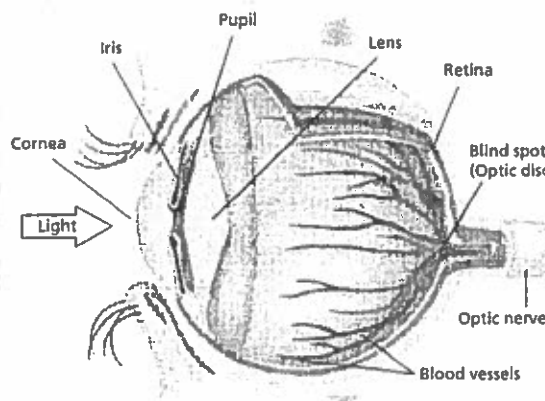
Saturation: refers to the purity of the color people see

3.3

Parts of the Eye

Pathway of Light:
 Cornea →
 Pupil →
 Lens →
 Retina →
 (Hits the rods and cones)

3.4



Rods, Cones

Rods: low light levels, no role in color vision, poor acuity, located peripherally

Cones: work at bright light levels, see color, provide central and sharp vision

Sound

Sound consists of pressure waves in the air

Sound has three aspects:

- ▶ pitch (frequency),
- ▶ loudness
- ▶ timbre (purity)

6

The Hearing Sense

Parts of the Ear

Sound: → pinna → eardrum → bones of middle ear (hammer, anvil, stirrup)
 Stirrup causes the cochlea and basilar membrane to vibrate with sound
 The organ of Corti on the basilar membrane contains the auditory receptors

3.7

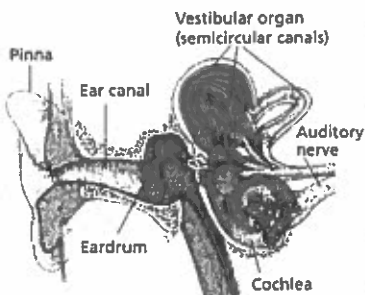
Hearing Impairment

Conduction hearing impairment: damage to the outer or middle ear structures

Nerve hearing impairment: damage to the inner ear or auditory pathways

Cochlear implant: an electronic device in the inner ear to restore hearing

3.8



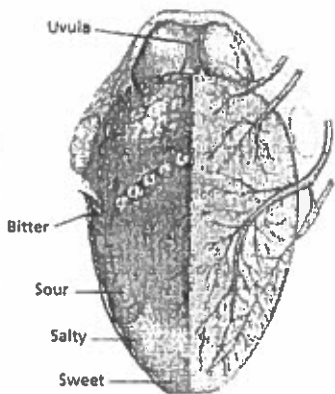
Perception of Pitch

Place theory: organ of Corti hair cells corresponding to pitches above 1,000 Hz

Frequency theory: basilar membrane vibrates corresponding to pitches below 100 Hz

Volley theory: neurons take turns firing for sounds above 100 Hz and below 1,000 Hz

Chemical Senses



Gustation— Sense of Taste

Taste buds: contain receptor sites that receive molecules of substances

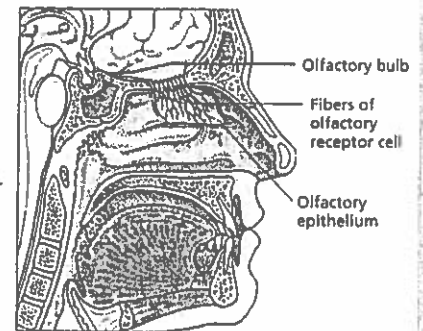
Five basic types of taste:
sweet, sour, salty, bitter, and umami

3.10

Olfaction— Sense of Smell

Olfactory receptors receive molecules of substances

Neural signals go to the olfactory bulbs



Somesthetic Senses

Sense of Touch and Pain

Touch:

- ▶ Pacinian Corpuscles
- ▶ Nerve endings around hair
- ▶ Free nerve endings

Gate-control theory of pain:

- ▶ Stimulation of pain receptors cause transmitter release into the spinal cord
- ▶ Activates other pain receptors by opening "gates" in the spinal column

Kinesthetic Sense:

Movement and Balance

Kinesthetic sense: relays position in space and based on proprioceptors

Vestibular sense: body's sense of spatial orientation

Based on: otolith organs and semicircular canals

The ABCs of Perception

Perception and Perceptual Constancies

Size constancy: objects seem the same size, no matter their distance

Shape constancy: objects seem same shape despite retinal image changes

Brightness constancy: changes in lighting do not affect brightness perception

3.13

Gestalt Principles of Perception

Figure-ground relationships:

- ▶ Closure
- ▶ Similarity
- ▶ Contiguity
- ▶ Continuity
- ▶ Common region

3.14

How Do People Perceive the World in Three Dimensions

Depth perception is the ability to see in three dimensions.

Monocular cues (pictorial depth cues): depth cues based on one eye only

- ▶ Linear perspective
- ▶ Interposition (overlap)
- ▶ Texture gradient
- ▶ Accommodation
- ▶ Relative size
- ▶ Aerial perspective
- ▶ Motion parallax

Binocular cues: cues for perceiving depth based on both eyes

- ▶ Convergence
- ▶ Binocular disparity

3.15

Visual Illusions

Müller-Lyer illusion: involves the misperception of two lines of equal length

Moon illusion: moon appears to be larger on the horizon

3.16

Factors That Influence Perception

Perceptual set or expectancy: tendency to perceive according to prior experiences

Top-down processing: knowledge organizes individual features into a unified whole

Bottom-up processing: K analysis of smaller feature builds up to a complete perception

3.17

Consciousness

Consciousness: person's awareness at a given moment Altered states: shifts in quality or pattern of mental activity

4.1

Altered States: Sleep

Sleep

Sleep is part of a circadian rhythm, lasting 24 hours

Product of the activity of:

- hypothalamus
- hormone melatonin
- neurotransmitter serotonin
- body temperature

4.2

Purpose of Sleep

Adaptive theory: conserves energy, keeps animals safe from night predators

Restorative theory: opportunity to restore systems, cell tissue growth/repair

Sleep Disorders

Sleep apnea	breathing stops for about 1/2 minute
Insomnia	inability to fall asleep, stay asleep, get enough sleep
Narcolepsy	genetic disorder causing a collapse into REM sleep
Somnambulism	sitting, walking, performing complex behavior while asleep
Night terrors	extreme fear, agitation, screaming while asleep

Different Stages of Sleep

Non-REM Stage One sleep: light sleep, hypnagogic images, myoclonic jerks

Stage Two sleep: sleep spindles, bursts of EEG

Stage Three sleep: first appearance of delta waves, growth hormones released

Stage Four sleep: predominantly delta waves, sleepwalking, sleepwalking, and night terrors occur

4.4

REM Sleep and Dreaming

REM sleep occurs four or five times a night

Associated with dreaming (Dement)

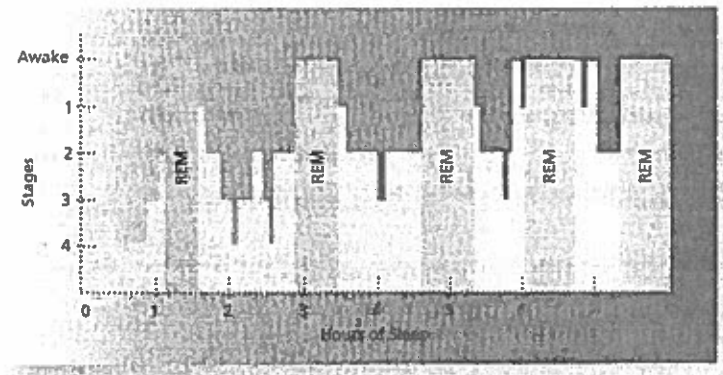
Nightmares: unpleasant dreams during REM

REM behavior disorder: REM paralysis fails, acting out dreams

5-4:6

Sleep Deprivation

Causes include sleep disorders such as apnea and narcolepsy, failure of people to go to sleep or stay asleep for an adequate amount of time, worry, drug usage.



Theories of Dreaming

Freudian theory: conflicts, events, and desires of past represented in symbolic form in dreams

Manifest content: actual dream and its events

Latent content: symbolic content, according to Freud

Activation-synthesis hypothesis: cortical association areas synthesize a dream to explain cortical activation by pons.

Activation-information-mode model: information from waking hours can influence dream synthesis

Dream of Absent Minded Transgressions (DAMIT): tendency of people to dream about information that they have suppressed in waking hours

Altered States: Hypnosis

Characteristics of Hypnosis

Hypnosis cannot:
 give increased strength, reliably enhance memory, or regress people to an earlier age

Hypnosis can:
 produce amnesia, reduce pain, alter sensory impressions

Theories of Hypnosis

Hilgard—the hidden observer:
 Hypnosis is a state of dissociation, in which one part of consciousness is hypnotized, while another part is aware

Social-cognitive theory of hypnosis:
 Hypnosis is role-playing due to the social situation

Altered States: Psychoactive Drugs

Physical Dependence and Psychological Drug Dependence

Physically addictive drugs: user's body craves drug. Deprivation causes physical withdrawal

Drug tolerance: body becomes conditioned to level of drug, leads to increased drug dosages

Signs of Physical Dependency:

- ▶ Compulsive use
- ▶ Loss of control
- ▶ Disregard for the consequences of use.
- ▶ Psychological dependence: users believe that they need drug to function and for well-being

Hallucinogens alter brain's interpretation of sensations, creating hallucinations

4.15

Marijuana

Comes from the hemp plant called *cannabis sativa*. Hashish is the substance scraped from hemp leaves

4.16

Narcotics and Addiction

- ▶ **Narcotics** are pain-relieving drugs from opium poppies, bind to endorphin receptors
- ▶ **Common Narcotics:** opium, morphine, and hero
- ▶ **Methadone** controls symptoms of heroin or morphine withdrawal

4.14

Stimulants and the Associated Dangers

Stimulants are drugs that increase the functioning of the nervous system: Amphetamines, cocaine, nicotine, and caffeine.

4.11

Depressants are drugs that slow central nervous system

Barbiturates: major tranquilizers, sedative effect, used as sleeping pills

4.12

DRUG CLASSIFICATION	MAIN EFFECT
Depressants	
Alcohol, barbiturates (tranquilizers)	Relaxation
Stimulants	
Amphetamines, cocaine, nicotine	Stimulation, excitement
Narcotics	
Opiates	Euphoria
Psychedelics and Hallucinogens	
Marijuana, LSD, MDMA	Distort consciousness, alter perception

Alcohol and Its Dangers

Alcohol is the most commonly used and abused depressant.

- ▶ 10–20 million Americans suffer from alcoholism
- ▶ 40% of all traffic fatalities in the United States involve alcohol use

4.13

Definition of Learning

5.1

Relatively permanent change in behavior caused by experience or practice

Classical Conditioning

Pavlovian or Classical Conditioning

Phenomenon in which one stimulus can, through pairing with another stimulus, come to produce a similar response

Concepts in Classical Conditioning

Unconditioned stimulus (UCS): stimulus that automatically evokes involuntary unconditioned response (UCR)
Unconditioned responses (UCR): response naturally evoked by UCS
Conditioned stimulus (CS): neutral stimulus, paired with the unconditioned stimulus, evokes conditioned response (CR) on its own
Conditioned response (CR): response evoked by CS after CS-UCS pairing

Conditioned Emotional Responses

Phobias: Watson demonstrated that a phobia could be learned through classical conditioning (e.g. "Little Albert")
Conditioned taste aversions: food producing nausea becomes aversive
Biological preparedness: animals learn certain associations, such as taste and nausea, with only one or few pairings due to the survival value

Pavlov's Classic Experiment in Conditioning

Presented a sound (CS) followed by food (UCS)
 • After several pairings, sound alone elicited salivation (CR)
 • CS must precede UCS

5.4

Operant Conditioning

MAJOR THEORISTS

Thorndike's Law of Effect

A response followed by a pleasurable consequence will be repeated, but a response followed by an unpleasant consequence will not be repeated

5.7

Skinner's Contribution to Operant Conditioning

B. F. Skinner: voluntary response learning—operant conditioning

5.8

Schedules of Reinforcement

Continuous reinforcement: every correct response is followed by a reinforcer
Partial reinforcement: reinforcement is not given after every trial but according to a schedule
Partial reinforcement effect: A response rewarded under a partial reinforcement schedule is much more resistant to extinction

5.10

Partial Reinforcement Schedules

Fixed ratio: a certain number of responses are required
Variable ratio schedule: a varying number of responses is required
Fixed Interval schedule: correct response made within a set interval
Variable Interval schedule: reinforcement follows a varying interval of time

Important Concepts in Operant Conditioning

Primary reinforcer: stimulus that satisfies a basic, natural drive
Secondary reinforcer: stimulus becomes reinforcing after paired with primary reinforcer
Positive reinforcement: stimulus whose presentation increases probability of response
Negative reinforcement: stimulus whose termination increases probability of response
Shaping: reinforcement of successive approximations to some final complex goal
Extinction, generalization and discrimination, and spontaneous recovery: also occur in operant conditioning

5.9

Comparing Two Kinds of Conditioning

OPERANT CONDITIONING	CLASSICAL CONDITIONING
Goal is to increase the rate of an already occurring response.	Goal is to create a new response to a stimulus that doesn't normally produce it
Responses are voluntary.	Responses are involuntary and reflexive.
Consequences are important in forming an association	Antecedent stimuli are important in forming an association
Reinforcement must be immediate.	CS must occur immediately before the UCS
An expectancy develops for reinforcement to follow a correct response.	An expectancy develops for UCS to follow CS.

Cognitive Learning Theory

Learning requires cognition and thought processes

Tolman's classic study on Latent Learning

Latent learning: learning that remains hidden until it becomes useful

Tolman: rats allowed to wander in a maze unreinforced showed evidence of learning the maze when reinforced

Learned Helplessness

Learned helplessness: tendency to fail to escape because of a history of repeated failures in the past.

Seligman: found that dogs that had been placed in an inescapable situation failed to try to escape later when they could

Insight—Kohler's Chimpanzees

Insight: sudden perception of relationships among various parts of a problem, allowing rapid problem solution

Processes of Classical Conditioning

Pavlovian perspective: CS became substitute for UCS through association

Cognitive perspective: CS provides information about arrival of UCS

Other Important Aspects of Classical Conditioning

Stimulus generalization: stimuli similar to UCS will evoke CR but to a lesser degree

Stimulus discrimination: presentation of a stimulus similar to CS without UCS leads to this stimulus not producing generalization

Extinction: disappearance or weakening the CR following the removal of UCS

Spontaneous recovery: reappearance of CR after a pause in extinction trials

Higher-order conditioning: pairing a neutral stimulus with a strong CS, causes the neutral stimulus also to act as a CS

Punishment and Behavior

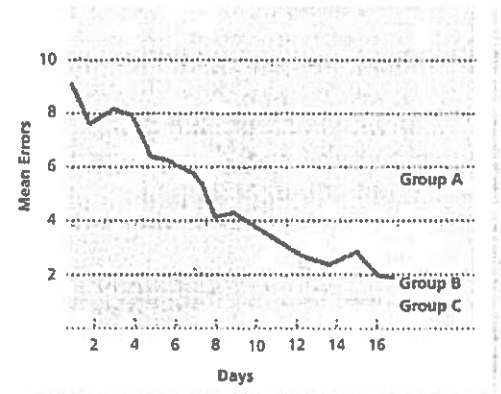
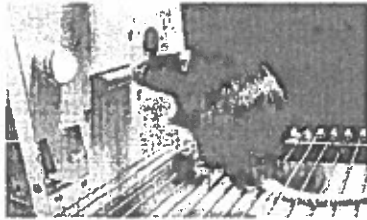
Punishment: stimulus, when following a response, makes response less likely

Punishment by application: response is followed by an unpleasant stimulus

Punishment by removal: a response is followed by the removal of some pleasurable stimulus

Aggressive punishment: can act as a model for aggressive behavior

Punishment: normally has only a temporary effect on behavior



Observational Learning

Observational Learning

Observational learning: learning through watching others

Vicarious conditioning: classical conditioning by watching the reaction of another

Bandura's Classic Bobo Doll Study

Bandura's famous Bobo doll experiment: children imitated aggressive actions of a model even when there was no reinforcement for doing so.

Operant Stimuli Control of Behavior

Discriminative stimuli: cues that provide information about what response to make in order to obtain reinforcement

Behavioral Resistance to Conditioning

Instinctive behavior in animals is resistant to conditioning or modification

Behavior Modification

Operant conditioning can be to change or modify behavior

Token economies: Secondary reinforcers, or tokens, are used

Applied behavior analysis (ABA): makes use of shaping

Neurofeedback and How it is Used

Neurofeedback: biofeedback method using EEG

Memory: Three Processes

Memory: system that actively stores and retrieves information

Three processes are:

- ▶ Encoding
- ▶ Storage
- ▶ Retrieval

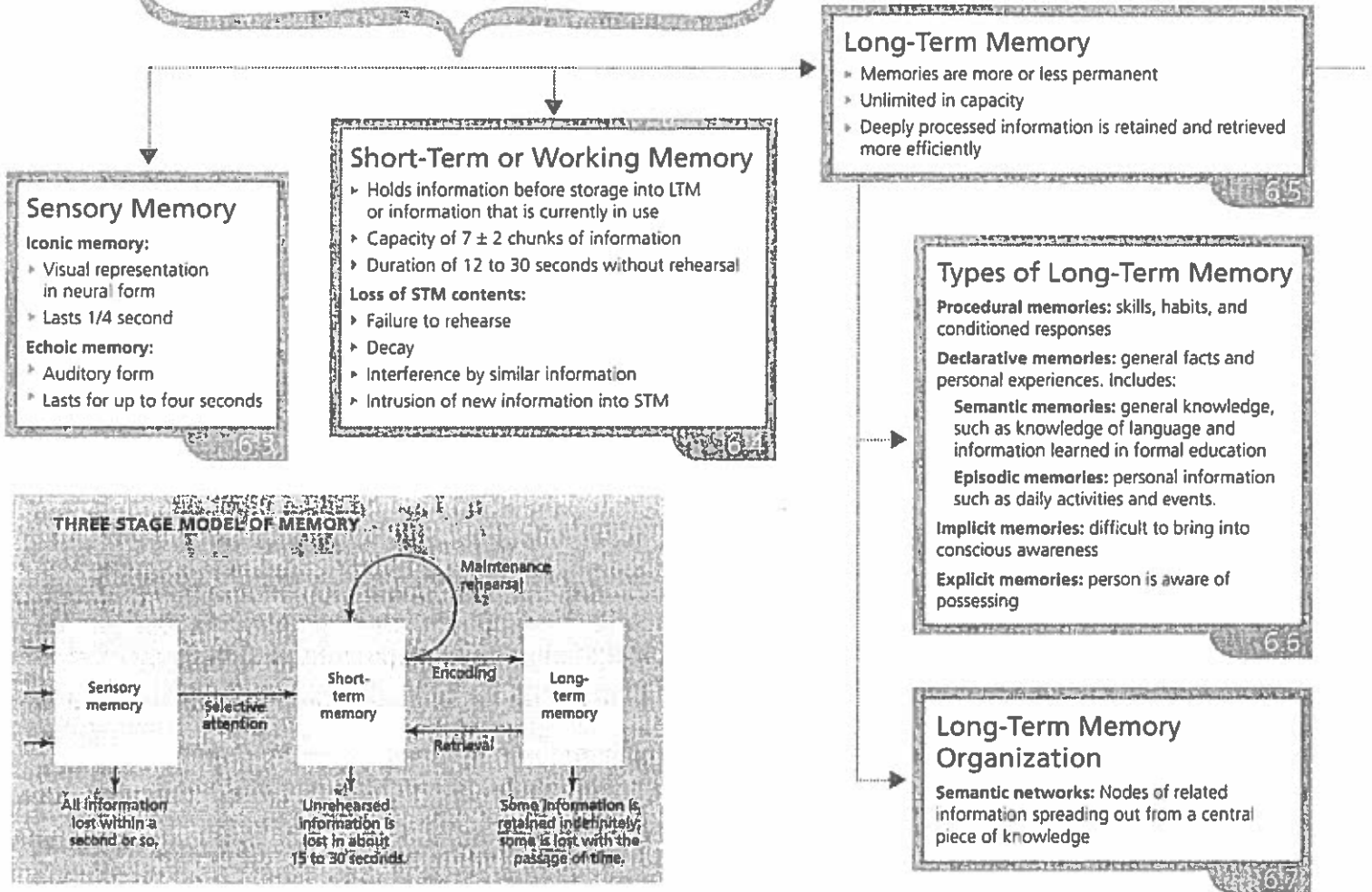
6.1

Models of Memory

- ▶ Information-processing model
- ▶ Levels-of-processing model
- ▶ Parallel distributed processing (PDP) model

6.2

Information-Processing Theory: Three Stages of Memory



Classic Studies in Psychology: Elizabeth Loftus and Eyewitnesses

Eye Witness Testimony Reliability—Elizabeth Loftus

Loftus and others have found:

- ▶ People update and revise their memories of events
- ▶ Add information to a memory that occurred later
- ▶ Revisions occur even if information is in error

6.10

Flashbulb Memory

- ▶ Vivid and detailed memories caused by emotional or traumatic events
- ▶ No more accurate than any other memories

6.11

RETRIEVAL OF LONG-TERM MEMORIES

Use of Cues for Remembering

Retrieval cue: a stimulus for remembering. Retrieval cues are encoded at same time as new memory

Encoding specificity: physical surroundings become encoded as retrieval cues

State-dependent learning: physiological/psychological states used as retrieval cues

6.8

Differences Between Recall and Recognition

Recall: information must be "pulled" out of memory

Recognition: involves matching information with stored images or facts.

Serial position effect: first items and last items in a list are recalled better than middle items

6.9

RECONSTRUCTIVE NATURE OF LONG-TERM MEMORY RETRIEVAL

Long-Term Memory Formation

Constructive processing: memories are reconstructed from information that is stored during encoding

Hindsight bias: tendency to believe, through revision of older memories to include newer information, that one could correctly predict outcome of an event

6.12

Memory Retrieval Problems

Misinformation effect: misleading questions or information may be incorporated into memory

False memory syndrome: creation of false or inaccurate memories through suggestion, hypnosis

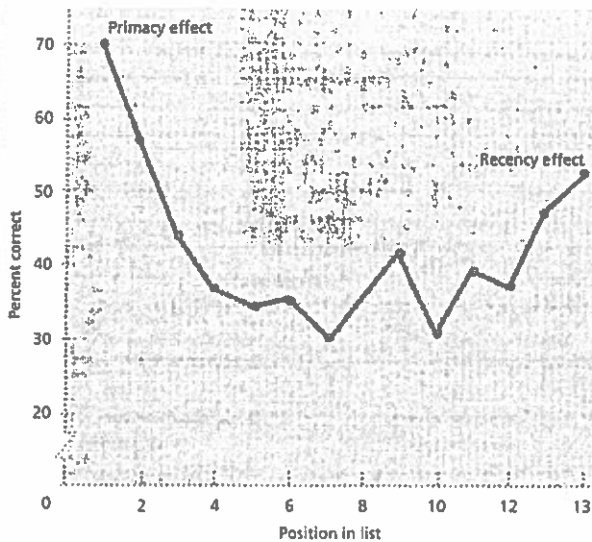
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Types of Forgetting

TYPES OF FORGETTING	DESCRIPTION
Encoding Failure	The information is not attended to and fails to be encoded.
Decay or Disuse	Information that is not accessed decays from the storage system over time.
Proactive Interference	Older information already in memory interferes with the retrieval of newer information.
Retroactive Interference	Newer information interferes with the retrieval of older information.

6.15

SERIAL POSITION EFFECT



Memory and Brain

Procedural memories: cerebellum
Short-term memories: cortical prefrontal and temporal lobes
Semantic and episodic memories: frontal and temporal lobes
Memory for fear: amygdala

Memory Formation in the Brain

Consolidation: neuronal changes during formation of a memory

Hippocampus: responsible for, new long-term memory storage, removal destroys ability to store anything new

6.16

Amnesia

Retrograde amnesia: past memories lost, can be for minutes or several years

Electroconvulsive therapy: can cause retrograde amnesia

Anterograde amnesia: new memory formation blocked; old memories retrievable

Infantile amnesia: lack of memories before the ages 2-3; due to implicit nature of infant memory

6.17

Developmental Research Methods

- ▶ **Longitudinal design:** same participants over a long period
- ▶ **Cross-sectional design:** participants of different ages
- ▶ **Cross-sequential design:** participants first studied cross-sectionally and then followed for 6 years

7.1

Heredity and Environmental Factors

- ▶ Behavioral genetics—nature (hereditary factors) vs. nurture (environmental influences)
- ▶ Development occurring as gradually vs. discrete stages

7.2

Prenatal Development

Chromosomes, Genes, DNA and a Person's Characteristics or Disorders

- ▶ **Dominant genes:** control the expression of a trait
- ▶ **Recessive genes:** expressed when paired with another recessive gene
- ▶ **Traits:** results of combinations
- ▶ **Chromosome disorders:** Down syndrome, Klinefelter's syndrome, Turner's syndrome
- ▶ **Genetic disorders:** PKU, cystic fibrosis, sickle-cell anemia, Tay-Sachs disease
- ▶ **Zygote:** fertilized and dividing egg cell

Monozygotic and Dizygotic Twins

Identical twins



1 Accounting for about 1 to 250 births; these are created when a single egg is fertilized by one sperm.

2 The egg splits into halves. Each develops into a fetus with the same genetic composition.

Fraternal twins



1 Twice as common as identicals, fraternal arise when two eggs are released at once.

2 If both are fertilized by separate sperm, two fetuses form. Genetically they are just ordinary siblings.

Germinal Period, Embryonic, and Fetal Periods—Hazards in Prenatal Development

- ▶ **Germinal period:**
 - ▶ First two weeks of pregnancy
 - ▶ Dividing mass of cells (blastocyst) moves down fallopian to uterus
- ▶ **Embryonic period:**
 - ▶ Two weeks after conception to eight weeks
 - ▶ Vital organs and structures form during this period,
 - ▶ Teratogens likely to affect the development of organs & structures
- ▶ **Fetal period:**
 - ▶ Beginning of ninth week until birth
 - ▶ Tremendous growth occurs, length and weight increase
 - ▶ Organs continue to become fully functional

7.0

Infancy and Childhood Development

Physical Changes in Infancy and Childhood

- ▶ **Four critical areas of adjustment for the newborn:** respiration, digestion, circulation, and temperature regulation
- ▶ **Infant reflexes aid infant survival:** Sucking, Rooting, Moro (startle), Grasping, and Stepping
- ▶ **Senses:** except for vision, are fairly well developed at birth.
- ▶ **Vision:** blurry and lacking in full color perception until infant is 6 months old
- ▶ **Gross and fine motor skills:** develop at a fast pace during infancy and early childhood

Facts/Myths Concerning Infant Immunizations

- ▶ Immunizations far less dangerous than the diseases they prevent
- ▶ Most effective weapons in the fight against infectious diseases

Three Views of Cognitive Development

Piaget's Stages:

- ▶ **Sensorimotor stage:** sensory and physical interaction
- ▶ **Preoperational thought:** language—tool of exploration
- ▶ **Concrete operations:** logical thought possible
- ▶ **Formal operations:** abstract concepts and hypothetical thinking

Vygotsky's theory:

- ▶ **Scaffolding:** children learn when helped by peer/adult
- ▶ **Zone of proximal development:** difference between mental age of tasks child performs without help and with help

Information processing theory:

- ▶ Children improve in memory capacity as they age
- ▶ Control strategies improve memory performance
- ▶ **Metamemory:** children gain a better understanding of how their own memories work

Stages of Language Development

cooing, babbling, one-word speech (holophrases), and telegraphic speech

Language Learning

- ▶ Some learning through reinforcement and imitation
- ▶ Infants may possess a language acquisition device (LAD) that governs learning of language during infancy and early childhood

7.10

Development of Personalities and Forming Relationships

Three basic infant temperaments:

- ▶ **Easy** (regular, adaptable, and happy)
- ▶ **Difficult** (irregular, nonadaptable, irritable)
- ▶ **Slow to warm up** (need to adjust gradually)

Four types of attachment: Secure, avoidant, ambivalent, disorganized.

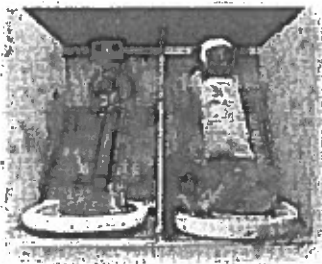
Erikson's First Four Stages of Psychosocial Development

1. **Trust vs. mistrust:** predictability/trust vs. mistrust
2. **Autonomy vs. shame and doubt:** physical independence
3. **Initiative vs. guilt:** emotional/psychological independence
4. **Industry vs. inferiority:** competence and developing self-esteem

Contact comfort and attachment:

- ▶ Harlow's classic research demonstrated the importance of contact comfort
- ▶ Contradicted earlier view that attachment was based on mother's food delivery

HARLOW'S EXPERIMENT



Learning Gender Roles

- ▶ Social learning theorists: imitation and reinforcement lead to correct gender behavior
- ▶ Gender schema theorists: gender as a concept that is developed over time

Adulthood

Adulthood and Aging

Characteristics of aging:

- ▶ Twenties: peak of physical health
- ▶ Thirties: aging becomes more visible
- ▶ Forties: visual problems occur, weight increases, strength and height decrease

Gender Issues:

- ▶ Women: decline in reproductive capacity ending at about age 50 with menopause
- ▶ Men: andropause changes in testosterone and other male hormones

Health problems in aging:

- ▶ High blood pressure, arthritis, cancer, skin cancers, heart disease, strokes
- ▶ Reaction times slow, intelligence/memory remain stable

Erikson's Stages in Adulthood

Intimacy vs. isolation: young adulthood—establishing intimate relationships

Generativity vs. stagnation: middle adulthood—help the next generation through its crises

Integrity vs. despair: final crisis—coming to terms with mortality

Theories of Aging

Cellular clock theory: cells have limited reproduction times

Wear-and-tear theory: repeated use and abuse of the body's tissues cause it to be unable to repair all the damage

Free radical theory: oxygen molecules with unstable electrons move around the cell, damaging cell structures as they go

Adolescence

From age 13 to the early twenties—physical development reaches completion

Puberty

- ▶ Period of about four years during which the sexual organs and systems fully mature
- ▶ Secondary sex characteristics such as body hair, breasts, menarche, deepening voice, and growth spurt occur

Formal Operations and Moral Thinking

Adolescents engage in two kinds of egocentric thinking: Imaginary audience and personal fable.

Kohlberg: Three levels of moral development: preconventional, conventional, and postconventional morality

Erikson's Adolescent Identity Versus Role Confusion Crisis

Adolescents try to achieve consistent sense of self from among all the roles, values, and futures open to them

ADHD and Adults

- ▶ Children with ADHD grow up to be adults with ADHD
- ▶ Affects work, relationships, and emotional well-being
- ▶ Can be treated with medication and/or therapy

Cognition

Occurs when information is being organized, stored, communicated, or processed

Mental Images

represent objects or events and have a picture-like quality

8.1

Nature of a Concept

Concepts: ideas that represent a class or category of events, objects, or activities

Prototypes: concepts that closely match defining characteristics of a concept

8.2

Intelligence Tests and Measuring Intelligence

Stanford-Binet Intelligence Test: yields an IQ score

$$IQ = MA/CA \times 100$$

Wechsler Intelligence Tests: yield a verbal and a performance score as well as an overall score of intelligence

8.7

Problem Solving

Problem Solving and Decision Making

Problem solving consists of thinking and behaving in certain ways to reach a goal

Mechanical solutions: trial-and-error learning and rote solutions

Algorithms: methods of problem solving that always guarantee a solution

Heuristics: strategies that narrow down possible solutions for a problem but do not guarantee a solution

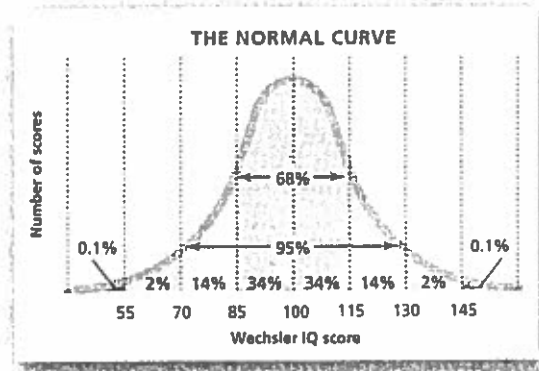
Insight: sudden perception of a solution to a problem

8.3

Creative Thinking

Divergent thinking: coming up with as many different answers as possible

8.5



Intelligence Test Construction

Important factors in test construction: Standardization, validity, and reliability

Deviation IQs: based on deviations of the mean of a normal curve

IQ tests: often criticized for being culturally biased

8.8

Barriers to Problem Solving

Functional fixedness: perceiving objects as having only one use, failing to see other uses

Confirmation bias: searching for evidence that confirms one's beliefs, ignoring contrary evidence

8.4

Intelligence

Ability to understand the world, think rationally or logically, and use resources effectively when faced with challenges or problems

Artificial Intelligence

- ▶ Artificial intelligence: attempt to create a machine that thinks like a human being
- ▶ Computers have been designed that play chess and perform in similar ways to humans
- ▶ True flexibility of human thought has yet to be developed in a machine

Theories of Intelligence

Spearman proposed

- ▶ **General intelligence or g factor:** ability to reason and solve problems
- ▶ **Specific intelligence or s factor:** ability to excel in certain areas

Gardner: proposed eight different types of intelligence (from verbal, linguistic, and mathematical to interpersonal and intrapersonal intelligence)

Sternberg proposed three types of intelligence: analytical, creative, and practical

Emotional intelligence: viewed as a powerful influence on success in life

Influence of Heredity and Environment on Intelligence

- ▶ Stronger correlations are found between IQ scores as genetic relatedness increases
- ▶ Heritability of IQ is estimated at 0.50

Mental Retardation and Its Causes

Mental retardation or developmental disability:

- ▶ Condition in which IQ falls below 70
- ▶ Adaptive behavior severely deficient at a particular chronological age

Causes include: deprived environments, chromosome and genetic disorders, and dietary deficiencies

Giftedness

Gifted persons: having IQ scores at the upper end of the normal curve (130 or above)

Being Intellectually Gifted -- Terman's Termites

Terman demonstrated that gifted children usually grow up to be successful adults

Language

System for combining symbols so that an infinite number of meaningful statements can be created and communicated to others

8.15

Elements and Structure of Language

Grammar: system of rules by which language is governed

Parts of language:

- ▶ **phonemes**—basic units of sound in language
- ▶ **morphemes**—smallest units of meaning within a language
- ▶ **syntax**—system of rules for combining words and phrases

Pragmatics: practical aspects of language

8.16

Language and Thinking

Sapir and Whorf linguistic relativity hypothesis: language controls and helps development of thought processes and concepts

Cognitive universalism viewpoint: concepts are universal and directly influence the development of language

8.17

Improving Thinking

Mental activity requiring creativity and memory can help keep brain fit.

8.19

Animal Language

- ▶ Chimpanzees, parrots, and dolphins have demonstrated a basic kind of language, including some abstract ideas
- ▶ Controversy exists over lack of evidence that animals can learn syntax

8.18

Approaches to Motivation

Motivation: process by which activities are started, directed, and sustained to fulfill physical or psychological needs

Instinct Approaches to Motivation

Human and animal actions may be motivated by innate behavior patterns

Drive-Reduction Approaches to Motivation

Drive-reduction approaches: needs (such as hunger) motivate the organism to act, fulfilling the need and reducing psychological tension

Homeostasis: tendency of the body to maintain a steady state

Primary drives: involve survival needs of the body

Secondary drives: those learned through experience

HOMEOSTASIS



Three Types of Needs

Need for achievement: desire to succeed in getting to one's goals, both realistic and challenging

Need for affiliation: desire to have friendly social interactions and be held in high regard by others

Need for power: desire to have control over others, influence them, and have an impact on them

Eating Behaviors

Causes of Hunger

Physiological components: signals from the stomach, increased secretion of insulin, and actions of hypothalamus

Weight gain: when the basal metabolic rate slows down, the weight set point increases and makes weight gain more likely

Social Factors and Hunger

- ▶ Social cues for when meals are to be eaten
- ▶ Cultural customs and food preferences
- ▶ Use of food as a comfort device or escape
- ▶ Externals respond to anticipation of eating by producing insulin, increasing risk of obesity

Problems in Eating Behavior

Obesity

Anorexia: weight loss of 15 percent below the ideal body weight

Bulimia: cycle of "binging" and "purging"

Possible Signs of Eating Disorders

Dramatic weight loss in a relatively short period of time

Obsession with calories and fat content of food

Hiding food in strange places

Hair loss, pale appearance to the skin

Bruised or callused knuckles, bloodshot eyes with light bruising under the eyes

Frequent trips to the bathroom following meals

Obsession with continuous exercise

Wearing baggy clothes to hide body shape or weight loss

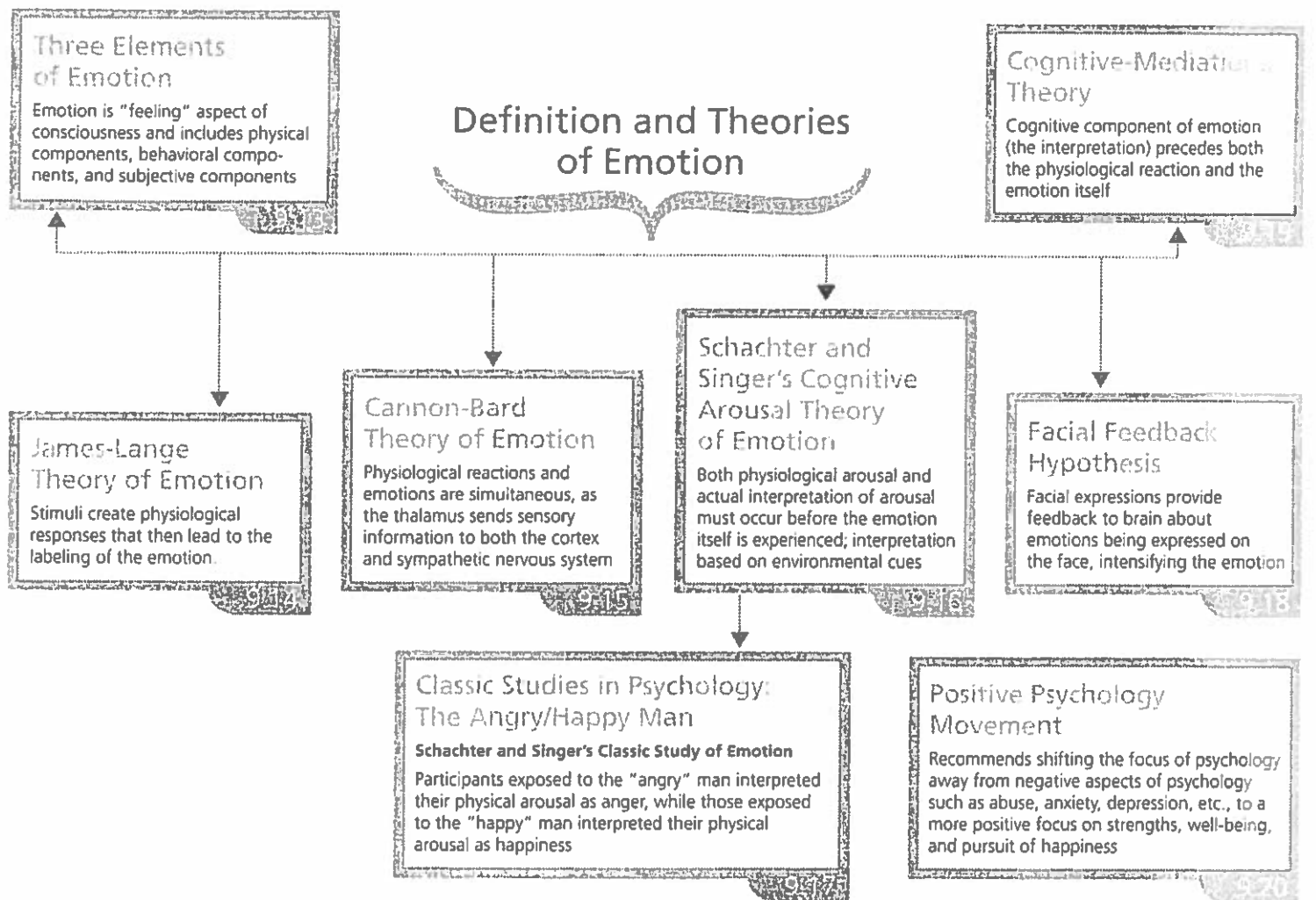
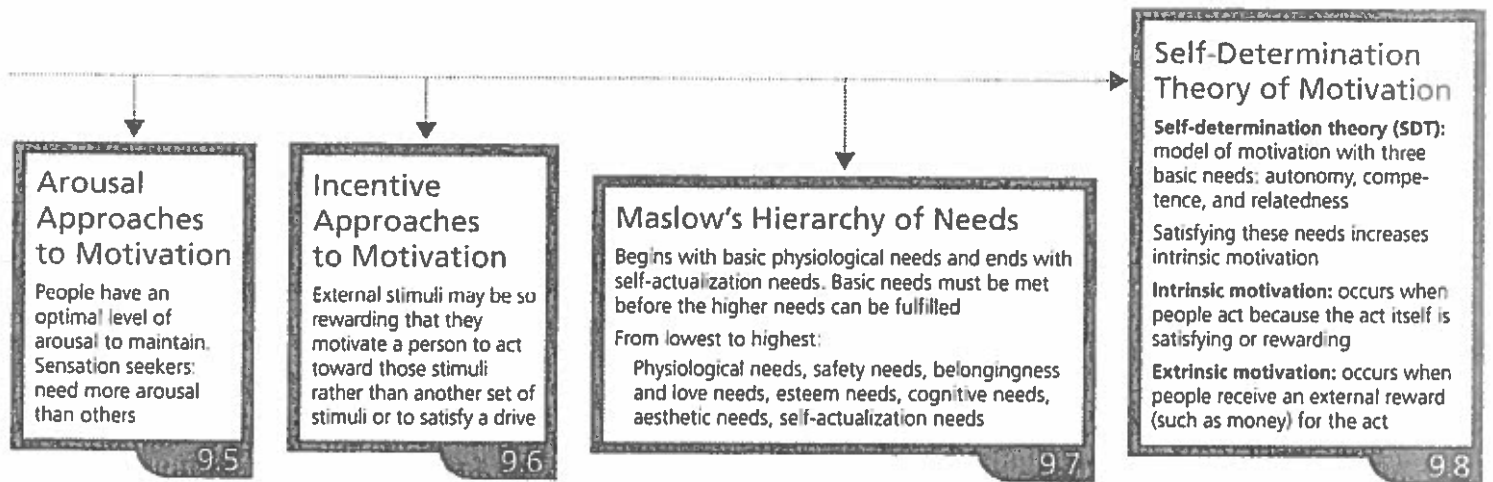
Reading books about weight loss and eating disorders

Complaints of often feeling cold

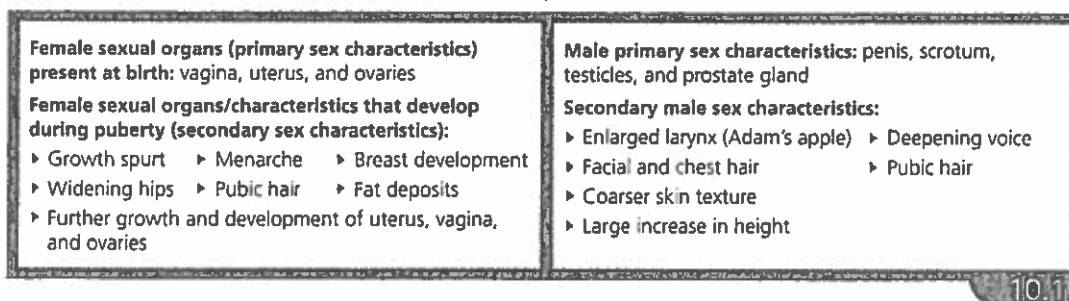
Biological Factors in Obesity

Leptin: hormone that controls the feeling of being full

Genetics: may play a part in anorexia and bulimia, insensitivity to leptin

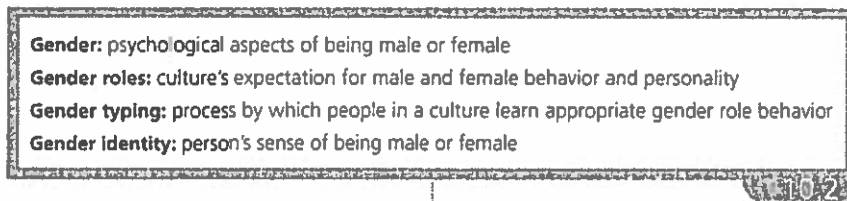


Physical Side of Human Sexuality

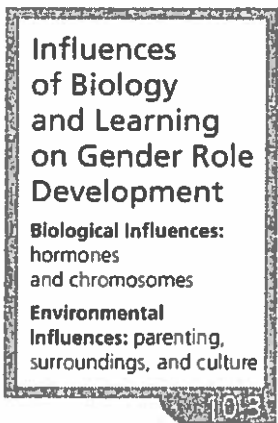


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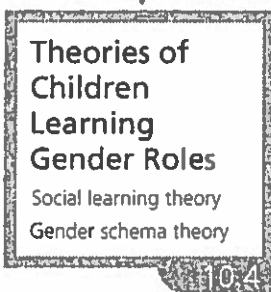
Psychological Side of Human Sexuality: Gender



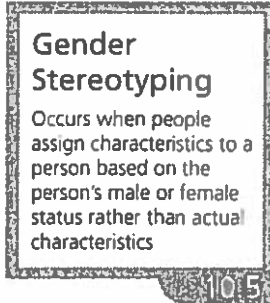
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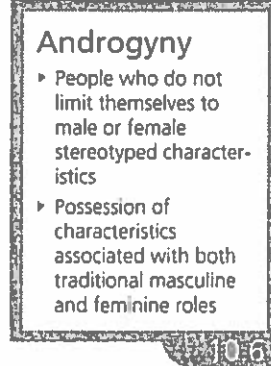
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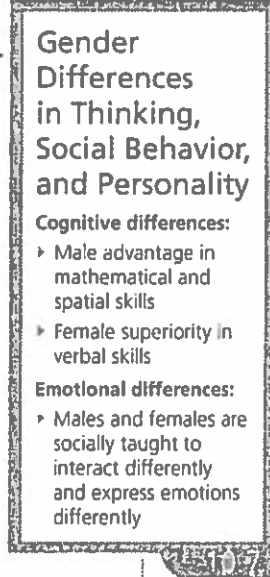
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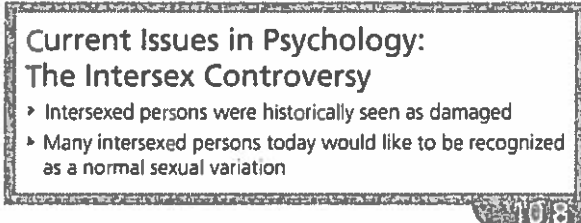
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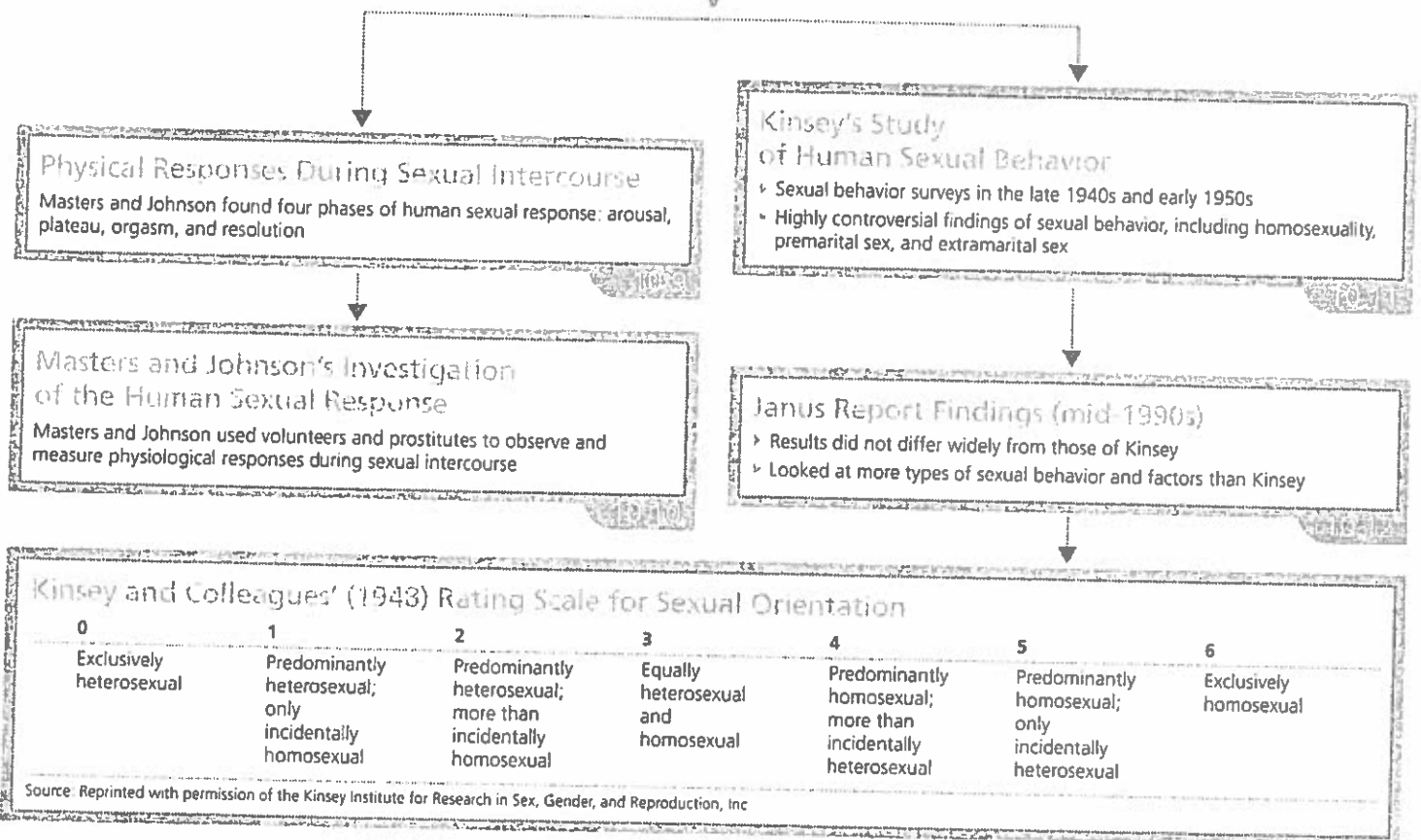


10.7



10.8

Sexual Behavior Studies



Sexually Transmitted Diseases

Different Sexual Orientations and Their Development

- ▶ Heterosexuals: attracted to people of the opposite sex; the largest sexual orientation
- ▶ Homosexuals: primarily attracted to people of the same sex; about 9 percent of men and 5 percent of women
- ▶ Bisexuals: attracted to both males and females

Sexual Dysfunctions Caused by Physical Problems or Stress

Organic or stress-induced dysfunctions:

- ▶ caused by physical problems or by stress ▶ can affect sexual interest, arousal, and response

Disorders include: hypoactive sexual desire, sexual aversion, female sexual arousal disorder, male erectile disorder, male orgasmic disorder, female orgasmic disorder, premature ejaculation, and vaginismus dyspareunia

Paraphilias

Paraphilias: Sexual behavior that is unusual or not socially acceptable

Paraphilias include: fetishism, exhibitionism, voyeurism, frotteurism, necrophilia, transvestism, and pedophilia

Sexually Transmitted Diseases

- ▶ Bacterial diseases: chlamydia, syphilis, and gonorrhea
- ▶ Viral sexually transmitted diseases: genital herpes, genital warts
- ▶ Acquired immune deficiency syndrome (AIDS)

10.16

Protecting Against and Preventing the Spread of STDs

- ▶ Using condoms
- ▶ Having only one monogamous partner
- ▶ Abstaining from sex
- ▶ Avoiding IV drug use
- ▶ Knowing symptoms of the various diseases
- ▶ Getting regular physicals

10.17

Stress

- ▶ **Stress** occurs when events are identified as threatening or challenging
- ▶ **Distress:** stress with a negative impact
- ▶ **Eustress:** optimal amount of stress needed to function well

Cognitive Factors in Stress: Lazarus's Cognitive Appraisal Approach

How people think about a stressor determines, at least in part, how stressful that stressor will become

1. **First step is primary appraisal:** person determines whether an event is threatening, challenging, or of no consequence. Threatening events are more stressful than those seen as challenging
2. **Second step is secondary appraisal:** person assesses resources available to deal with the stressor

11.2

Experiences That Can Cause Stress

Catastrophes: result in high levels of stress, including acute stress disorder and post-traumatic stress disorder

Major life changes: create stress by requiring adjustments; increased risk of chronic health problems and accidents

Hassles: daily frustrations/irritations, have impact on daily health

11.3

Sources of Stress in Everyday Life

Four sources of stress are: pressure, uncontrollability, frustration, and conflict

Frustrations:

- ▶ can be internal or external
- ▶ may result in persistence, aggression, displaced aggression, or withdrawal

11.4

Body and Stress

General Adaptation Syndrome: body's reaction to stress, includes

Three Stages of Reaction:

1. alarm
2. resistance
3. exhaustion

11.7

Different Types of Conflicts

Conflict Types:

- ▶ approach–approach
- ▶ approach–avoidance
- ▶ avoidance–avoidance
- ▶ multiple approach–avoidance

Factors in the Stress Reaction—Autonomic Nervous System:

- ▶ **Sympathetic system:** responds to stressful events
- ▶ **Parasympathetic system:** restores body to normal functioning after stress

11.6

Causes of Suicide

Suicidal behavior:

- ▶ Linked to depression
- ▶ People who talk about suicide should be taken seriously

11.5

Two Foci That Can Deal with Stress

- ▶ **Problem-focused coping:** used when problem can be eliminated or changed so no longer stressful or impact of stressor reduced
- ▶ **Emotion-focused coping:** used with problem-focused coping, involves changing one's emotional reactions

Psychological Defense Mechanisms

- ▶ Unconscious distortions of perceived reality
- ▶ Form of emotion-focused coping

11.8

Stress and the Immune System

- ▶ Stress increases the functioning of the immune system
- ▶ As the stress continues or increases, the immune system can begin to fail

Stress and Personality

Type A personalities:

- ▶ ambitious, time conscious, hostile, and angry workaholics
- ▶ increased risk of coronary heart disease, due to anger and hostility

Type B personalities

- ▶ relaxed, easygoing
- ▶ one-third the risk of coronary heart disease if male
- ▶ one-fourth the risk if female and working outside the home

Type C personalities

- ▶ pleasant but repressed
- ▶ internalize their negative emotions

Hardy people:

- ▶ hard workers who lack the anger and hostility
- ▶ seem to thrive on stress

Optimists

- ▶ look for positive outcomes
- ▶ experience far less stress than pessimists

11.9

Relationship Between Stress and Social Factors

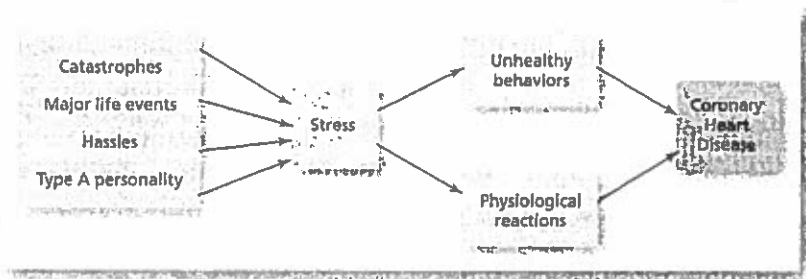
Social factors that increase the effects of stress:

- ▶ Poverty
- ▶ Stresses on the job
- ▶ Entering a different majority culture

Burnout: person develops negative thoughts, emotions, and behavior; extreme dissatisfaction with the job; desire to quit

Four Methods of Acculturation: integration, assimilation, separation, marginalization and marginalization

11.10



Coping with Stress

Meditation and Relieving Stress

Meditation:

- ▶ can produce a state of relaxation
- ▶ reduce the physical reactions to stress

Concentrative meditation:

- ▶ involves focusing inward on some repetitive stimulus, such as one's breathing

Receptive meditation:

- ▶ involves focusing outward to expand conscious awareness

11.13

Cultural Influences on Stress

- ▶ Different cultures perceive stressors differently
- ▶ Coping strategies vary according to culture

11.14

Religion and Coping with Stress

Religious people cope better with stressful events

11.15

Promoting Wellness in One's Life

Factors that promote wellness:

- ▶ exercise
- ▶ social activities
- ▶ getting enough sleep
- ▶ eating healthily
- ▶ having fun
- ▶ managing one's time
- ▶ practicing good coping skills

11.16

Personality:
unique way individuals
think, feel, and act

Four perspectives are:

1. Psychoanalytic
2. Behaviorist (including social cognitive theory)
3. Humanist
4. Trait

12.11

Theories of Personality

PSYCHOANALYTIC

BEHAVIORIST

Freud's View of the Conscious Mind

Three Divisions:
Conscious, Preconscious,
and Unconscious

Jung, Adler, Horney, and Erickson's Modifications of Freud

Jung: theory of a collective
unconscious

Adler: feelings of inferiority as
the force behind personality

Horney: theory based on
basic anxiety, rejected
penis envy concept

Erikson: developed a theory based
on social relationships

Modern Psychoanalytic Theory

Research supports defense
mechanisms, unconscious mind.
Other concepts are unable to be
scientifically researched

Behaviorist Theories of Personality

Personality: set of learned
responses or habits

Social cognitive: concept of
reciprocal determinism:
the environment, person,
and behavior interact

Self-efficacy: person perceives
behavior as more or less
effective based on previous
experiences, opinions of others,
perceived personal competencies

Freud's Three Parts of the Personality: Id, Ego and Superego

- ▶ **Id:** works on the pleasure principle
 - ▶ **Ego:** works on the reality principle
 - ▶ **Superego:** is the moral center of personality
- Conflict between id and superego leads to
anxiety for ego

Freudian Stages of Personality Development

Personality develops in a series of psychosexual stages:

- ▶ Oral (id dominated)
- ▶ Anal (ego develops)
- ▶ Phallic (superego develops)
- ▶ Latency (period of sexual repression)
- ▶ Genital (sexual feelings)

Oedipus and Electra complexes:

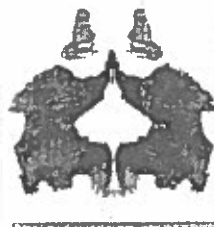
- ▶ Create anxiety in the phallic stage
- ▶ Resolved through identification with the same-sex parent

Fixation: occurs when conflicts are not fully resolved during a stage

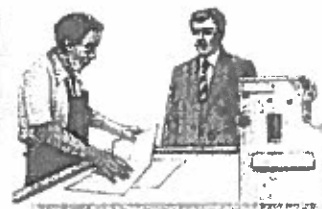
Interviews as Measures of Personality

- ▶ Interviews used primarily by psychoanalysts
and humanists
- ▶ Can include structured or unstructured
interviews
- ▶ Disadvantages: halo effect and biased
interpretations

12.14



RORSCHACH
INK BLOT



THEMATIC APPERCEPTION TEST

Projective Tests

- ▶ Based on defense
mechanism of projection
- ▶ Include Rorschach
inkblots and Thematic
Apperception Test
- ▶ Criticized for being low
in reliability and validity

12.15

HUMANIST

THE THIRD FORCE: HUMANISM AND PERSONALITY

TRAIT

Humanist Theories of Personality

Reaction against negativity of psychoanalysis and behaviorism's determinism

12.8

Roger's View of the Self

Self-actualization: depends on proper development of the self-concept

Self-concept: includes real self, ideal self

Unconditional positive regard: positive regard that is given without conditions

Humanistic theory: not scientifically researched

12.9

The Trait Perspective

Trait theorists: describe personality traits in order to predict behavior

Allport: list of about 200 traits

Cattell: 16 and 23 traits

Big Five or Five-Factor Model

- ▶ Openness
- ▶ Conscientiousness
- ▶ Extraversion
- ▶ Agreeableness
- ▶ Neuroticism

12.10

Trait Theorists Today

- ▶ Cross-cultural research: supports the five-factor model
- ▶ Future research: explores child-rearing practices, heredity, and five-factor model
- ▶ Behavior genetics: study of relationship between heredity and personality

12.11

Roles of Biology and Heredity in Personality

Studies of twins and adopted children support a genetic influence on personality

12.12

Hofstede's Four Dimensions of Cultural Personality

1. Individualism/collectivism
2. Power distance
3. Masculinity/femininity
4. Uncertainty avoidance

12.13

Assessment of Personality

Behavioral Assessments Used in Assessing Personality

- ▶ Include direct observation, rating scales, and frequency counts
- ▶ Disadvantages: observer effect and observer bias

12.16

Personality Inventories

- ▶ Developed by trait theorists
- ▶ Provide detailed description of personality traits
- ▶ Objective tests rather than subjective
 - NEO-PI: based on the five-factor model
 - Myers-Briggs Type Indicator: based on Jung's theory of personality types
 - MMPI-2: designed to detect abnormal personality

12.17

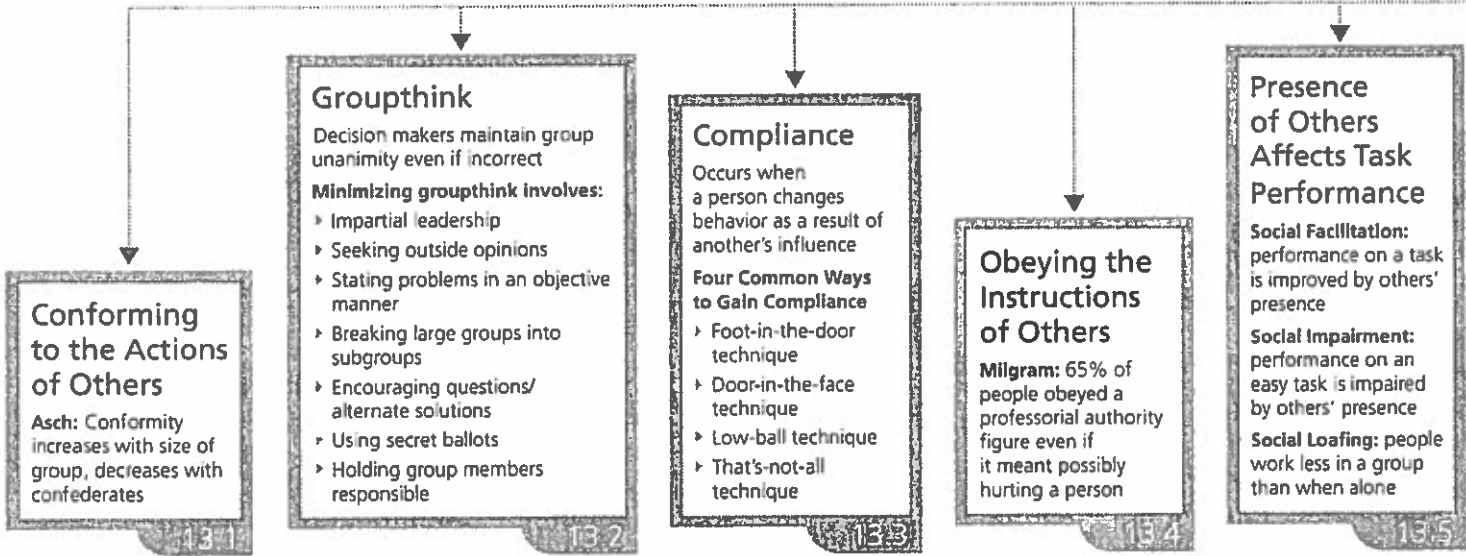
Personality Tests on the Internet

- ▶ There are numerous personality tests available on the Internet, although all of them are not equal in quality, reliability, or validity
- ▶ One danger in taking an online personality test is the lack of a professional to interpret results

12.18

Social psychology: study of thoughts, feelings, and behavior influenced by real, imagined, or implied presence of other people

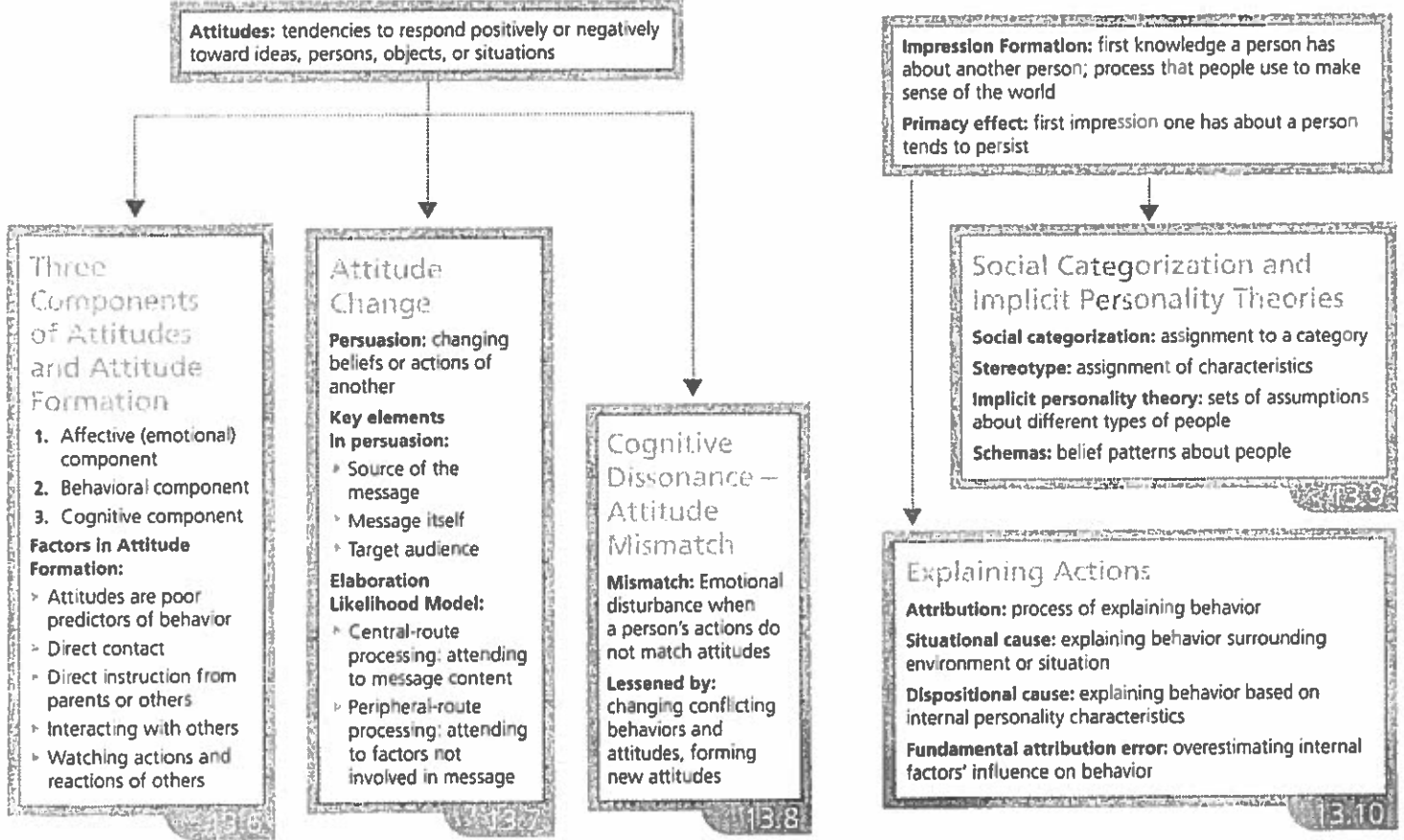
Behavior



Thoughts

ATTITUDES

IMPRESSION FORMATION AND ATTRIBUTION



Aggression

Behavior intended to hurt others

Biological factors: genetics, amygdala and limbic system, testosterone/serotonin

Learned Factors

- ▶ **Social learning theory:** reinforcement and imitation of successful aggression
- ▶ **Media:** violent television, movies, and video games can stimulate aggressive behavior
- ▶ **Frustration:** may be linked to aggression

13.15

Altruism

Prosocial behavior in which a person helps someone else without expectation of reward or recognition, often without fear for one's own safety

13.16

Bystander Effect

Presence of others can cause a diffusion of responsibility among all the bystanders

13.17

Latané and Darley's Studies of Helping Behavior

People who were alone were more likely to help in an emergency than people who were with others

13.18

The Helping Decision—Five Steps

1. Noticing
2. Defining an emergency
3. Taking responsibility
4. Planning a course of action
5. Taking action

13.19

Feelings

PREJUDICE AND DISCRIMINATION

Prejudice and Discrimination

Prejudice: negative attitudes

Discrimination: differential treatment

In-groups: group person identifies with

Out-groups: treated with prejudice

13.11

Causes of Prejudice

- ▶ **Social cognitive theory:** acquired through instruction, modeling, and social influences
- ▶ **Social identity theory:** sense of self from social categorization, identity, comparison
- ▶ **Stereotype vulnerability:** stereotypes may become a self-fulfilling prophecy

Reducing Prejudice

- ▶ **Equal status-contact:** no group holds power over the others; reduces prejudice
- ▶ **Jigsaw classroom:** mutual problem solving

13.12

LIKING AND LOVING

Factors in Attraction

- ▶ Proximity
- ▶ Similarity
- ▶ Complementary differences
- ▶ Reciprocity of liking

13.13

Sternberg's Triangular Theory of Love

13.14

Abnormality

Abnormality: Psychopathology—Study of Abnormal Behavior

Definitions of Abnormal Behavior

- ▶ Behavior that is statistically rare
- ▶ Deviates from social norms
- ▶ Causes subjective discomfort
- ▶ Does not allow normal, day-to-day functioning
- ▶ Causes person to be dangerous to self or others

14.2

MODELS OF ABNORMALITY

Biological Models of Abnormality

Mental illness is caused by chemical or structural malfunctions in nervous system

14.3

Psychological Viewpoints of the Causes of Abnormal Behavior

Psychoanalytic models: repressed conflicts and urges trying to surface to consciousness

Behaviorists: learned responses

Cognitive theorists: irrational beliefs and illogical thought patterns

14.4

Psychological Disorders

Professional Descriptions of Abnormal Behavior

Diagnostic and Statistical Manual, Version IV, Text Revision: manual of psychological disorders and symptoms

14.5

Different Psychological Disorders and Their Frequency of Occurrence

Five axes in the DSM-IV-TR.

1. Clinical disorders
2. Personality disorders
3. General medical conditions
4. Psychosocial and environmental problems
5. Global assessment of functioning

1 out of 5 people above 18 years old suffers from a mental disorder in a given year

Major depression is the most common psychological disorder

14.7

ANXIETY DISORDERS

Anxiety Disorders and Symptoms

Anxiety disorders: excessive/unrealistic anxiety

Phobias: irrational, persistent fears; three types of phobias: social, specific, and agoraphobia

Obsessive-compulsive disorder: obsessive thoughts and compulsive behavior

Panic disorder: intense panic, physical symptoms from sympathetic nervous system

Generalized anxiety disorder: intense and unrealistic anxiety lasting at least six months

14.8

SOMATOFORM DISORDERS

Somatoform disorders: belief that one is physically ill with no physical ailment

Types: hypochondriasis, somatization disorder, and conversion disorder

14.10

Causes of Anxiety Disorders

Psychoanalytic explanations: repressed urges and desires trying to come into consciousness, creating anxiety that is controlled by abnormal behavior

Behaviorists: disordered behavior is learned through reinforcement

Cognitive psychologists: excessive anxiety from illogical, irrational thought processes

Biological explanations:

- ▶ Chemical imbalances in nervous system, in particular serotonin and GABA systems
- ▶ Genetics may be responsible for anxiety disorders among related persons

14.9

Causes of Somatoform Disorders

Psychoanalytic explanations: anxiety is turned into a physical symptom

Behavioral explanations: negative reinforcement experienced when the "ill" person escapes unpleasant situations

Cognitive explanations: people magnify physical symptoms and normal bodily changes out of irrational fear

14.11

▶ DISSOCIATIVE DISORDERS

Break in consciousness, memory, or both

Types:

- ▶ Dissociative amnesia
- ▶ Dissociative fugue
- ▶ Dissociative identity disorder

Causes of Dissociative Disorders

Psychoanalytic: repression of memories, dissociation as a defense against anxiety

Cognitive and behavioral explanations: type of avoidance learning.

Biological explanations: lower activity levels in areas responsible for body awareness

The Controversial Case of "Sybil"

Evidence suggests that the psychiatrist treating Sybil may have suggested that she view her emotions as separate personalities

▶ MOOD DISORDERS: THE EFFECT OF AFFECT

Different Types of Mood Disorders

Mood disorders also called affective disorders: severe disturbances in emotion

Dysthymia: moderate depression — reaction to some external stressor

Cyclothymia: moderate mood swings usually tied to an external stressor

Major depression: sudden onset, extreme sadness/despair, no obvious external cause

Bipolar disorders: severe mood swings from depressive episodes to manic episodes

Causes of Mood Disorders

Psychoanalytic: depression as anger at authority figures from childhood turned inward on self

Learning theories: link depression to learned helplessness

Cognitive theories: depression seen as result of distorted, illogical thinking

Biological explanations: function of serotonin, norepinephrine, and dopamine systems

Genetics: more likely to appear in genetically related people

▶ SCHIZOPHRENIA: ALTERED REALITY

Schizophrenia: split between thoughts, emotions, and behavior

Main Symptoms of Schizophrenia

delusions, attentional difficulties, hallucinations, disturbed speech, emotional disturbances, disordered thinking

Five Types of Schizophrenia

- ▶ Disorganized
- ▶ Catatonic
- ▶ Paranoid
- ▶ Undifferentiated
- ▶ Residual

Possible Causes of Schizophrenia

Psychoanalytic: severe breakdown of the ego, due to infantile demands of id

Behaviorists: reinforcement, observational learning lead to behavioral symptoms

Cognitive theorists: severe irrational thinking

Biological: dopamine, structural defects in the brain, and genetic causes

▶ PERSONALITY DISORDERS

Different Types of Personality Disorders

extremely rigid, maladaptive behavior patterns prevent normal social interactions and relationships

Antisocial: person has no conscience and uses people for personal gain; a rare form is the serial killer

Borderline: person is clingy, moody, unstable in relationships, and suffers from problems with identity

Causes of Personality Disorders

Psychoanalysis: inadequate resolution to the Oedipal complex resulting in a poorly developed superego.

Cognitive-learning: learned behavior that has become maladaptive; illogical belief systems

Biological explanations: lower-than-normal stress hormones in antisocial personality; genetic bases

Other possible causes: disturbances in family communications and relationships, childhood abuse, neglect, overly strict parenting, overprotective parenting, and parental rejection

Seasonal Affective Disorder

Seasonal affective disorder (SAD): form of depression related to the winter months' low levels of sunshine

Treatment: light exposure — phototherapy

Two Ways of Treating Psychological Disorders

1. **Psychotherapy** :
 - ▶ **Insight therapy**: understanding one's motives
 - ▶ **Action therapy**: changing disordered behavior
2. **Biomedical therapy**: medical procedures for changes in behavior

15.1

Psychological Disorders in the Past

- MId-1500s**: mentally ill people confined in harsh and often damaging asylums
- Philippe Pinel**: demanded that the mentally ill be treated with kindness
- Psychoanalysis**: Freud developed psychoanalysis: focused on hidden, repressed urges and concerns from unconscious

15.2

Psychotherapy

PSYCHOANALYSIS

Basic Elements of Freud's Psychoanalysis: Used to Reveal the Unconscious

- ▶ Dream interpretation
- ▶ Free association
- ▶ Resistance
- ▶ Positive and negative transference

15.3

Today's View of Psychoanalysis

- Freud's theory criticized for:**
- ▶ Lack of scientific research
 - ▶ Personal biases causing misinterpretations of patients
- Modern modifications:**
- ▶ Takes less time
 - ▶ More direct
 - ▶ Does not focus on id, sexuality

15.4

HUMANISTIC THERAPIES

Humanistic Therapies: focus on conscious mind and subjective experience

Rogers's Person-Centered Therapy

- ▶ Nondirective
 - ▶ Client talks through problems
 - ▶ Therapist provides supportive background
- Four Basic Elements:**
- ▶ Reflection of client's statements by therapist
 - ▶ Unconditional positive regard given to the client by the therapist
 - ▶ Empathy of therapist for the client
 - ▶ Authenticity of therapist in client's perception

15.5

Fritz Perl's Gestalt Therapy

- ▶ More directive than person-centered therapy
- ▶ Focuses on the here and now
- ▶ Empty chair exercise

15.6

Today's Views of Humanistic Therapies

- ▶ Not based in experimental research
- ▶ Work best with intelligent, highly verbal persons

15.7

Does Psychotherapy Really Work?

Eysenck's early survey: suggested clients improve with time, with or without therapy

Effectiveness of Psychotherapy

- ▶ Surveys suggest psychotherapy is more effective than no treatment
- ▶ 75 to 90 percent of people who receive therapy improve
- ▶ Longer therapy is better
- ▶ Some psychotherapies more effective for certain problems
- ▶ Therapy should be matched to client and problem

Psychotherapy's Effectiveness and Cultural, Ethnic, or Gender Differences

- ▶ Misunderstandings and misinterpretations can occur
- ▶ Barriers to effective psychotherapy: language, cultural values, social class, nonverbal communication

15.8

▶ BEHAVIOR THERAPIES



▶ Do not look at thought processes ▶ Use conditioning to alter behavior

Behavior Therapists and Classical Conditioning

Uses: systematic desensitization, aversion therapy, flooding

15.8

Behavior Therapists and Operant Conditioning

Uses: modeling, reinforcement and the use of token economies, extinction

15.9

Effectiveness of Behavior Therapy

Effective in treating bedwetting, drug addictions, phobias, and behavioral symptoms associated with severe disorders

15.10

▶ COGNITIVE THERAPIES—THINKING IS BELIEVING

Cognitive Therapy

Teaches client thinking may be distorted

15.11

Goals of Cognitive-Behavioral Therapy

- ▶ Change illogical or distorted thinking
- ▶ Relieve symptoms/problems
- ▶ Develop strategies to solve future problems
- ▶ Change irrational, distorted thinking

15.12

Rational-Emotive Behavior Therapy

Directive therapy — therapist challenges client's irrational beliefs, often arguing with clients, assigning homework

15.13

Effectiveness of Cognitive Therapies

- ▶ Successful in treating depression, stress disorders, anxiety
- ▶ Criticized for focusing on symptoms and not causes

15.14

▶ GROUP THERAPY

Advantages and Disadvantages of Group Therapy

Advantages: Low cost, exposure to others, social interaction, and social/emotional support from others
Disadvantages: lack of privacy to reveal concerns, shy people won't speak up, people may not tolerate groups
Group therapy: can be accomplished using many styles of psychotherapy and may involve family counseling, self-help, or support groups

15.15-17

Biomedical Therapies

Drug Treatments

Antipsychotic drugs: control delusions, hallucinations, and bizarre behavior, include neuroleptics, atypical neuroleptics, and partial dopamine agonists

Antianxiety drugs: treat anxiety disorders, include benzodiazepines and antidepressant drugs

Antimanic drugs: treat bipolar disorder, include lithium and anticonvulsant drugs

Antidepressant drugs: treat depression; include monoamine oxidase inhibitors (MOAIs), tricyclic antidepressants, and selective serotonin reuptake inhibitors (SSRIs)

15.21

Electroconvulsive Therapy

Treats severe depression, bipolar disorder, and schizophrenia — uses muscle relaxant, short-term anesthetic, mild muscular contractions

15.22

Psychosurgery

Earliest form: prefrontal lobotomy can produce symptom disappearance, lack of emotional response, or mental retardation

Modern forms: bilateral cingulotomy, used to treat major depression, bipolar disorders, and certain forms of obsessive-compulsive disorder

15.23

Dangers of Treating Children and Adolescents with Antidepressant Drugs

- ▶ All but one antidepressant drug are associated with increased suicide risk when used to treat depression in children and adolescents
- ▶ Prozac more effective when combined with psychotherapy

15.24

PERSPECTIVES IN PSYCHOLOGY

	General philosophy	Important people	View of cause of disorders	Treatment technique	View on personality	View on motivation
Psychodynamic	Our unconscious mind plays a huge role in everything.	Sigmund Freud Alfred Adler Carl Jung	Unconscious, unresolved repressed issues from past	Psychoanalysis: Free association, dream analysis, TAT test	Id, ego, superego, psychosexual stages	We strive to satisfy our id impulses but we must meet demands of society
Behaviorism	Behavior is the result of reinforcements, punishments and observation.	B.F. Skinner John Watson Thorndike Ivan Pavlov Albert Bandura	Often we mimic our parents or friends' depression and anxiety. We like the attention.	Change maladaptive behaviors through reinforcements. Systemic desensitization token economy, aversion therapy	Our personality traits arise from reinforcement punishment	We're driven by extrinsic and intrinsic motivators.
Humanism	focuses on uniquely human issues, such as the self, hope, love, creativity, nature, being, becoming, individuality.	Abraham Maslow Carl Rogers	Barriers to self actualization. Ideal self and actual self not in congruence	Client-centered therapy. Reflective listening Self-help, group therapy	CR said our ideal self must be in congruence with our actual self.	Maslow's hierarchy of needs says basic needs should be met before higher needs
Cognitive	How people perceive, remember, think, speak, and solve problems.	Jean Piaget Noam Chomsky Alan Baddeley Albert Ellis	Irrational thoughts lead to anxiety and depression	RET, reality therapy (change maladaptive thoughts)	Based on how we think and perceive the world.	Based on goals, reducing cognitive dissonance
Evolutionary	We're result of 1000s years of adaptation, survival of fittest	Charles Darwin	Anxiety was a defense mechanism in wild	NA	Extroverts maintain social networks	Instinct and drive theories
Biomedical	Focus on biology and medicinal treatments	Paul Broca, Wernicke, Phineas Gage	Imbalance of NTMs, genetics, hormones, brain structure	Drugs and surgery	Genetics, NTMs, hormones	Genetics, NTMs, hormones

Important Neurotransmitters to Know

<i>Neurotransmitter</i>	<i>Function</i>	<i>Problems with Excess, Deficit</i>
Acetylcholine (ACh)	<ul style="list-style-type: none"> • critical to motor movement (deliver messages from neurons to muscles) • learning • memory 	<ul style="list-style-type: none"> • deficits in ACh production in Alzheimer's disease
Dopamine	<ul style="list-style-type: none"> • motor movement • alertness, attention 	<ul style="list-style-type: none"> • deficit: Parkinson's disease • excess: schizophrenia <ul style="list-style-type: none"> ○ schizophrenia often treated with <i>antipsychotic drugs</i>: block dopamine receptors, limiting the amount of dopamine being transmitted across <u>synapse</u>
Endorphins	<ul style="list-style-type: none"> • pain control, stress reduction • feelings of pleasure • "natural opiates" 	<ul style="list-style-type: none"> • deficits potentially involved in addiction?
GABA (gamma-aminobutyric acid)	<ul style="list-style-type: none"> • brain's major inhibitory neurotransmitter 	<ul style="list-style-type: none"> • deficit: seizures, insomnia
Glutamate	<ul style="list-style-type: none"> • brain's major excitatory neurotransmitter • creates links between neurons that form basis of learning, long-term memory 	<ul style="list-style-type: none"> • excess: overstimulation of brain (seizures?) (This is why people avoid food with MSG. MSG = monosodium glutamate)
Norepinephrine (aka. noradrenaline)	<ul style="list-style-type: none"> • "fight or flight" • controls alertness, arousal • elevates heart rate, circulation, respiration, etc. • mood elevation 	<ul style="list-style-type: none"> • deficit: depressed mood
Serotonin	<ul style="list-style-type: none"> • mood regulation • hunger, sleep 	<ul style="list-style-type: none"> • deficit: depressed mood <ul style="list-style-type: none"> ○ depression often treated with <i>selective serotonin reuptake inhibitors (SSRIs)</i>: prevent serotonin from being reabsorbed in uptake, thus leaving more serotonin in <u>synapses</u>

Important Methods for Studying the Brain

<i>Accidents & Lesions</i>			
<i>Method</i>	<i>How It Works</i>	<i>Advantages</i>	<i>Disadvantages</i>
Accidents (e.g. Phineas Gage)	<ul style="list-style-type: none"> Examine an individual's behavior after experiencing damage to a specific part of the brain due to an accident 	<ul style="list-style-type: none"> Allows for educated guesses about links between brain structure & function Allows research on fluke circumstances that are impossible/unethical to recreate in lab 	<ul style="list-style-type: none"> Little or no experimental control Issues associated with case studies
Lesions (removal, destruction of part of brain)	<ul style="list-style-type: none"> Examine an individual's behavior after suffering brain damage due to disease, psychosurgery, genetic factors, etc. 	<ul style="list-style-type: none"> Allows for educated guesses about links between brain structure & function Allows research on fluke circumstances that are impossible/unethical to recreate in lab 	<ul style="list-style-type: none"> Little or no experimental control Issues associated with case studies

<i>EEG & Neuroimaging Techniques</i>			
<i>Method</i>	<i>How It Works</i>	<i>Advantages</i>	<i>Disadvantages</i>
Electroencephalogram (EEG)	<ul style="list-style-type: none"> Amplified recording of brain's electrical activity ("brainwaves") via electrodes placed on scalp 	<ul style="list-style-type: none"> High temporal resolution Non-invasive, painless procedure 	<ul style="list-style-type: none"> Low spatial resolution
Computerized Axial Tomography (CAT, CT) scan	<ul style="list-style-type: none"> X-ray cameras rotate around head, combining images into 3D picture of brain <i>structure</i> 	<ul style="list-style-type: none"> High resolution images of brain <i>structure</i> Allows direct view of level of interest 	<ul style="list-style-type: none"> Potential damage due to high radiation levels No information about brain <i>function</i>
Positron Emission Tomography (PET) scan	<ul style="list-style-type: none"> Tracks brain's consumption of radioactive glucose injection, providing images of brain <i>function</i> 	<ul style="list-style-type: none"> Allows researchers to examine which brain areas consume most energy in a given task, thus providing info about brain <i>function</i> 	<ul style="list-style-type: none"> Radiation injection Lengthy process Expensive equipment needed to create radioactive isotopes

			<ul style="list-style-type: none"> No information about brain <i>structure</i>
Magnetic Resonance Imaging (MRI)	<ul style="list-style-type: none"> Strong magnetic field causes disorientation of atoms in brain; reorientation = signal as to soft tissue density (picture of brain <i>structure</i>) 	<ul style="list-style-type: none"> Allows researchers to examine brain <i>structure</i> without exposure to radiation involved with CT scan Non-invasive, painless procedure 	<ul style="list-style-type: none"> Can be an uncomfortable, claustrophobic experience No information about brain <i>function</i>
Functional Magnetic Resonance Imaging (fMRI)	<ul style="list-style-type: none"> Type of MRI that detects amount of bloodflow in different brain regions (proxy for oxygen consumption; brain <i>function</i>) 	<ul style="list-style-type: none"> High spatial resolution (3-6 millimeters) Non-invasive, painless procedure Quick imaging process 	<ul style="list-style-type: none"> Can be uncomfortable, claustrophobic experience

**AP Psychology Review
Important Names to Know**

<i>Psychologist</i>	<i>Subfield/Perspective</i>	<i>Best-known for:</i>
Wilhelm Wundt (1832-1920)	History	<ul style="list-style-type: none"> • Established first psychology laboratory in Leipzig, Germany (1879) • Founder of structuralism • Introspection
William James (1842-1910)	History	<ul style="list-style-type: none"> • Founder of functionalism • Pioneering American psychologist <ul style="list-style-type: none"> ◦ Published 1st psychology text
Ivan Pavlov (1849-1936)	Learning Behavioral	<ul style="list-style-type: none"> • Classical conditioning (dogs & saliva)
Sigmund Freud (1856-1939)	Personality, clinical Psychodynamic	<ul style="list-style-type: none"> • Emphasis on unconscious motivations (sexual, aggressive) • Founder of psychoanalysis (therapy) • 4 stage psychosexual theory of personality development <ul style="list-style-type: none"> ◦ Oral, anal, phallic, genital • Dream interpretation, free association • Defense mechanisms
Alfred Binet (1857-1911)	Intelligence	<ul style="list-style-type: none"> • Creator of first intelligence test with Theodore Simon (1905)
Edward Thorndike (1874-1949)	Learning Behavioral	<ul style="list-style-type: none"> • Law of Effect <ul style="list-style-type: none"> ◦ Provided basis for behaviorism
John Watson (1878-1958)	Learning Behavioral	<ul style="list-style-type: none"> • Founder of behaviorism • Little Albert
Jean Piaget (1896-1980)	Developmental Cognitive	<ul style="list-style-type: none"> • 4 stage theory of cognitive development <ul style="list-style-type: none"> ◦ Sensorimotor, preoperational, concrete operational, formal operational
Benjamin Whorf (1897-1941)	Cognition (language)	<ul style="list-style-type: none"> • Whorf's hypothesis <ul style="list-style-type: none"> ◦ Language influences cognition
Erik Erikson (1902-1994)	Developmental Social	<ul style="list-style-type: none"> • 8 stage theory of psychosocial development <ul style="list-style-type: none"> ◦ Conflicts that yield certain personality characteristics, depending on resolution
Carl Rogers (1902-1987)	Therapy Humanist	<ul style="list-style-type: none"> • Humanistic psychology • Client-centered (person-centered) therapy <ul style="list-style-type: none"> ◦ Unconditional positive regard
B.F. Skinner (1904-1990)	Learning Behavioral	<ul style="list-style-type: none"> • Operant conditioning • Reinforcement theory <ul style="list-style-type: none"> ◦ Skinner box (rats & lever pressing)

Harry Harlow (1905-1981)	Developmental	<ul style="list-style-type: none"> • Attachment styles among monkeys (fake mothers) • Showed importance of physical touch over nourishment in infant monkeys.
Solomon Asch (1907-1996)	Social	<ul style="list-style-type: none"> • Conformity <ul style="list-style-type: none"> ◦ Line Length study
Abraham Maslow (1908-1970)	Motivation & emotion; Therapy Humanistic	<ul style="list-style-type: none"> • Humanistic psychologist • Hierarchy of psychological needs <ul style="list-style-type: none"> ◦ Self-actualization
Mary Ainsworth (1913-1999)	Developmental Social	<ul style="list-style-type: none"> • Attachment styles • “Strange situation”: infants & strangers • Secure infants have good bonds with mothers. Reverse is also true.
Stanley Schachter (1922-present)	Motivation & emotion	<ul style="list-style-type: none"> • Two-factor theory of emotion
Albert Bandura (1925-present)	Learning Social	<ul style="list-style-type: none"> • Social learning theory/modeling • Bobo doll study
Lawrence Kohlberg (1927-1987)	Developmental	<ul style="list-style-type: none"> • 3 stage theory of moral development <ul style="list-style-type: none"> ▪ preconventional, conventional, postconventional
Noam Chomsky (1928-present)	Cognition (language)	<ul style="list-style-type: none"> • nativism: innate, universal grammar • critical period for language development
Stanley Milgram (1933-1984)	Social	<ul style="list-style-type: none"> • Obedience to authority <ul style="list-style-type: none"> ◦ Deliver shocks to learner
Phil Zimbardo (1933-present)	Social	<ul style="list-style-type: none"> • Stanford Prison Experiment <ul style="list-style-type: none"> ◦ Importance of social roles
Howard Gardner (1943-present)	Intelligence	<ul style="list-style-type: none"> • Theory of multiple intelligences
Elizabeth Loftus (1944-present)	Cognition (memory)	<ul style="list-style-type: none"> • Unreliability of eyewitness testimony • Memory as active construction • “misinformation effect” shown in memory studies.

Hawthorne	Social	<ul style="list-style-type: none"> • Showed that factory workers had improved work performance with both improved and poor lighting. Conclusion was that they had improved simply because they were being observed in the experiment.
Roger Sperry	Biological	<ul style="list-style-type: none"> • The first to propose “split-brain” surgery to help epileptic patients.
Jean Piaget	Cognitive Developmental	<ul style="list-style-type: none"> • Proposed four stages of COGNITIVE development. (Remember the acronym Socks Pulled Over Cold Feet to remember these in order.) Sensorimotor, Preoperational, Concrete, and Formal Stages.
Erik Erikson	Developmental Social	<ul style="list-style-type: none"> • Proposed eight stages of SOCIAL development (know these!!)
Lawrence Kohlberg	Developmental	<ul style="list-style-type: none"> • Proposed three stages of MORAL development (all framed around the word conventional.) This theory was criticized as it only tested young children by framing hypothetical situations for them and their responses to these. It did not test cross-culturally and between the genders.
Konrad Lorentz	Developmental	<ul style="list-style-type: none"> • Imprinting studies. Showed how baby animals would follow the first object they saw after birth. Believed to be a built-in survival mechanism.
Jerome Kagan	Biological	<ul style="list-style-type: none"> • Studies to indicate that in-born temperament may explain many behaviors.
Eleanor Gibson	Developmental Sensation/Perception	<ul style="list-style-type: none"> • The “visual cliff” experiment. Showed that depth perception cues are innate.
Hubel and Weisel	Sensation and Perception	<ul style="list-style-type: none"> • Studies with monkeys to show that they had specific FEATURE DETECTORS to aid them in visual processing (some for lines, bars, edges, shapes, etc.)
Ernest Hilgard	States of Consciousness	<ul style="list-style-type: none"> • Studies showing that a hypnotic trance includes a “hidden observer” suggesting that there is some subconscious control during hypnosis.
Robert Rescorla	Learning	<ul style="list-style-type: none"> • Proposed that there is a conscious connections between the CS and the UCS in classical conditioning experiments. (A smoker is aware that a nausea-producing drug will affect his behavior)
Wolfgang Kohler	Cognitive	<ul style="list-style-type: none"> • Demonstrated use of “insight” in apes when they used sticks to reach a banana that was out of reach.

Alfred Binet	Intelligence	<ul style="list-style-type: none"> • French, worked with School kids • Developed the Modern IQ formula. Mental age/chronological age x 100.
David Wechsler	Intelligence	<ul style="list-style-type: none"> • Modern IQ tests with specialized subtests and use of factor analysis.
James and Lange	Emotion	<ul style="list-style-type: none"> • Physical before cognitive when appraising an emotional situation.
Cannon and Bard	Emotion	<ul style="list-style-type: none"> • Emotions and cognitive appraisal at the same time.
Shachter and Singer	Emotion	<ul style="list-style-type: none"> • showed that emotions have both a physical and a cognitive component. •
Aaron Beck	Cognitive	<ul style="list-style-type: none"> • Cognitive therapy approach.
Albert Ellis	Cognitive Therapies	<ul style="list-style-type: none"> • Rational emotive therapy (RET is a form of cognitive therapy)
Eysenck and Myers-Briggs	Personality Intelligence	<ul style="list-style-type: none"> • All did personality tests to validate the trait perspective.
Hans-Selye	Stress Biologicals	<ul style="list-style-type: none"> • General Adaptation Syndrome (stress responses)
Muzafer Sherif	Social	<ul style="list-style-type: none"> • Co-operation among divisive groups when they had subordinate (shared) goals.
Martin Seligmans	Cognition Learning	<ul style="list-style-type: none"> • “Learned Helplessness Experiment” with dogs. Showed the external locus effect in animals (generalized to depression with humans)
Carol Gilligan	Biological Social	<ul style="list-style-type: none"> • Studied gender differences. Males value accomplishments and women value relationships

AP Psychology's "Confusing Pairs"

Bottom-up processing (individual elements to whole) v. Top-down processing (whole to the parts)

Agonist (chemicals that mimic the actions of neurotransmitter) v. Antagonist (chemicals that opposes the action of a neurotransmitter)

Foot-in-the-door (start small then go big- \$5 get \$100) v. Door-in-the-face (start big to get small)

Random Assignment (each participant has equal chance of being placed into any group) v. Random Sample (is the process of choosing the research participants from the population & happens before assignment)

Applied Research (clear, practical use)v. Basic Research (pure science that aims to increase the scientific knowledge base)

Quantitative data (deals with numbers- height, weight, time) v. Qualitative data (deals with descriptions- color, smell, taste)

Self-Serving Bias (tendency to overstate one's role in a positive venture & underestimate in a failure) v. Self-Fulfilling Prophecies (explains how people's ideas about others can shape the behavior of those others)

Collectivist cultures (Japan- family, company stressed) v. Individualistic cultures (USA- uniqueness of individual stressed)

Structuralism (school of thought that thought the structure (parts of brain) and elements of immediate, conscious experience to be proper subject matter of psychology- Wundt, Titchener (USA) v. Functionalism (school of thought that tried to understand how& why the mind functions and is related to consciousness- James)

Descriptive Statistics (describe as set of data- central tendency: mean, mode, median) v. Inferential Statistics (is to determine whether or not findings can be applied to the larger population from which the sample was selected: cause and effect)

Syntax (grammar) v. semantics (meaning)

Anterograde amnesia (can't remember new stuff after head injury) v. Retrograde Amnesia (can't remember stuff before head injury)

Systematic Desensitization (behavior therapy use to reduce client's anxiety responses- bad paired with good) v. Aversion Conditioning (therapy)- (behavior therapy in which an aversive stimulus is paired to elicit an undesirable response- bad w/bad)

Absolute Threshold (level needed to see it 50% of time) v. Difference Threshold, AKA. Just-noticeable-difference (JND)- (perceive change in stimulus level- music level)

Construct Validity (test measures a particular hypothetical concept- creativity, IQ, extraversion) v. Content Validity (content of a test is representative of the domain it is supposed to cover- stuff on test from that chapter)

Independent Variable (what is tested, you manipulate) v. Dependent Variable (what is measured, the results)

Experimental Group (group that is tested) v. Control Group (compared to the experimental, receives the placebo)

Left brain (language and logic) v. Right brain (creative and spatial).

Corpus Callosum (divides the brain) v. Cerebral Cortex (covers the brain)

Sympathetic Nervous System ("fight or flight") v. Parasympathetic (calming – parachute)

Neurotransmitters (in the nervous system) v. Hormones (in the endocrine system)

Lateral Hypothalamus (stimulates hunger) v. Ventromedial Hypothalamus (suppresses hunger)

Broca's Area (makes words) v. Wernicke's Area (comprehends words)

Identical Twins (same fertilized egg) v. Fraternal Twins (two separate eggs)

Afferent neurons (sensory, body to brain) v. Interneurons (Brain and Spinal Cord) V. Efferent neurons (motor, brain to body)

Assimilation (all four-legged animals are "doggies") v. Accommodation ("doggies" are different than "kitties")

Concrete operations (logical thinking) v. Formal operations (philosophical thinking)

Sensation (bottom-up processing) v. Perception (top-down processing)

Rods (night vision, Black and White, Peripheral) v. Cones (color vision, Detail, Clarity, Fovea)

Classical conditioning (involuntary) v. operant conditioning (voluntary)

Primacy effect (first items remembered) v. Recency effect (last items remembered)

Proactive interference (loss of the new info) v. retroactive (loss of the old info)

Implicit memory (non-declarative; skills) v. Explicit memory (declarative, facts)

Recall memory (no cues) v. Recognition memory (some hints)

Algorithms (step-by-step) v. Heuristics (rule-of-thumb)

Representative heuristics (stereotypes) v. Availability heuristics (based on available info)

Phonemes (basic sound units) v. Morphemes (basic units of meaning)

Fluid Intelligence (processing speed) v. Crystallized Intelligence (acquired knowledge)

Validity (test measures or predicts what it should) v. Reliability (same scores on a retest, consistency)

Achievement test (what you've learned, content based) v. Aptitude test (potential, ability)

Intrinsic motivation (for personal satisfaction) v. Extrinsic motivation (for rewards)

Theory Y (democratic/intrinsic, people are good) v. Theory X (rewards or punishment/extrinsic, people are bad/lazy)

Internal locus (you control the environment) v. External locus (environment controls you)

Lithium (treats bi-polar) v. Librium (treats anxiety)

Type A (high stress) v. Type B (low stress)

Variation (Within a group) V. Difference (Between Two groups)

Important Stage Theories from Developmental Psychology

1. Jean Piaget: Stages of Cognitive Development

<i>Stage</i>	<i>Typical Age Range</i>	<i>Description of Stage</i>	<i>Developmental Phenomena</i>
1. Sensorimotor	Birth – 2 years	Experience world through senses, actions	<ul style="list-style-type: none"> • Object permanence • Stranger anxiety
2. Preoperational	2 – 7 years	Mental representations with words & images; intuitive, rather than logical, reasoning	<ul style="list-style-type: none"> • Pretend play • Egocentrism • Language development
3. Concrete operational	7 – 11 years	Thinking logically about concrete events; understand concrete analogies & mathematical operations	<ul style="list-style-type: none"> • Conservation • Mathematical transformations
4. Formal operational	12 - adulthood	Abstract reasoning	<ul style="list-style-type: none"> • Abstract logic • Potential for mature moral reasoning

2. Lawrence Kohlberg: Stages of Moral Development

<i>Stage</i>	<i>Typical Age Range</i>	<i>Description of Stage</i>
1. Preconventional	Birth – 9 years	Morality based on self-interest; avoid punishment or gain rewards
2. Conventional	9 years – early adolescence	Obey laws and rules purely <u>because</u> they are the laws and rules
3. Postconventional	Early adolescence – adulthood (<u>for some people only</u>)	Morality based on personal, abstract values of right and wrong

3. Erik Erikson: Stages of Psychosocial Development

<i>Stage</i>	<i>Approximate Age</i>	<i>Issues/Conflict</i>	<i>Description of Task</i>
1. Infancy	Birth – 1 year	Trust vs. mistrust	If needs are dependably met, infants develop a basic sense of trust.
2. Toddlerhood	1 – 2 years	Autonomy vs. shame and doubt	Toddlers learn to exercise will and do things for themselves, or they doubt their abilities.
3. Preschooler	3 – 5 years	Initiative vs. guilt	Preschoolers learn to initiate tasks and carry out plans, or they feel guilty about efforts to be independent.
4. Elementary school	6 years – puberty	Competence vs. inferiority	Children learn the pleasure of applying themselves to tasks, or they feel inferior.
5. Adolescence	Teen years – 20s	Identity vs. role confusion	Teenagers work at refining a sense of self by testing roles and then integrating them to form a single identity, or they become confused about who they are.
6. Young adulthood	20s – early 40s	Intimacy vs. isolation	Young adults struggle to form close relationships and to gain the capacity for intimate love, or they feel socially isolated.
7. Middle adulthood	40s – 60s	Generativity vs. stagnation	In middle age, people discover a sense of contributing to the world, usually through family and work, or they may feel a lack of purpose.
8. Late adulthood	60s and up	Integrity vs. despair	When reflecting on his or her life, the older adult may feel a sense of satisfaction or failure.

4. Sigmund Freud: Stages of Psychosexual Development

<i>Stage</i>	<i>Approximate Age</i>	<i>Focus</i>
1. Oral	Birth – 18 months	Pleasure centers on the mouth (sucking, biting, chewing)
2. Anal	18 -36 months	Pleasure focuses on bowel and bladder elimination; coping with demands for control
3. Phallic	3 – 6 years	Pleasure zone is the genitals; coping with incestuous sexual feelings
4. Latency	6 years – puberty	Dormant sexual feelings
5. Genital	Puberty on	Maturation of sexual interests

Thoughts on the AP Exam

General Information:

You will take the Exam at Noon on the first Monday in May. For most of you, you will need to go about your normal routine in the morning (unless you want to sleep a little late, go get breakfast and then check-in before the exam) and then go to first lunch. You will need to report to your testing location just before noon. You are not allowed to have personal belongings in the testing room, so you will need to leave everything except the following items in your car, or drop them in your locker, or bring them by my classroom. Please arrive a few minutes before noon. Nothing will screw with your train of thought like running late, and having to sprint into the school or down the hall just to try and get to the exam on time. Also, CollegeBoard is very strict about testing times, and you will not be allowed to enter the test late and they have strict guidelines for acceptable excuses for missing the exam and being allowed to make it up. **BE ON TIME!**

You will need to have with you for the test the following items:

3-4 Sharpened Pencils -Mechanical pencils are not allowed, they must be wood.

2-3 Pens with blue or black ink-As I have told you before, you need to have a brand of pen that you are used to writing with. The pens that are provided for you are usually of an inferior quality, and I have seen how it derails a student's train of thought to be mid-sentence and have the ink run out. Bring your own and avoid the issue.

Watch- You may be seated so that you have difficulty seeing the clock. By having a watch, you will avoid any issues. It **CAN NOT** be a smart watch, and you will need to make sure it is set so that it does not make any noise.

Bottle of water/snack- You may get hungry or thirsty during the test, it is best to be prepared. You will have to sit these items in the front of the room, but can access them during the break. If you are also taking the AP Chem exam in the morning, you will need to have a lunch to eat between tests. Be sure to talk to me earlier, and I will make sure you have a lunch that day, and will coordinate with the various proctors and ensure you have a break to move around and clear your mind as well as eat and use the restroom.

Testing Tips, General:

Traditional thought says for you to dress as comfortably as possible on test days, as appearance doesn't matter to your score and why not be comfortable. Recent studies had suggested that for many people, dressing in a comfortable, slovenly manner causes you to not take yourself and the event as seriously. These studies suggest that you may want to dress in a more formal manner, much like going for a job interview. The thought is that when you dress better, you take yourself more seriously and as a result unconsciously put forth a little more effort on the test. I am not going to try and tell you all what exactly to do on this topic, I am just presenting the two theories and leaving it up to you to decide. Each of you is different and I would encourage you to try the different strategies at school as you are preparing for the exam.

Pace yourself. There is a reason I told you to have a watch. You will have a set amount of time for each section and it is up to you to keep up with how much time you have used, and have left. The proctor should announce your time at various points, but I have seen them fail to ever mention time until the suddenly announce time is up (and caused several students to end up leaving a lot of answers blank) When you start each section of the test, write the time you are starting and will have to finish on your test booklet (or corner of your desk) somewhere it will be visible. This way as you refer to your watch during the test, you can see how much time you have left and can better pace yourself. You should try to time yourself as you take practice AP exams and make sure you are on pace as we get closer to the exam. Some of you may need to speed things up a bit in order to get finished in the allotted time, others of you always seem to finish early and may benefit from slowing down a bit.

If you finish section one early, DO NOT go to sleep. I have had some students finish section one very quickly, and fall asleep for 30 minutes while the rest of the class took the allotted time and finished. When they were woken up for section two, they had dropped into stage 3 sleep and it took them a while to fully get their brain going, and it caused their FR section to suffer. Stay awake.

During the break between sections, get up and move around. You may not be allowed to talk, but get up and get your blood flowing. Stretch, do jumping jacks, do anything you need to get your blood flowing. This increased blood flow to your brain will help you perform as well as you can. As a matter of fact, you would be well served to stretch and move around a bit just before you take the MC section as well.

Complete multiple practice tests. We will take a few practice tests in class, and I have several you can come in and take on your own. There is also a wealth of practice questions online you can access (see the links/resources page) The more you complete these and time yourself, the more familiar you will be with the style, format, pacing, and content of the exam and will be better prepared to do your best.

Testing Tips, Multiple Choice: You will have roughly 100 Multiple choice questions on the exam and will have 70 minutes to complete them. This is worth 2/3 of your Exam score.

Bubble correctly. It constantly astounds me to see how some of you fill in bubble sheets. Your test will be scanned by a machine that looks at the marks you made and quickly does its best to decide what you put. I go through your answer sheets all year and make corrections and try and figure out what you meant the answer to be. The machine does not care. If it can't read it or tell which one you put, it counts it wrong and moves on. Bubble neatly and fully erase any wrong answers you may have put.

There is no guessing penalty, so don't leave anything blank. If it gets down to 2 minutes left, and you have 10-15 questions left (which shouldn't happen if you have worked on pacing yourself like we talked about earlier) go ahead and fill all of the remaining questions in with any answer you want.

Go with your gut. A lot of this is common sense. If an answer seems correct to you, it probably is. If you read a question, and the answer you were looking for isn't there, read all of the answers and see if any of them would work if you interpreted them differently. Remember, there are two ways to get the answer right without guessing, to know the right answer, and know the other answers are wrong.

Testing Tips, Free Response: You will have 50 minutes to complete 2 free response questions. This is worth 1/3 of your Exam score.

Figure out how many points each question is worth. When you get the prompts, read it carefully and see how many points it is worth. They are typically worth 7-10 points each, but that is just a "normal window" it can stray outside. When you look at it, it should be fairly obvious. Be careful of words like BOTH, 2 examples of, etc. to make sure you realize everything they are looking for.

Write your essays in Pen. I wish I could say they wouldn't score your essay if you wrote it in pencil (really, don't ever write an essay in pencil, it is awful). They will score it even if it is in pencil, but it is harder to read, it creates a glare, gives readers a headache, smudges as it is being shipped across the country to New Jersey, then repacked and shipped to your subjects reading site. Don't be that person, when you get finished with the MC section, put your pencils up and use a pen on the FR section.

If the reader can't read it, they can't score it. For many of you, your lack of penmanship will be your undoing on the AP exam. The readers are sitting in a massive room scoring hundreds of essays per day. If they get to a pile of chicken-scratch on the page, they will do their best to decipher it, and they will move on. Make it easy for them.

You must write in complete sentences. Simply put, you have a great outline with a bunch of sentence fragments, you get an awful score. It doesn't matter if you seem to really know what you are talking about, no complete sentences, no score.

You can answer the essay questions in any order, but why not do it in the order it was presented? Doing it this way will make it easier for the reader, and lets face it, why would you not try to make life easier for the guy that is responsible for 1/3 of your exam score.

Keep in mind that while you are spending about 25 minutes on each FR question, it will be read and scored in probably 3-5 minutes. That is all the time you will probably get to convince the reader that you know what you are talking about and get your point across. You do not get points for style, answer the question. You do not get points for an introduction, answer the question. You do not get points for rambling on the topic to show off how much you know, just answer the question. When you see the prompts, let them guide you on your way. They will tell you what you need to talk about. Be sure you have fully read them and fully give them what they are looking for. Also, be certain you are being obvious. In fact, be painfully obvious. I had a reader from AP Psych tell me one time that he loves it when the kids metaphorically hit them upside the head with the answer. This isn't the time for subtlety. Get your point across and get it across well. That being said, I have read hundreds of essays where the student was so close to getting the point for the essay I could feel it, only to move onto the next portion and score nothing. If you have any doubt about if you scored a point or not, write another sentence and make sure you scored the point. Most students write a free response answer that scores OK, but with just a little more would score great.