Ultimate Study Guide for AP Psychology (Part 1)

*Unit numbers are based on the College Board outline…not necessarily the order we learned about them in class

2019-2020 Exam

Tuesday, May 19th, 11am, *Online submission at home*

- **2 FRQS:**

	#1 FRQ (55% of score)	#2 FRQ (45% of score)
Time allowed (+ 5 mins to submit)	25 mins	15 mins
Type of question	Applying concepts from multiple units to a prompt	Analyze and interpret research data and design (think variables, charts, ethics, etc.)

Since this is at home, will it be open notes?

- Technically, yes, but if you look up every term you will run out of time! Do NOT rely on this. You will only have 25 mins for 6-8 terms to define and apply. You MUST go quickly.

General Tips for Exam Writing:

- Look at the FRQ tips and tricks again.
  - DEFINE & APPLY!!!
    - Tell what the term means, then apply it to the prompt
  - No Intros/Conclusions
    - Just get right into it
  - DO NOT BULLET OR LETTER OR USE HEADINGS!!!!
    - Full sentences only!

Studying Suggestions:

- Follow along with me and my review schedule for our online school format
- Fill out this study guide *note: highlights in yellow are concepts we didn't get to but are still important
- Watch review videos (see below)

Resources:

- Your notes/charts/assignments
- Your textbook
- My Website!
  - Individual unit pages & "AP Exam Resources" page
- Old Study Guides
- AP Psychology Tutorial Videos (new this year!)

Unit 1 – SCIENTIFIC FOUNDATIONS OF PSYCHOLOGY

Intro to Psychology

✓ *1.A- Recognize how philosophical and physiological perspectives shaped the development of psychological thought.*

- Descartes and dualism
- Phrenology
- Darwin and evolution and how that shaped psychology, etc.

✓ *1.B- Identify the research contributions of **major historical figures** in psychology*

Names to know:

- Rene Descartes
- Wilhelm Wundt
- Edward Titchener
- William James
- Max Wertheimer
- Sigmund Freud
- John B. Watson
- Ivan Pavlov
- B. F. Skinner
- Abraham Maslow
- Charles Darwin
- Charles Cecil Sumner
- Mary Whiton Calkins
- Dorothea Dix
- G. Stanley Hall
- Margaret Floy Washburn

✓ *1.C- Describe and compare different theoretical **approaches** in explaining behavior.*

- Structuralism
- Functionalism
- Gestalt
- Behaviorism
- Psychoanalytic/Psychodynamic
- Humanistic
- Evolutionary approach
- Biological Approach
- Cognitive Approach
- Biopsychosocial Approach
- Sociocultural

✓ *1.D- Recognize the strengths and limitations of applying theories to explain behavior.*

- Theories can't explain all behaviors in all people

✓ *1.E- Distinguish the different **domains** of psychology. (**TYPES** of psychologists)*

- *know the difference between a psychologist and a psychiatrist
- Biological Domain
- Cognitive Domain
- Clinical Domain
- Counseling Domain
- Developmental Domain
- Educational Domain
- Experimental Domain
- Industrial-Organizational (I/O) Domain

- Personality Domain
- Psychometric Domain
- Social Domain
- Positive Domain

RESEARCH METHODS

✓ *1.F Differentiate **types of research** with regard to purpose, strengths, and weaknesses.*

Strengths/Weaknesses and Definitions of:

- Experiments
- correlational studies
- survey research
- tests
- case studies
- naturalistic observations
- lab observations
- longitudinal studies
- cross-sectional studies

✓ *1.G Discuss the value of reliance on **operational definitions** and measurement in behavioral research.*

- Why are operational definitions important?

✓ *1.H Identify independent, dependent, confounding, and control **variables** in experimental designs.*

- Independent variable
- Dependent Variable
- Confounding variable
    - Situation vs. participant-relevant confounding variables
- Experimental vs. Control groups

✓ *1.I Describe how **research design** drives the reasonable conclusions that can be drawn.*

- Experiments are useful for determining cause and effect.
- The use of experimental controls reduces alternative explanations
    - The use of double blind and single blind methods
- Random assignment is needed to demonstrate cause and effect.
- Correlational research can indicate if there is a relationship or association between two variables but cannot demonstrate cause and effect. *** Correlation does NOT equal causation!!!***

✓ *1.J Distinguish between **random assignment** of participants to conditions in experiments and **random selection** of participants, primarily in correlational studies and surveys.*

- Sampling
- Population
- Representative sample (does your sample represent the larger group you're studying?)
- Random SELECTION (selecting people to study/survey)

  Vs.
- Random ASSIGNMENT (in an experiment -everyone gets equal chance of being in control or experimental group)

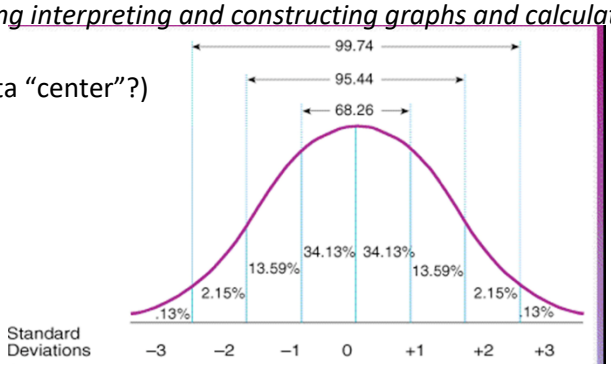
✓ *1.K- Predict the **validity** of behavioral explanations **based on the quality of research design.***

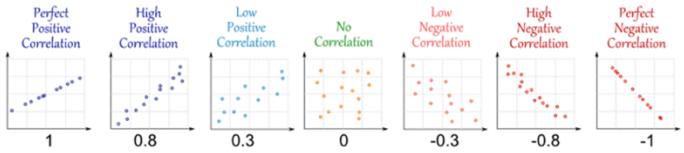
- Confounding variables limit confidence in research conclusions.
    - Like….if your experimental basketball method is only tested on the tall, varsity team and not the shorter team….can we really say the method worked?
- Participant Bias
    - Placebo effect
    - Hawthorne effect

- Experimenter Bias
    - Pygmalion effect (Rosenthal study with "bloomer" students and teachers' treatment of them)

✓ *1.L Apply Basic descriptive statistical concepts, including interpreting and constructing graphs and calculating simple **descriptive statistics**.*

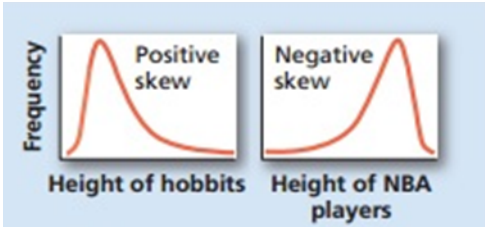
- Measure of central tendency (where does the data "center"?)
    - Mean, median, mode
- Variation (how much does the data vary?)
    - Range
    - Standard deviation
        - definition
        - Z-score *see diagram
- Correlation coefficient
    - for correlations only
    - r = -1…… r = 0…… r= +1
    - interpret a scatter plot graph
- Frequency distribution
    - Normal (bell curve) *see diagram
    - Bimodal (2 modes)
    - positive skew vs. negative skew (what the graphs look like - skier down the slope trick) *see diagram





✓ *1.M Distinguish the **purpose** of descriptive statistics and **inferential** statistics.*

- Descriptive – describes the data (above measures like standard deviation)
- Inferential – infers what it means
    - Statistically significant? ($p \leq 0.05$ is significant)



✓ *1.N Identify how **ethical issues** inform and constrain research practices.*

- Institutional Review Board (IRB)
    - They look over research proposals to make sure they are ethical

✓ *1.O Describe how **ethical and legal guidelines** protect research participants and promote sound ethical practice.*

- Those provided by the American Psychological Association and Federal regulations
    - Coercion
    - Informed consent
    - Anonymity
    - Confidentiality
    - Debriefing
    - Confederate
- ✓ Institutional Animal Care and Use Committee (IACUC)
    - Rules around animal use in psych experiments
        - These outline rules on how animals are obtained, cared for, if it is necessary to use them, best methods of euthanasia if necessary, etc.

Unit 2 – BIOLOGICAL BASES OF BEHAVIOR (BioPsych)

Interaction of Heredity and Environment

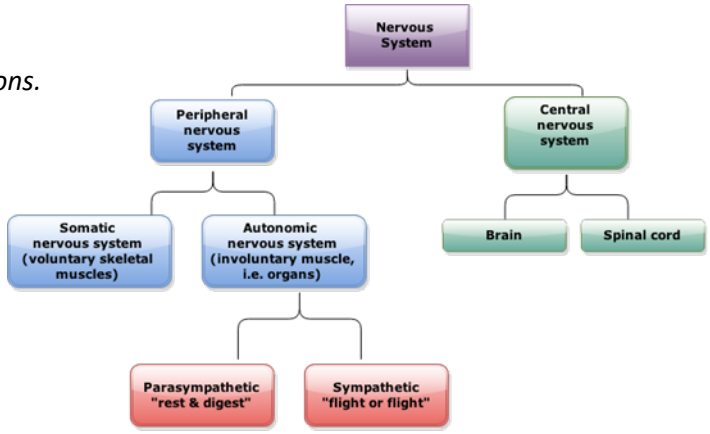
- ✓ *2.A Discuss psychology's abiding interest in how **heredity**, environment, and evolution work together to shaper behavior.*
- ✓ *2.B Identify key research contributions of scientists in the area of heredity and environment. (**Nature/Nurture**)*
- ✓ *2.C Predict how traits and behavior can be selected for their adaptive value. (**evolutionary psych**)*
  - Evolutionary Psych and Genetics
    - Darwin's influence on psychology
    - Key components of evolutionary psych
      - Looking for universal traits
      - Theorizing why they might be adaptive for our survival
    - Minnesota Twin Study/ twin studies
      - What they show us about nature vs. nurture

The Endocrine System

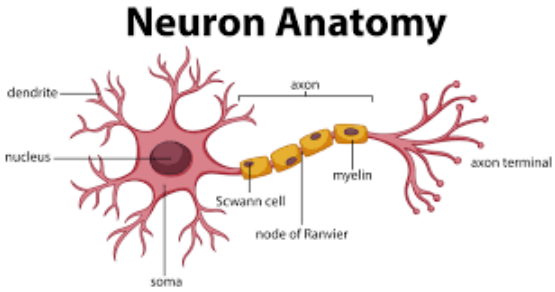
- ✓ *2.D Discuss the effect of the **endocrine system** on behavior.*
  - Hormones!
    - Adrenal hormones
    - Sex hormones
    - melatonin

Overview of the Nervous System and the Neuron

- ✓ *2.E Describe the **nervous system** and its subdivisions and functions.*
  - Central Nervous System *(brain and spinal cord)*
  - peripheral nervous system
    - somatic nervous system
      - sensory system (w/ afferent neurons)
      - motor system (w/ efferent neurons)
    - autonomic nervous system
      - sympathetic nervous system
      - parasympathetic nervous system



- ✓ *2.F Identify basic processes and systems in the biological bases of behavior, including parts of the **neuron**.*
  - neuron (order of parts in neural transmission....be able to locate parts on neuron diagram)
    - dendrite
    - soma
    - axon
    - myelin sheath
    - terminal buttons (or terminal branches)
    - synapse
    - afferent neurons/ efferent neurons/ interneurons



Neural Firing

- ✓ *2.G Identify basic process of transmission of a **signal between neurons**.*
  - resting potential
  - action potential
  - all-or-nothing rule
  - mirror neurons

- neurotransmitters
    - excitatory/inhibitory (definition of)
    - agonists/antagonists (definition of)
    - functions of:
        - Acetylcholine
        - Norepinephrine
        - Dopamine
        - Serotonin
        - GABA
        - Glutamate
        - Endorphins

Influence of Drugs on Neural Firing

✓ *2.H Discuss the influence of **drugs** on neurotransmitters.*

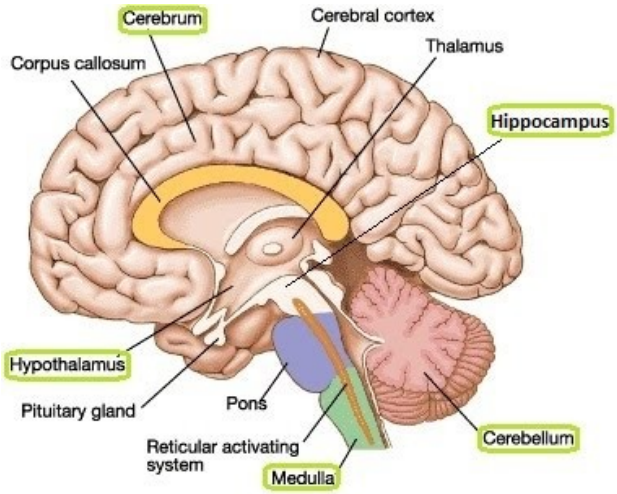
- Agonist
- Antagonist
- affect drugs have on neurotransmitters
    - (which drug category increases GABA? Blocks dopamine? Sharp increase then decrease in serotonin?)

The Brain

✓ *2.I Describe the nervous system and its **subdivisions** and functions **in the brain.***

know basic functions and locations

- hindbrain
    - medulla
    - pons
    - cerebellum
    - Reticular Formation
- forebrain
    - limbic system
        - thalamus
        - hypothalamus
        - amygdala
        - hippocampus
- cerebral cortex
    - hemispheres
        - left hemisphere
        - right hemisphere
    - brain lateralization (or "localization of function"....what does each hemisphere do?)
- corpus callosum
- lobes (frontal, parietal, temporal, occipital)
- association areas (Broca's area, Wernicke's area)



✓ *2.J Identify the contributions of **key researchers** to the study of the brain*

- Gazzaniga and Sperry

Tools for Examining Brain Structure and Function

- ✓ *2.K Recount historic and contemporary research strategies and **technologies** that support research.*
- ✓ *2.L Identify the contributions of **key researchers** to the development of tools for examining the brain.*
  - accidents (Phineas Gage with the rod through his skull)
  - lesioning
  - TMS
  - EEG
  - CT scan
  - MRI scan
  - PET scan
  - fMRI

The Adaptable Brain

- ✓ *2.M Discuss the role of **neuroplasticity** in traumatic brain injury.*
  - neuroplasticity definition
  - Girl with half her brain
    - Younger you are, more adaptable/plastic your brain is

- ✓ *2.N Identify the contributions of **key researchers** to the study of neuroplasticity.*
  - Gazzaniga, Ramachandran

- ✓ *2.O Describe various **states of consciousness** and their impact on behavior*
  - Levels of consciousness
    - Conscious, preconscious, subconscious, nonconscious, unconscious
  - Theories of **hypnosis**
    - Social Role-Playing/ Social-Cognitive Theory
    - Hypnosis as Dissociation

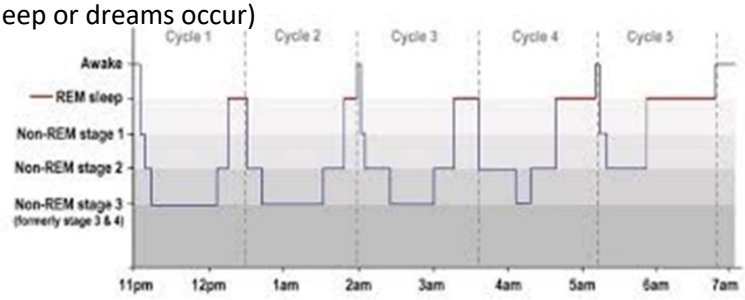
- ✓ *2.P Identify the major psychoactive **drug categories and** classify specific drugs, including their psychological and physiological **effects**.*
  - Depressants
  - Stimulants
  - Hallucinogens

- ✓ *2.Q Discuss **drug dependence, addiction, tolerance, and withdrawal**.*
  - Difference between these

- ✓ *2.R Identify the contributions of major figures in consciousness research.*
  - Freud's ideas of conscious levels

Sleeping and Dreaming

- ✓ *2.S Discuss aspects of sleep and dreaming.*
  - **Sleep stages** (know the general cycle and when deep sleep or dreams occur)
    - NREM1
    - NREM2
    - NREM 3
    - REM
  - ✓ **Theories of Sleep/Dreaming** (activation-synthesis)
  - ✓ Major symptoms of **sleep disorders**:
    - sleep apnea
    - narcolepsy

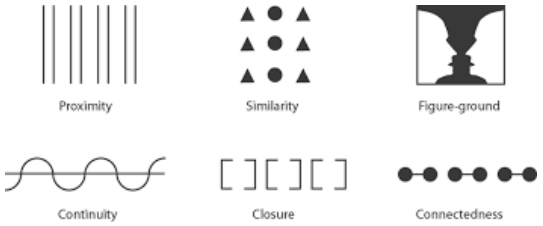


Unit 3 – SENSATION AND PERCEPTION

Principles of Sensation

✓ *3.A Describe **general principles** of organizing and integrating sensation to promote stable awareness of the external world.*

- Bottom-up processing
- Top-down processing
- Depth perception
    - Binocular depth cues
        - Retinal disparity
        - Retinal convergence
    - Monocular depth cues
        - Overlap
        - Gradient/texture
        - Relative size
        - Linear perspective
        - Aerial perspective
- Gestalt principles
    - Closure, proximity, figure-ground, continuity, similarity *see diagram



✓ *3.B Discuss basic principles of **sensory transduction**, including absolute threshold, difference threshold, signal detection, and sensory adaptation.*

- Difference threshold
- Absolute threshold
- Signal detection theory
- Sensory habituation
- Sensory adaptation

✓ *3.C Identify the research contributions of **major historical figures** in sensation and perception.*

- Weber, Fechner, Wiesel, Hubel , Gibson and Walk (Visual Cliff study), Turnbull (Kenge and perception)

Principles of Perception

✓ *3.D Discuss how **experience** and culture **can influence perceptual** processes.*

- Perceptual set/ top-down processing/ our schemas (our expectations influence how we perceive things)
- Perceptual Constancies (shape, size, color)
    - Turnbull study with Kenge in Africa

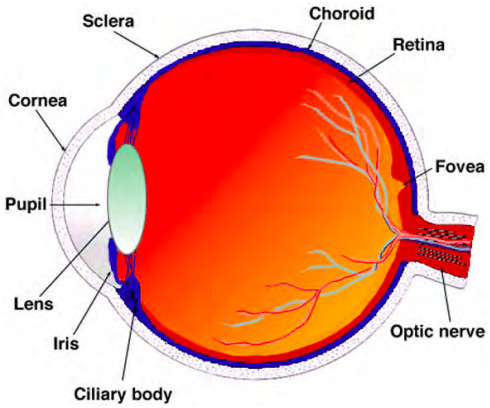
✓ *3.E Discuss the role of **attention** in behavior.*

- Cocktail party effect
- Divided vs. focused attention
- Change blindness

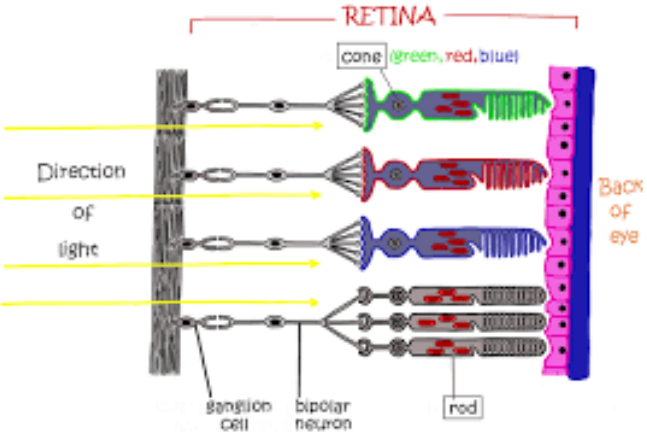
Visual Anatomy

✓ *3.F Describe the **vision** process, including the specific nature of energy **transduction**, relevant **anatomical** structures, and specialized pathways in the brain for each of the senses.*

- What is light?
- why we see color
- how light waves travel through eye and get transduced
- major eye anatomy
    - (including rods and cones – see diagrams)
- feature detectors in occipital lobe in brain
- why we have a blind spot



- trichromatic color theory
- opponent-process color theory
- after images and why they occur



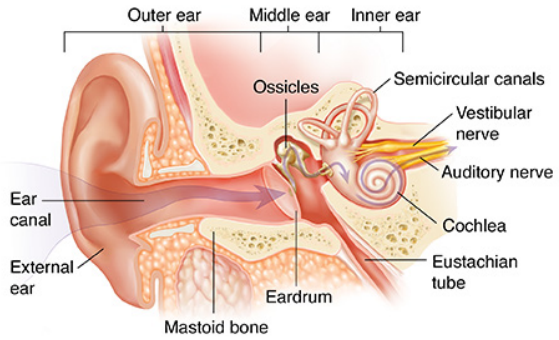
✓ *3.G Explain **common sensory conditions**.*
- Color-blindness
- Synesthesia
- Conduction vs. nerve deafness
- Phantom limb syndrome
- CIPA (congenital insensitivity to pain)
- Sensory-conflict theory (motion sickness)

Visual Perception

✓ *3.H Explain the role of **top-down processing** in producing vulnerability to **illusion**.*
- Our expectations lead us to interpret things a certain way, even though it might not actually be the case (how illusions work)

Auditory Sensation and Perception

✓ *3.I Describe the **hearing** process, including the specific nature of energy **transduction**, relevant **anatomical** structures, and specialized pathways in the brain for each of the senses.*
- sound waves and how they're measured
- how sound travels through the ear and is transduced
- major ear anatomy (see diagram)
- place vs. frequency theories of pitch
- hearing in the temporal lobe of brain



Chemical Senses

✓ *3.J Describe **taste and smell** processes, including the specific nature of energy **transduction**, relevant **anatomical** structures, and specialized pathways in the brain for each of the senses.*
- how taste and smell are connected
- taste buds
- cilia
- olfactory bulb
- gustation
- tastants
- odorants

Body Senses

✓ *3.K Describe **body sensory processes**, including the specific nature of energy **transduction**, relevant anatomical structures, and specialized pathways in the brain for each of the senses.*
- Afferent and efferent pathways
- visceral vs. somatic pain
- gate-control theory of pain
- kinesthetic sense
- vestibular sense
- sensory-conflict theory and how motion sickness works

UNIT 4 - LEARNING

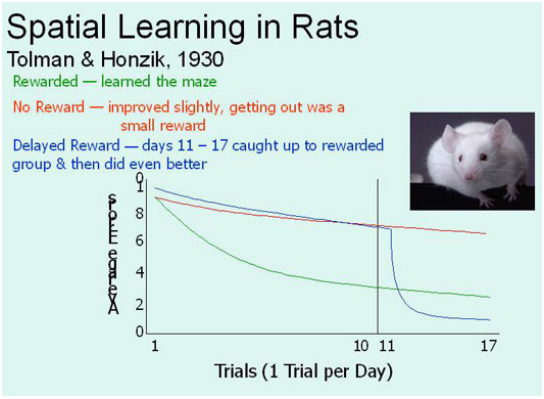
Introduction to Learning

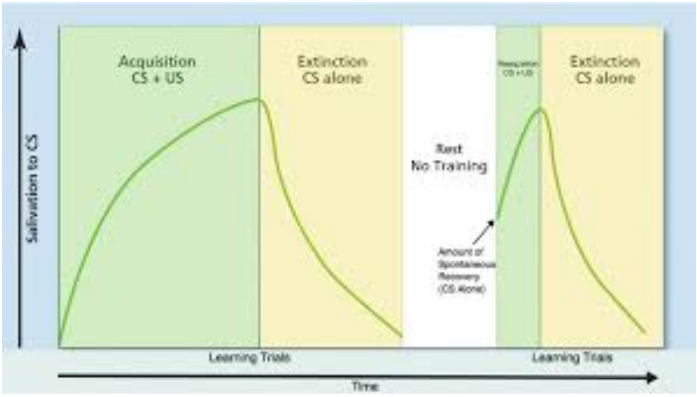
✓ *4.A Identify the contributions of **key researchers** in the psychology of learning.*

- Pavlov (dogs)
- Watson (Little Albert)
- Garcia (effect)
- Rescorla
- Thorndike (law of effect)
- Skinner (operant cond. – pigeons)
- Tolman (rats and cognitive maps)

✓ *4.B **Interpret graphs** that exhibit the results of learning experiments*

- See diagrams





✓ *4.C Describe the essential characteristics of **insight** learning, **latent** learning, and **social** learning.*

- Kohler – insight (chimpanzees and "aha" moments)
- Tolman – latent (rats learning maze…but info "hidden" until needed)
- Bandura – social (Bobo doll learning from watching others)

✓ *4.D Apply learning principles to explain **emotional** learning, **taste aversion**, **superstitious** behavior, and **learned helplessness**.*

- Watson – emotional learning (Little Albert classically conditioned fear)
- Garcia – taste aversion (classical cond. – to avoid foods after bad experience)
- Skinner – superstition (pigeon experiment – operant cond. – rewarded for random beh.s)
- Selegman – learned helpelessness (dogs getting shocked…not moving when they could)

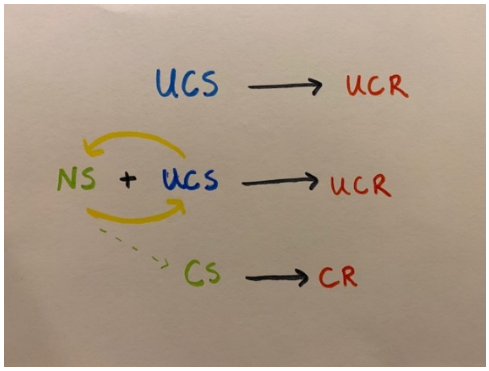
✓ *4.E Provide examples of how **biological constraints** create learning predispositions.*

- Instinctive drift – some things can't be trained out of animals
- Phobias of dangerous things are common – meant to protect us

Classical Conditioning

✓ 4.F Describe basic **classical conditioning** phenomena.

- Unconditioned stimulus
- Unconditioned response
- Neutral stimulus
- Conditioned stimulus
- Conditioned response
- Acquisition
- Extinction
- Spontaneous recovery
- Stimulus generalization vs. Stimulus discrimination
- Higher-order conditioning



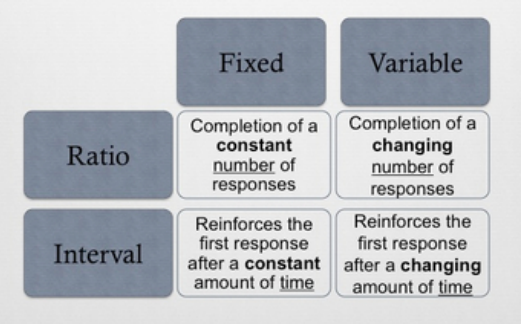
✓ 4.G Distinguish general **differences between** principles of **classical conditioning, operant conditioning**, and **observational learning**.
  - See diagram

Classical vs Operant conditioning		
	Classical conditioning	**Operant conditioning**
Nature of response	Involuntary (reflexive)	Voluntary (usually) but can be both – Vol & Involuntary
Timing of Stimulus	Precedes the response	After the desired response
Timing of Response	After the stimulus	Before the stimulus
Role of learner	Passive	Active

Operant Conditioning

✓ *4.H Predict the **effects of operant** conditioning.*
- Positive Reinforcement
- Negative Reinforcement
- Positive Punishment
- Negative Punishment

✓ *4.I Predict how practice, **schedules of reinforcement**, other aspects of reinforcement, and motivation will influence quality of learning.*
- primary vs. secondary reinforcer
- generalized secondary reinforcer
- shaping vs. chaining
- premack principle
- continuous vs. partial reinforcement
- **Schedules of Reinforcement** (see diagram)



Social and Cognitive Factors in Learning

✓ *4.J Suggest how **behavior modification**, biofeedback, coping strategies, and self-control can be used to address behavioral problems.*
- Behavior Modification
  - token economy
  - Applied Behavior Analysis (ABA)