

## Unit 1 History and Approaches

Wundt's contributions

James' Contributions

introspection

structuralism

Gestalt psychology

Industrial/Organizational psychologists

different perspectives and how they view behavior

## Unit 2 Research Methods (much more than this!)

Correlations and r scores

longitudinal vs. cross-sectional research

normal distribution percentages

z scores

skewed distributions

positive (mean larger than median)

negative (median larger than mean)

randomization

representative sample

reliability vs. validity

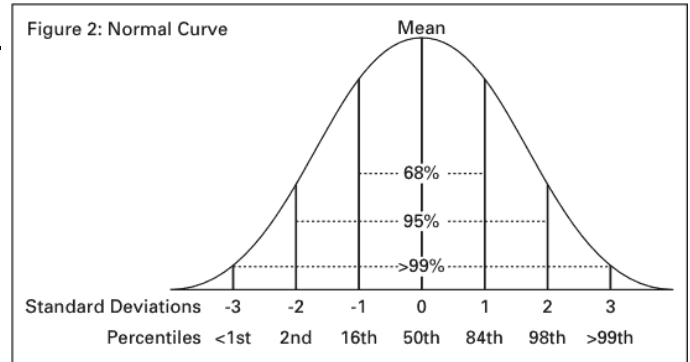
statistical significance = p score

Experimenter Bias

Hawthorne Effect

participant vs. situation relevant confounding variables

double vs. single blind



## Unit 3 – Cognition

### Thinking

algorithm – formula that guarantees correct solution

prototype – the most typical example of a concept (like a robin for a bird)

heuristics (representativeness and availability)

biases (belief bias and confirmation bias)

**framing** – how a question or situation is framed(set-up) may cause a person to think a certain way about it

serial position effect (recency and primacy effect)

### Attention

selective attention

cocktail party effect

change blindness

### Language

phonemes

morphemes

syntax

LAD

linguistic relativity hypothesis – how we label things might control our thinking about them

### Memory/forgetting

anterograde amnesia – can't remember new

retrograde amnesia – can't remember old (retro stuff)

proactive interference – newly learned stuff hard to retrieve because of interference of the old stuff

retroactive interference – old stuff having hard time being remembered because of interference of the new

sensory memory

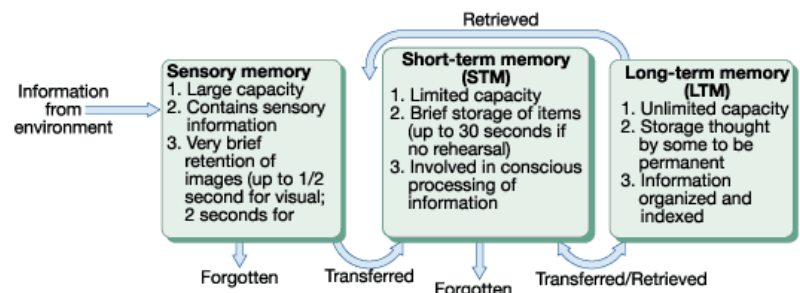
- iconic vs. echoic memory

short term memory

- limited, chunking helps, mnemonic devices

long term memory

- declarative = episodic and semantic (explicit)
- non-declarative = procedural (implicit) – in cerebellum
- **prospective memory** – remembering to do something at the right time later
- cue vs. state dependent

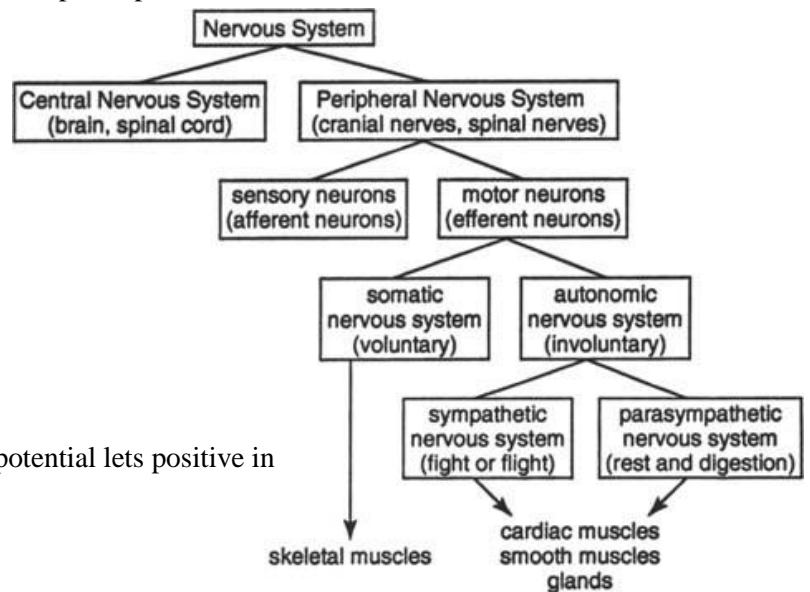


## Unit 4 – Biological Psych

### brain parts and functions

- medulla/pons/brain stem – control stuff that keeps us alive
- cerebellum – balance/coordination/ stores implicit-procedural memories
- limbic system
  - o thalamus – sends sensation signals to right part of brain
  - o hypothalamus – controls temp, arousal, thirst, hunger, metabolism
  - o amygdala – vital to emotions/aggression
  - o hippocampus – converts STM to LTM
- cerebral cortex – what each hemisphere does (Left = language, right = spatial/facial)
- corpus callosum
- lobes:
  - o frontal (pre-frontal cortex) – decision making/thinking
  - o temporal – hearing
  - o occipital – vision
  - o parietal – touch and movement (“sensory” and “motor” cortex)
- specialized areas:
  - o Broca’s – in frontal – controls muscles involved in speech
  - o Wernicke’s – in temporal – interprets speech

### nervous system (see image)



### neurons

afferent vs. efferent

parts:

- dendrite
- soma
- axon
- myelin sheath
- terminal buttons
- synapse (synaptic cleft)

resting vs. action potential

charges during potentials (see diagram)

inside of neuron is negative until action potential lets positive in

### neurotransmitters

excitatory vs. inhibitory

agonist vs. antagonist

see next page

### hormones

endocrine system

### technology/scans

EEG

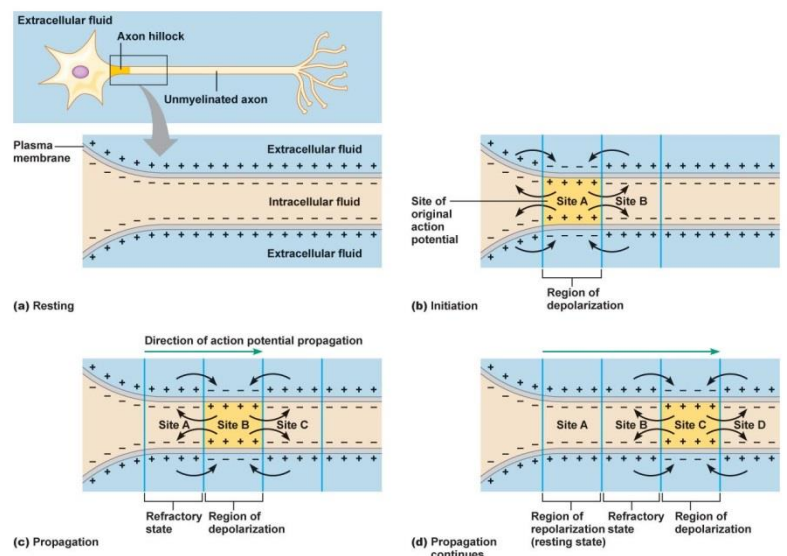
CAT

MRI

PET

fMRI

TMS



## Summary of the Known Major Neurotransmitters

Neurotransmitter	Function	Effect of Deficit	Effect of Surplus
Acetylcholine (ACh)	Excitatory: It produces muscle contractions and is found in the motor neurons; in the hippocampus, it is involved in memory formation, learning and general intellectual function.	Paralysis; A factor associated with Alzheimer's disease: levels of acetylcholine are severely reduced associated with memory impairment.	Violent muscle contractions
Dopamine	Excitatory: involved in voluntary muscle movements, attention, learning, memory, and emotional arousal and rewarding sensations	Muscle rigidity; A factor associated with Parkinson's disease: degeneration of neurons in the substantia nigra that produce dopamine.	One factor associated with schizophrenia-like symptoms such as hallucinations and perceptual disorders, addiction
Serotonin	Inhibitory or excitatory: involved in mood, sexual behavior, pain perception, sleep, eating behavior, maintaining a normal body temperature and hormonal state	Anxiety, mood disorders, insomnia; One factor associated with obsessive-compulsive disorder and depression	Autism
Endorphins	Inhibitory: regulates pain perception and involved in sexuality, pregnancy, labor, and positive emotions associated with aerobic exercise—the brains natural opiates.	Body experiences pain	Body may not give adequate warning about pain
Norepinephrine	Excitatory and inhibitory: involved in increasing heartbeat, arousal, learning, memory, and eating	One factor associated with depression.	Anxiety
GABA (gamma aminobutyric acid)	Inhibitory: communicates messages to other neurons, helping to balance and offset excitatory messages. It is also involved in allergies	Destruction of GABA-producing neurons in Huntington's disease produces tremors and loss of motor control, as well as personality changes.	Sleep and eating disorders

## Unit 5 – Sensation and Perception

transduction

absolute vs. difference threshold

sensory habituation vs. adaptation

### taste and smell connection

olfactory bulb

### somesthetic senses

vestibular sense – tubes in ear...like level that tells brain what position we are in

kinesthetic

gate control theory of pain

### hearing (see diagram)

amplitude – volume

frequency – pitch

place vs. frequency theory of pitch in cochlea

anatomy (see diagram)

conduction deafness – outer or middle ear

nerve deafness – cochlea or nerve damage

### vision

anatomy (see diagram)

rods vs. cones

blind spot

fovea's importance

trichromatic vs. opponent-process theory of color

### perception

top down/ bottom up processing

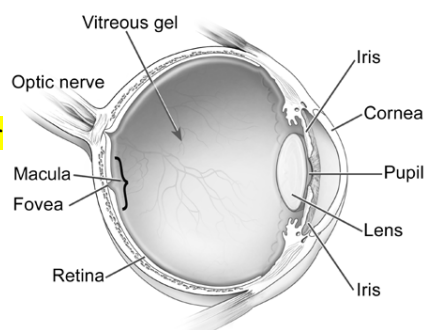
Gestalt principles (see diagram)

depth cues

**monocular vs. binocular**

**retinal disparity –**

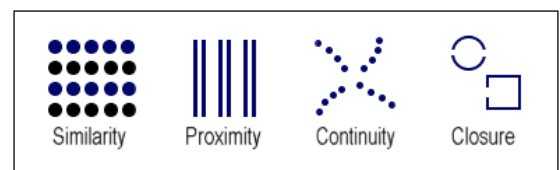
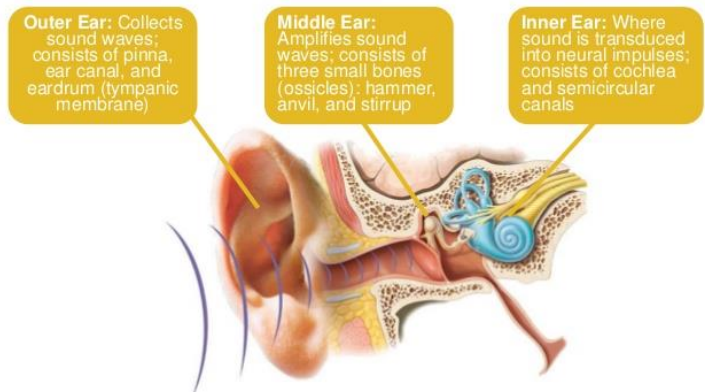
**need 2 eyes to see depth**



## **How We Hear** **The Path of Sound**

**Sound waves are:**

- Collected in the outer ear
- Amplified in the middle ear
- Transduced in the inner ear



## Unit 6 – States of Consciousness

hypnosis

- dissociation
- heightened suggestibility
- role-playing theory

drugs (see image)

sleep cycles (see image)

- REM – decrease in movement/increase in dreams

circadian rhythm

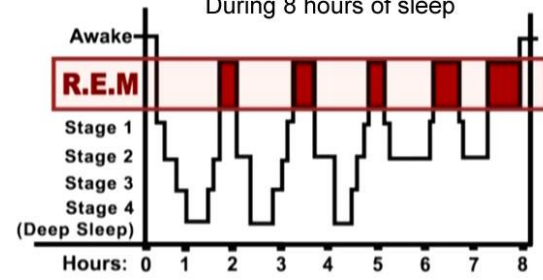
## Categories of drugs

- Opiates (eg. heroin)
- Stimulants (eg. cocaine)
- Depressants (eg. alcohol)
- Minor Tranquillisers (eg. valium)
- Hallucinogens (magic mushrooms)
- Cannabis
- Solvents (eg. Aerosol cans etc.)
- 'Herbal Highs' (now illegal)
- Tobacco (eg. cigarettes)



## Sleep Cycle

During 8 hours of sleep



[www.LucidDreamExplorers.com/dreamscience](http://www.LucidDreamExplorers.com/dreamscience)

## Unit 7 – Learning

### Classical conditioning

- Pavlov
- involuntary responses (like drool, flinch)
- UCS, UCR, NS, CS, CR
- higher order conditioning
- generalization vs. discrimination
- extinction
- spontaneous recovery

### Operant conditioning

- Thorndike and Skinner
- shaping vs. chaining
- law of effect – beh. increases with reward
  - o beh. decreases with punishment
- positive vs. negative rewards
- positive vs. negative punishments
- schedules of reinforcement
  - o fixed ratio
  - o fixed interval
  - o variable ratio
  - o variable interval
- primary vs. secondary reinforcers
- token economy

### Observational Learning

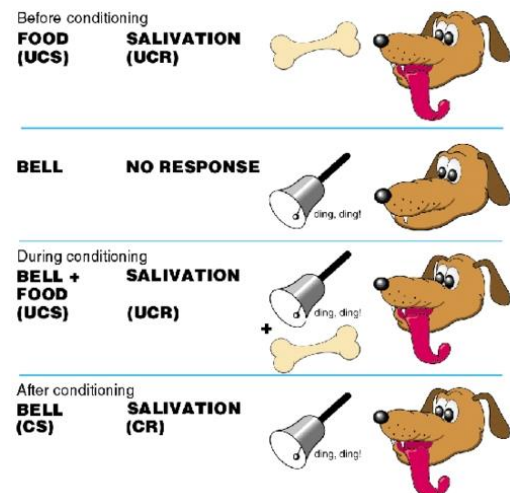
- Bandura and bobo
- observation, imitation/modeling

### Latent Learning

- cognitive maps/Tolman

### Insight Learning

- Kohlberg and chimps



	Fixed	Variable
Ratio	Completion of a <b>constant</b> number of responses	Completion of a <b>changing</b> number of responses
Interval	Reinforces the first response after a <b>constant</b> amount of time	Reinforces the first response after a <b>changing</b> amount of time

## Unit 8 – Motivation and Emotion

### motivation theories

Drive reduction theory

- seeking homeostasis
- primary vs secondary drives

Arousal theory

- seek optimum level of arousal
- Yerkes-Dodson law (**see image**)
  - o we can have lots of arousal and do well on an easy task
  - o not so true with difficult tasks

Incentive theory

- extrinsic vs. intrinsic motivators

McClelland

- **nAchievement**, **nAffiliation**, **nPower**

Maslow's hierarchy (**see image**)

- self-actualization

Hunger motivation

- set point = body weight we tend to settle back to

Sexual and Social motivation (see notes from peers)

Motivation conflicts

- approach-approach – choosing between 2 desirable outcomes
- avoidance-avoidance – “ “ 2 undesirable outcomes
- approach-avoidance – one action includes both

**GAS** – general adaptation syndrome – our response to stressful events

- alarm (body gets ready for action)
- resistance (body stays ready for action)
- exhaustion (body returns to normal)

### Emotion theories

Ekman and universal facial emotions

James-Lange

- body reacts first, mind interprets that as emotion

Cannon-Bard

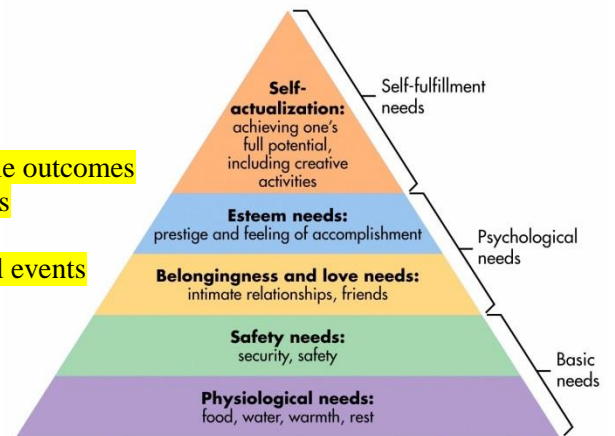
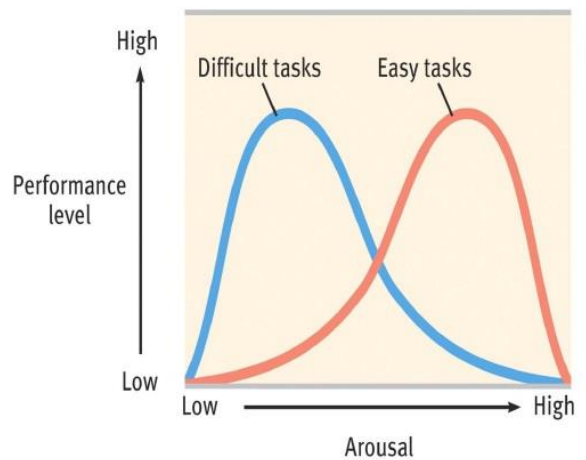
- biological and cognitive reaction occur at same time

Schachter-Singer

- emotion depends on cognitive and biological interacting with one another

Facial Feedback

- we interpret emotion based on facial muscles



## Unit 9 – Developmental

longitudinal vs. cross-sectional

### Piaget

- accommodation vs. assimilation
- Stages:
  - o sensori-motor
  - o pre-operational
  - o concrete-operational
  - o formal-operational
- conservation, theory of mind, object permanence

### Vygotsky

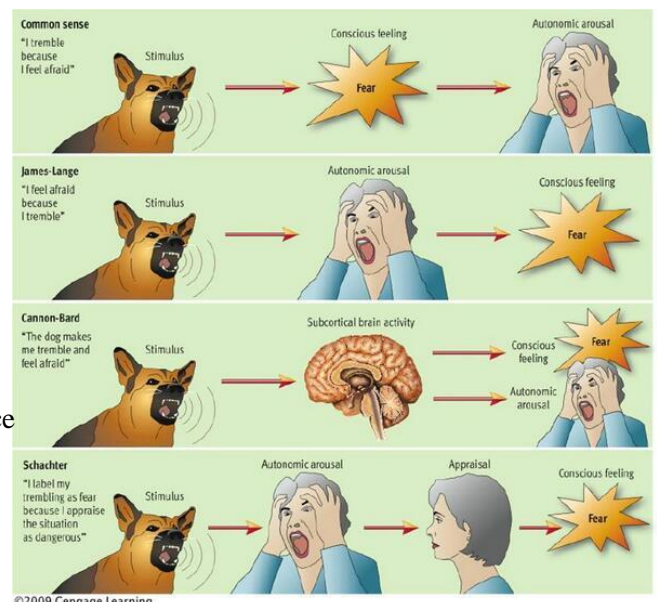
- ZPD
- scaffolding

### Thomas and Chess

- temperament – biological
- easy, difficult, slow to warm up

### Attachment

- Harlow and monkeys
- Ainsworth and strange situation (secure, avoidant, ambivalent/resistant) –effect on adulthood



### Erikson

- conflicts
- 8 stages (see image)

### Kohlberg

- stages of morality
- Gilligan's gender critique

### Baumrind

- parenting styles
  - o authoritarian
  - o permissive
    - neglect
    - indulgent
  - o authoritative

Erikson's Stages of Psychosocial Development

Approximate Age	Psycho Social Crisis
Infant - 18 months	Trust vs. Mistrust
18 months - 3 years	Autonomy vs. Shame & Doubt
3 - 5 years	Initiative vs. Guilt
5 - 13 years	Industry vs. Inferiority
<b>13 - 21</b>	<b>Identity vs. Role Confusion</b>
21 - 39 years	Intimacy vs. Isolation
40 - 65 years	Generativity vs. Stagnation
65 and older	Ego Integrity vs. Despair

## Unit 10 – Social Psych.

### conformity

- Asch study basics
- when were ppl less likely to conform?

### Group effects

- diffusion of responsibility/deindividuation
- bystander effect
- group think
- group polarization – groups tend to make more extreme decisions than individuals
- social facilitation vs. social loafing

### obedience

- Milgram basics
- when were ppl less likely to obey
- power of authority figure

### compliance and persuasion

- foot-in-the-door, door-in-the-face, etc.
- central vs. peripheral route of persuasion

### stereotypes/prejudice

- stereotype threat/self-fulfilling prophecy
- social identity theory
  - o coming together for common goal helps bring opposing groups together

### attribution

- dispositional vs. situational
- self-serving bias
- fundamental attribution error
- just-world hypothesis – people get what they deserve morally...the world evens out

### attraction

- mere exposure effect
- similarities = good

### cognitive dissonance

## Unit 11 – Testing and Individual Differences

standardization – norms have been est. by testing similar populations and seeing how they do  
reliability – consistent results if done again?

validity

- construct validity
- content validity
- predictive validity
- test-retest validity

achievement test – what one has already learned

aptitude tests – measures predicted potential

**intelligence theories**

- Spearman – g factor
- Gardner – multiple intell.
- Goleman – emotional intell.
- Sternberg – 3 (analytic, practical, creative)

**intelligence tests**

Binet – from France – used it to help school kids

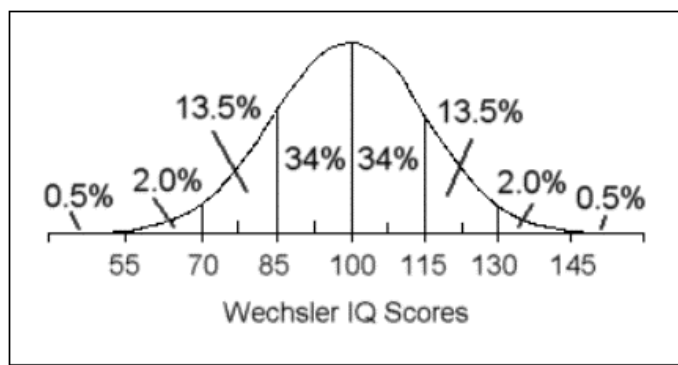
Terman – from U.S. – IQ →

fluid intelligence – reasoning, abstract, problem solving

crystalized intelligence – knowledge from prior learning

IQ and twin studies – about 50% genetic

Flynn Effect – IQ is going up with each generation



$$IQ = \frac{\text{mental age}}{\text{chronological age}} \times 100$$

**Unit 12 – Personality**

**Freud** (“Froyd” ☺)

- Stages: oral, anal, phallic, (latency), genital
- Id (and pleasure principle), Ego (and reality principle), and SuperEgo
- Criticism: not supported by empirical research
- **Defense Mechanisms** (see chart)

Mechanism	Description	Example
<b>Repression</b>	Repression is an unconscious mechanism employed by the ego to keep disturbing or threatening thoughts from becoming conscious.	During the Oedipus complex aggressive thoughts about the same sex parents are repressed
<b>Denial</b>	Denial involves blocking external events from awareness. If some situation is just too much to handle, the person just refuses to experience it.	For example, smokers may refuse to admit to themselves that smoking is bad for their health.
<b>Projection</b>	This involves individuals attributing their own unacceptable thoughts, feeling and motives to another person.	You might hate someone, but your superego tells you that such hatred is unacceptable. You can 'solve' the problem by believing that they hate you.
<b>Displacement</b>	Satisfying an impulse (e.g. aggression) with a substitute object.	Someone who is frustrated by his or her boss at work may go home and kick the dog,
<b>Regression</b>	This is a movement back in psychological time when one is faced with stress.	A child may begin to suck their thumb again or wet the bed when they need to spend some time in the hospital.
<b>Sublimation</b>	Satisfying an impulse (e.g. aggression) with a substitute object. In a socially acceptable way.	Sport is an example of putting our emotions (e.g. aggression) into something constructive.



**Jung** – collective unconscious

**Adler** – feelings of inferiority/superiority

**Trait theories**

- Big 5 (o.c.e.a.n.)/ **factor analysis**
- thought to be stable and biological
- criticism: underestimates power or situation in people’s behavior

**Bandura** – self-efficacy

**Humanist – Rogers** – self-actualization by giving unconditional positive regard

**Personality Assessments**

- **Rorschach and TAT** – ambiguous figures...ppl say what they think...tells personality (projective test)
- MMPI – self-report inventory

## Unit 13 – Abnormal Psych and Treatment

what makes behavior abnormal?

importance of DSM 5

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

### Abnormal Disorders

\*know general symptoms/ how genetically linked/ therapies used

**Mood** – bipolar, major depressive, seasonal affective disorder

**Anxiety-like**– generalized anxiety (GAD), panic disorder, OCD (now own category), PTSD (now “stress-based” disorder)

**Dissociative** – “mind splitting” – DID, dissociative fugue – goes along with psychoanalytic/repression

**Schizophrenia** – delusions, hallucinations, flat affect, paranoia, - anti-psychotics used

**Somatiform** – conversion disorder.... hard to treat

**Personality** – anti-social, narcissistic, borderline

**Eating** – anorexia, bulimia, binge-eating

### Treatments

- primary prevention – tries to prevent disorders through societal measures (helping poverty, joblessness)

- secondary prevention – tries to prevent disorders by working with at risk populations (like soldiers)

- tertiary prevention – keeping ppl with disorder from becoming more severe

**eclectic approach to therapy** – most therapists use a variety of types

#### psychoanalytic therapy

- hypnosis, dream analysis to get repressed events/unconscious conflicts into consciousness
- **transference** - the redirection of feelings and desires and especially of those unconsciously retained from childhood toward a new object

#### Humanistic therapy

- try to get people to self-actualization
- Rogers – client/person-centered therapy – uses unconditional positive regard
- self-help, support groups

#### Behavioral therapy

- Classical conditioning – counterconditioning or aversive conditioning
- systematic desensitization
  - o in vivo (actually confronts fears)
  - o covert (patient imagines the fearful situation)
  - o starts with relaxation techniques then works way up to anxiety-producing thing
- token economies (operant conditioning)

#### Cognitive therapy

- helps people form healthy attributional style (all bad things are *not* your fault)
- **Beck’s cognitive therapy** – **cognitive triad** (see next line)
  - o challenges patient’s negative thoughts about 1 – self, 2 – world, 3 – their future

#### Cognitive-Behavioral therapy

- **Rational-emotive behavioral therapy** (REBT) – Ellis – patient focuses on irrational thoughts and behaviors and are exposed to those behaviors (expose and confront)
- **Exposure-response prevention** (what we saw for OCD)

**ECT** – electro-convulsive therapy (depression – severe)

**group therapy** advantages – cheaper, provides support from those that know what it’s like

**Drug therapies** (see chart)

<b>Anti-depressants</b>	SSRIs	Selective serotonin reuptake inhibitors – keeps serotonin available longer Bipolar – mood stabilizers-→	Paxil, Prozac, Zoloft →lithium
<b>Anti-anxiety</b>	Benzodiazepines	Depresses activity in central nervous system	Xanax, Valium
<b>Anti-psychotics</b>	(for Schizophrenia)	Block receptor sites for dopamine – can cause tardive dyskinesia – constant muscle tremors	Thorazine



