Introduction to Psychology

Main ideas and terms to know:
~Understand the main perspectives on psychology, past and present:
  • Introspection (Wundt)
  • Behavioral (Skinner & Watson)
  • Humanist (Rogers)
  • Psychoanalytic (Freud)
  • Neurobiological
  • Socio-cultural
  • Evolutionary
  • Behavior genetics
  • Cognitive

~Know the various degrees, careers, and subfields of psychology:
  • psychiatrist vs. psychologist
  • subfields of psychology

~Understand the need for scientific research and the limitations of common sense:
  • applied vs. basic research
  • hindsight bias
  • overconfidence
  • confirmation bias
  • illusory correlation
  • false-consensus effect

~Understand the various research methods, their strengths and weaknesses:
  • case study
  • survey
  • random sample
  • naturalistic observation
  • correlation
  • positive correlation
  • negative correlation
  • correlation coefficient
  • experimental method
  • experimental condition
  • control
  • independent variable
  • dependent variable
  • confounding variable
  • random assignment
  • within-group design
  • single blind
  • double blind
  • experimenter bias
  • placebo
  • quasi-experimental

~Understand some of the statistical measures used to explain and describe experimental results:
  • correlation coefficient (Pearson’s R)
  • meta-analyses
  • properties of a normal distribution (bell-shaped curve)
  • 68% and 96%
  • positively and negatively skewed distributions
  • variance
  • standard deviation
  • significance tests (.05)
  • measures of central tendency (mean, median, mode)
  • null hypothesis

~Understand some of the ethical issues of psychological research:
  • guidelines for animal research
  • deceiving subjects
  • informed consent
The Biological Basis of Behavior

Main ideas and terms to know:

~Understand the structure and function of a neuron:
- soma
- axon
- dendrite
- myelin sheath
- nodes of ranvier
- synaptic terminals
- synaptic vesicles
- synaptic knob
- nucleus
- resting potential
- action potential
- selective permeability

- depolarization
- hyperpolarization
- absolute threshold
- refractory period
- all-or-none response
- excitatory vs. inhibitory signals
- synapse
- neurotransmitter
- Steps of synaptic transmission
- antagonist
- glial cell
- types of neurons (sensory, motor, inter)

~Understand the various branches of the Nervous System:
- Peripheral, Central, Autonomic, Skeletal, Sympathetic, and Parasympathetic
  (know the basic function of each and how they are connected)

~Know the major glands of the endocrine system, the hormones that they secrete, and how hormonal transmission differs from neural transmission:
- Adrenal, Pituitary, Thyroid, Para-thyroids, Pancreas, Ovary, Testis

~Understand the various techniques for studying the brain:
- lesion studies
- EEG
- CAT Scans
- PET Scans
- MRI

~Know the parts of the brain and their basic functions:
- Brain Stem Medulla
- Cerebellum Hippocampus
- Cerebral Cortex Temporal lobes
- Hindbrain Pons
- Thalamus Amygdala
- Frontal lobes Corpus Collosum
- Midbrain Motor cortex
- Hypothalamus Sensory cortex
- Parietal lobes Broca’s area
- Forebrain Wernicke’s area
- Limbic System Reticular formation
- Occipital lobes

~Understand the findings of the split-brain patient studies and the concept of hemispheric specialization
Sensation & Perception

Main ideas and terms to know:

~Understand the basic principles of perception:
  • Absolute threshold
  • Difference threshold
  • JND
  • Signal detection theory
  • Weber’s Law
  • Subliminal messages
  • Sensory adaptation
  • Habituation

~Know the parts of the eye and their functions
  • Wavelength = hue
  • Amplitude = intensity (brightness)
  • Cornea
  • Pupil
  • Iris
  • Lens
  • Retina
  • Rods
  • Cones
  • Retina
  • Fovea
  • Blind spot
  • Feature detectors
  • Afterimage
  • Opponent process theory
  • Young-Helmholtz trichromatic theory

~Know the parts of the ear
  • Amplitude = loudness
  • Frequency = pitch
  • Pinna
  • Outer ear
  • Auditory canal
  • Eardrum
  • Middle ear
  • Hammer
  • Anvil
  • Stirrup
  • Inner ear
  • Semicircular canals
  • Cochlea
  • Place theory
  • Frequency theory
  • Conduction vs. nerve deafness

~The minor senses: touch, taste, smell
  • Phantom limb sensation
  • Gate control theory
  • Pain control
  • Taste buds
  • Kinesthesia
  • Lock & key theory of smell

~Understand the following concepts related to perception:
  • Selective attention (cocktail party effect)
  • Gestalt rules of organization
  • Depth perception: Binocular Cues vs. Monocular cues
  • Perceptual set
  • Constancies (shape, size, distance, brightness)
  • Adaptation
  • Context effects

~Identify biological and social factors that effect perception

~Consider the claims and skepticism of ESP
  • Telepathy
  • Clairvoyance
  • Precognition
  • Psychokinesis
  • Ganzfeld procedure
Learning and Memory

Main ideas and terms to know:

~Understand the basic principles of Classical Conditioning:
  • unconditioned stimulus (UCS)
  • unconditioned response (UCR)
  • conditioned stimulus (CS)
  • conditioned response (CR)
  (note: be able to identify the CS, CR, UCS, & UCR from a scenario)
  • stimulus generalization
  • stimulus discrimination
  • extinction
  • spontaneous recovery
  • aversion therapy
  • systematic desensitization

~Understand the basic principles of Operant Conditioning:
  • positive & negative reinforcement
  • positive & negative punishment
  • escape and avoidance responses
  • shaping
  • primary & secondary reinforcers
  • successive approximations
  • Skinner box
  • continuous vs. partial reinforcement
  • schedules of reinforcement:
    • fixed and variable interval,
    • fixed and variable ratio
  • latent learning

~Understand the basic principles of observational learning:
  • modeling
  • Bobo doll studies

~Understand the processes involved in memory:
  • sensory memory
  • short term memory
  • long term memory
  • flashbulb memory
  • chunking
  • mnemonic devices
  • encoding
  • storage
  • retrieval
  • semantic encoding
  • acoustic encoding
  • visual encoding
  • interference theory
  • iconic & echoic memory
  • implicit vs. explicit memory
  • Long term potentiation
  • state dependent memory

~ Explain the various theories of forgetting
  • decay
  • disuse
  • encoding failure
  • positive & negative transfer
  • tip-of-the tongue phenomena

~Consider the concept of constructed memory and the debate on repressed and recovered memories:
  • misinformation effect
  • anterograde & retrograde amnesia
  • eyewitness testimony

~Names to Know: Ivan Pavlov, B.F. Skinner, John Watson, Albert Bandura, Herman Ebbinghaus, George Sperling, Elizabeth Loftus
Cognition and Intelligence

Main ideas and terms to know:
~Understand the methods and limitations of problem solving:
  •algorithm
  •heuristic
  •insight
  •prototype
  •fixation
  •mental set
  •functional fixedness
  •confirmation bias
  •representative heuristic
  •availability heuristic
  •overconfidence
  •framing
  •belief perseverance
  •belief bias
  •artificial intelligence & neural networks

~Understand the structure of language and the theories of language acquisition:
  •phoneme
  •morpheme
  •grammar
  •semantics
  •syntax
  •stages of language acquisition
  •telegraphic speech
  •critical period
  •Chomsky vs. Skinner
  •Whorf’s linguistic relativity

~Consider the ways in which we define and measure intelligence:
  •Flynn effect
  •IQ equation
  •Stanford-Binet Test
  •mental age
  •g-factor
  •savant syndrome
  •multiple intelligences
  •emotional intelligence
  •achievement vs. aptitude tests
  •standardization
  •normal curve
  •reliability
  •validity
  •WAIS and WISC
  •degrees of mental retardation
  •heritability of intelligence
  •cultural bias/fairness


Alternate States of Consciousness
~Know the various sleep stages and their characteristics
  •Stages 1, 2, 3, 4, REM
  •Alpha waves
  •sleep spindles
  •hypnogogic sensations
  •Delta waves
  •slow-wave sleep
  •paradoxical sleep
  •night terrors
  •sleep apnea
  •narcolepsy
  •insomnia
  •REM rebound

~Dream Theory
  •Freudian (latent and manifest content)
  •activation-synthesis hypothesis

~Understand the “facts and falsehoods” of hypnosis
~Know the various psycho-active drugs, their effects and classifications.
~Names to Know: Charles Sherrington, Roger Sperry
Developmental Psychology

Main ideas and terms to know:

~Understand the main issues involved with the physical development of a child

• teratogens
• fetal alcohol syndrome (FAS)
• maturation
• the development of the brain

• window of opportunity
• critical period
• plasticity

~Understand Piaget’s stages of cognitive development:

• be able to recognize all four stages and know what a child can and cannot do at each stage:

  SENSORIMOTOR, PRE-OPERATIONAL, CONCRETE OPERATIONAL, FORMAL OPERATIONAL

• assimilation
• accommodation
• schemas
• object permanence

• egocentrism
• conservation
• animism
• reversibility

• cognitive maps
• seriation
• abstract thinking
• deductive reasoning

~Understand Kohlberg’s stages of moral development:

• Preconventional Morality: punishment-and-obedience orientation; naive hedonism
• Conventional Morality: “good boy/girl” orientation; social order maintaining morality
• Postconventional Morality: of contract, individual rights, democratically accepted law; morality of individual principles of conscience.

~Understand Erik Erikson’s Eight Stages of Social Development:

• be able identify all eight stages and the crisis associated with each:

  Oral-sensory
  trust vs. mistrust
  Muscular-anal
  autonomy vs. shame/doubt
  Locomotor-genital
  initiative vs. guilt
  Latency
  industry vs. inferiority

  Puberty-adolescence
  identity vs. role confusion
  Young adulthood
  intimacy vs. isolation
  Adulthood
  generativity vs. stagnation
  Old age
  ego integrity vs. despair

~Understand other concepts that relate to social development:

• Attachment theory
• stranger anxiety
• imprinting
• secure attachment vs. insecure attachment (Ainsworth’s Strange Situation Studies)
• Kagan’s research on infant temperament
• Harlow’s monkey studies

• Gender identity and gender typing
• Bio-social theory
• Social-learning theory
• Gender-schema theory
• Gender differences (real and stereotyped)
• Nature/Nurture

• three parenting styles: authoritarian, authoritative, permissive, rejecting-neglecting

~Developmental issues from adolescence through old age

• adolescence
• imaginary audience
• personal fable
• puberty
• menarche

• Alzheimer’s disease
• crystallized intelligence vs. fluid intelligence
• Kübler-Ross’s five stages of dying: denial, anger and resentment, bargaining, depression, acceptance.

~Names to Know: Jean Piaget, Lawrence Kohlberg, Erik Erikson, Harry Harlow, Jerome Kagan, Elizabeth Kübler-Ross, Carol Gilligan.