**Psychoanalytic**

Freud’s psychosexual theory
- Structure: id (pleasure principle), ego (reality principle), superego (morals, ideals)
- Levels of awareness: conscious, preconscious, unconscious
- Development: oral, anal, phallic (Oedipal complex, penis envy), latency, genital
- Fixations
- Defense mechanisms - reduce anxiety
  - Repression (primary)
  - Regression
  - Reaction formation
  - Rationalization
  - Displacement
  - Sublimation
  - Projection
  - Denial
- Dream analysis (latent vs. manifest)

Neo-Freudians
- Adler - social, not sexual tensions
  - * Birth order, inferiority complex
- Horney - rejected penis envy idea
- Carl Jung - collective unconscious

Assessment
- Projective tests
  - Rorschach
  - TAT - Thematic Apperception Test
  - Draw-a-person
  - Sentence completion

Evaluation:
- * Repression often not shown (vivid memory often results after trauma)
- * Terror management theory

**Humanism**

Maslow - self-actualization
- Hierarchy of needs
  - * Safety — security — love — self-esteem — self-actualization
- Carl Rogers - person-centered
- Genuineness
- Unconditional positive regard
- Empathy

**Social-cognitive**

Reciprocal determinism - interplay of
- Personal factors/ internal cognition
- Behavior
- Environment
- Personal control (Julian Rotter)
- External locus of control
- Internal locus of control
- * Without internal locus, learned helplessness results

Explanatory style (Martin Seligman)
- Optimistic
  - Unstable, specific, external
- Pessimistic
  - Stable, global, internal

Bandura
- Personality influenced by observational learning, outside influences (Bobo doll study)
- Self-efficacy (belief in ability to do things that lead to positive outcomes)

**Trait theory**

Greeks - 4 humors (choleric, sanguine, melancholic, phlegmatic)
- Allport (student of Freud)
- Eysenck - unstable/stable; introverted/extroverted
- Costa & McCrae (Big 5)
  - OCEAN (openness, conscientiousness, extraversion, agreeableness, neuroticism)

Assessment
- MMPI (used factor analysis, empirically derived)
- Cattell’s 16PF
- Person-situation controversy
  - Walter Mischel - emphasizes power of situational factors
  - Expressive style - thin slices
  - Barnum effect - astrology, etc.

**The self**

Hazel Markus - “possible selves”
- Spotlight effect
- Self-referencing effect
- Self-esteem
  - Defensive vs. secure
  - Self-serving bias
Stress response

Stressor—leads to eustress or distress
Depends on appraisal
Fight-or-flight—Walter Cannon
Adrenal glands
* Epinephrine (quick response)
* Glucocorticoids (slow response)
General Adaptation Syndrome—Selye
Alarm—activation of sympathetic nervous system
Resistance—deal with/fight
Exhaustion—breakdown of immune system (telomeres in DNA affected, can’t replicate); hippocampus can’t make new memories as well
Illness
Heart (Friedman & Rosenman study)
  Type A—anger, reactive vs.
  Type B—relaxed
  69% of heart attack victims were A
Immune system impaired
* B lymphocytes (fight bacteria—formed in bone marrow)
* T lymphocytes (formed in thymus, fight viruses, cancers)
* Macrophages (“big eaters"
Conditioning the immune system
(Ader & Cohen study)
* Sweetened water with immune suppressing drug—created classically conditioned immune suppression
* Placebo effect in illness?

STRESS & HEALTH

Coping

Problem-focused (address stress-or)
Emotion-focused (seeks support from others)
Exercise
Biofeedback
Meditation
Spiritual connection

Conflict

Approach-approach
Win-win situation
Avoidance-avoidance
Lose-lose situation
Approach-avoidance
One choice, pros and cons

Obesity & health

Physiology
Fat cells—30-40 million
  Divide if too full, can’t get rid of fat cells
Set-point/metabolism
Fat cells—low metabolic rate
  Metabolism slows when fat cells are deprived, tries to maintain fat level
Genetics
  Adopted children’s weight not correlated to adoptive parents
  Identical twins correlation +.72
  Fraternal twins correlation +.32
Chemical effect
  Leptin in rats—when up, weight down
Losing weight?
  2/3 of women, 1/3 of men trying
**LEARNING**

**Classical conditioning**

- Associative learning
  - allows prediction (associate stimuli)
  - respondent behavior
- Pavlov’s dogs (1904 Nobel prize)
  * US (food) leads to:
    - UR (salivation to food)
  * CS (bell) becomes associated with US, leads to:
    * CR (salivation to bell)
- Elements of classical conditioning:
  - Acquisition
  - Extinction
  - Spontaneous recovery
  - Generalization
  - Discrimination
- Implications:
  - Rescorla’s research on predictability
  - Garcia’s research of biological predispositions
    * easier to condition food aversions to taste rather than sight or sound
    * easiest to condition behaviors that promote survival
- Applications:
  - Aversive conditioning—pairing a negative stimulus with a desired stimulus can help kick bad habits
  - Drug addicts sometimes have cravings related to environment
  - Classical conditioning of immune response (Ader & Cohen study)
  - Extinction can help cure phobias

**Operant conditioning**

- Associative learning
  - consequences of behavior
  - operant behavior
- Thorndike’s Law of Effect
- Skinner
  * Operant chamber (Skinner Box)
  * Shaping
    * Successive approximations
  * Discrimination
- Reinforcement
  - Positive reinforcement—pleasurable stimulus after a response (strengthens the response)
  - Negative reinforcement—reduces or removes a negative stimulus (still strengthens the response)
- Primary reinforcers (water, food, etc.) vs. secondary reinforcers (money, etc.)
- Schedules of reinforcement
  - Continuous (rapid learning)
  - Partial (intermittent)
    * Ratio (certain # of behaviors)
      * Fixed (5 visits to restaurant = free meal)
      * Variable (slot machine)
    * Interval (certain period of time)
      * Fixed (ex. each day @ 3 p.m.)
      * Variable (ex. shooting stars)
- Punishment
  - Positive punishment (add bad thing)
  - Negative punishment (take away good)
    * Both create avoidance behaviors (ex. lie—becomes neg. reinforced)

**Latest contributions**

- **Latent learning** (Tolman)
  - cognitive maps (demonstrate learning after award is given)
- **Intrinsic motivation** (desire to do something for its own sake)
  - When rewards are given for activity that is intrinsically rewarding, enjoyment declines (overjustification effect)
- **Extrinsic motivation** (desire to do something for reward)
  - Should be recognition for a job well done
- **Biological predispositions**
  - Easier to condition behaviors that match natural behavior, promote survival
- **Legacy of Skinnerian thinking**
  - Criticism of deterministic philosophy, dehumanization, loss of personal freedom
- **Observational learning (modeling)**
  - Mirror neurons (biological basis)
    - promote empathy
  - Bandura’s Bobo doll study
    - Child watches adult, mimics
      - Increase of violence, aggression
- **Media influence**
  - Violent crimes—87% on TV, 13% real life
  - Violent action is correlated to viewing violence (media, video games) - leads to desensitization
MEMORY

ENCODING

- Controlled by attention
- Types:
  - Acoustic
  - Visual
  - Semantic
- Affected by:
  - Chunking
  - Self-reference effect
  - Elaboration
  - Rehearsal
  - Spacing
  - Hierarchies
  - Next-in-line effect
  - Serial position effect
  - Primacy effect
  - Recency effect
  - Mnemonic devices
    - Peg-words
    - Method of loci
    - Acronyms
    - Alliteration
    - Music

STORAGE

- Atkinson-Shiffrin Model
  (Information-processing theory)
  - Sensory ↔ STM ↔ LTM
- Sensory memory (Sperling)
  - Iconic
  - Echoic
- STM (requires attention)
  - 7 +/- 2 chunks
- LTM
  - Explicit (declarative)
    - Semantic memory (facts)
    - Episodic memory (incidents)
      - Flashbulb memory
        - (emotional incidents)
    - Prospective memory (remember to do something in the future)
  - Implicit (procedural)

RETRIEVAL

- Aids (retrieval cues):
  - Context
  - State-dependent
  - Mood-congruent
  - Priming
- Recognition vs. recall
- Retrieval failure:
  - Forgetting curve
    (Ebbinghaus)
  - Tip-of-the-tongue
  - Reconstructive memory
    (Elizabeth Loftus)
  - *Misinformation effect
  - *Source amnesia
  - *Rosy retrospection
  - Interference (P.O.R.N.)
    - Proactive
    - Retroactive
  - Amnesia
    - Anterograde
    - Retrograde
  - Repression

BIOLOGICAL FACTORS

- Lashley’s research
- Hippocampus (explicit)
- Amygdala (flashbulb)
- Cerebellum (implicit/procedural)
- Stress hormones (glucocorticoids)
- Long-term potentiation
**PHYSICAL**

- Prenatal
  - Zygote
  - Embryo (2-8 wks)
  - Fetus (8+ wks)

- Teratogens
  - Critical periods
  - Fetal alcohol syndrome
  - Radiation
    - (8-15th week, migration)
    - Radiation: stops short
    - FAS: too far

- Reflexes
  - Moro
  - Rooting
  - Babinski
  - Palmar

- Maturation
  - Cephalocaudal
  - Proximodistal

- Puberty
  - Primary sex characteristics
  - Secondary sex characteristics
  - Frontal lobe development

- Old age
  - Sensory decline
  - Recall vs. recognition
  - Decay of fluid intelligence
  - Consistency of crystallized intelligence
  - Reduced prospective memory
  - Dementia
  - Alzheimer’s disease

**SOCIAL**

- Lev Vygotsky (social-cognitive)
  - Zone of proximal development
  - Mentors

- Lorenz’s study of imprinting
- Harlow’s research on touch
- Stranger anxiety
- Ainsworth’s attachment theory
  - Strange situation paradigm
  - Secure attachment (60%)
  - Insecure attachment
    - Ambivalent
    - Avoidant

- Baumrind’s parenting styles
  - Authoritarian
  - Authoritative
  - Permissive

- Erikson’s stages (psychosocial)
  - Trust vs. mistrust
    - (0-1) basic trust

- Autonomy vs. shame & doubt
  - (1-2) independence

- Initiative vs. guilt
  - (3-5) initiation of tasks

- Competence vs. inferiority
  - (6-12) accomplishment

- Identity vs. role confusion
  - (13-20s) sense of self

- Intimacy vs. isolation
  - (20s to 40s) relationship

- Competence vs. stagnation
  - (40s to 60s) contribution

- Integrity vs. despair

**COGNITIVE**

- Schemas
  - Assimilation
  - Accommodation

- Sensorimotor stage (0-2)
  - Object permanence (6 mos)

- Preoperational stage (2-7)
  - Egocentrism
  - Animism
  - Symbolic thought begins

- Concrete operational stage (8-12)
  - Conservation
    - Volume
    - Area
    - Number
    - Reversibility

- Formal operational stage (12+)
  - Hypothesis testing
  - Abstract thinking
  - Metacognition

- Self concept
  - 18 mo.—rouge test

**MORAL**

- Kohlberg’s theory
  - Preconventional morality
    - Avoiding punishment
  - Conventional morality
    - Accepting rules of society
  - Postconventional morality
    - Ethics, abstract morality
    - No absolutes

- Carol Gilligan
  - Men - Rules & ethics
  - Women - Relationships

- Jonathan Haidt
  - Social intuitionist theory
    - Gut-level reactions
      - (limbic system)

**METHODS OF STUDY**

- Habituation studies
- Longitudinal research
- Cross-sectional research

**STAGES OF DEATH/DYING (Kubler-Ross)**

- Denial … Anger … Bargaining … Depression … Acceptance
Neural communication

The brain

Resting potential
-70 mV inside
Neuron is **polarized**

Action potential (all-or-none)
Neurotransmitters bind to dendrites
Neuron reaches −55 mV
Becomes **depolarized**

Sodium/potassium ions
Signal moves down the axon
Neurotransmitters release to synapse

Must **re-polarize**
Reuptake of neurotransmitters
Return to −70 mV
Refractory period (can’t fire)

Myelin sheath
Insulates motor neurons
Speeds message
Decay of myelin sheath
- multiple sclerosis
Intelligence

**Excitatory** neurotransmitters
Acetylcholine (skeletal muscles)
Serotonin (depression/general well-being)

Dopamine (high - schizophrenia; low—Parkinson’s)
Norepinephrine (Alertness, linked to fight-or-flight)
Endorphins (pain relief)

**Inhibitory** neurotransmitter (GABA)

Organization of the nervous system

**CNS**
Somatic nervous system
Autonomic nervous system

**Peripheral nervous system**

Sensory neurons
Motor neurons

**Sympathetic nervous system**
**Parasympathetic nervous system**

**Hemispheric specialization**

Split-brain surgery (corpus callosum severed)
*Used to treat uncontrolled seizures

Seen in left visual field, processed in right hemisphere

**Methods of study**

**Structure**
Lesions
CT scan
MRI

**Function**
EEG
PET scan
fMRI

Pituitary—master gland (directed by the hypothalamus)

Hormones biochemically the same as neurotransmitters

Adrenal gland—stress hormones

Transmitted in the bloodstream

The endocrine system
Nature, Nurture, Diversity

Behavior genetics

- Evolutionary psychology
  * reproductive advantage
- Genetic make-up
  - Chromosomes (23+23)
    * made up of DNA coils
    * made up of individual genes
  - genes “turned on” to create proteins
    * Genome (blueprint of genes)
    * Phenome (expression of genes)
      - each individual exp is phenotype
- Epigenetics
  - Twin/adoption studies
    - Monozygotic vs. dizygotic twins
    - Temperament—genetic link
- Heritability
  - Identical environments—100%
  - Identical genetics—0%
- Molecular geneticists

Gender

- Casual sex (FSU study)
  - Males in US
    * tend to more active play
    * violent actions more common
    * viewed as dominant
    * leaders—directive
    * interactions—opinionated
      - Male answer syndrome
    * side-by-side activities
  - Females in US
    * more quiet play
    * viewed as deferential, nurturing
    * leaders—democratic
    * interactions—supportive
    * Gilligan—connections w/others
    * face-to-face activities
- Sex determined by 23rd chromosome pair (X from mother, X or Y from father)
  - 7th week after conception, 4-5th month—testosterone influence
- Gender roles
- Gender identity
- Gender typing
- Social learning theory
- Gender schema theory

Nurture

- Rosenzweig study—enriched environments
- Neural pruning
- Parental influences
- Peer influences
- Cultural influences
  - Norms
  - Individualism vs. collectivism
  - Cultural similarities
**Perspectives**

- Introspection
  - Wilhelm Wundt—1st lab, Germany
  - William James—1st text, Harvard
- Structuralism
- Functionalism
- Gestalt—total experience “the whole”
- Perception
- Psychoanalysis—Freud
- Behaviorism—Watson (Little Albert), Skinner (operant conditioning)
- Humanism (Maslow, Rogers)
- Biological—brain chemistry, hormones, genes, etc.
- Evolutionary (sociobiology)—impact of traits that promote reproduction and survival
- Cognitive—thinking patterns
- Sociocultural—fluence of people

**Ethics**

- Animal research
  - Clear scientific purpose
  - Humane treatment
  - Legal acquisition of subjects
  - Limit suffering to least feasible
- Human research
  - Informed consent
  - Limit deception
  - No coercion
  - Protect from harm
  - Confidentiality
  - Debrief afterwards

**HISTORY & RESEARCH**

**Psychological research**

- Limits of intuition
  - Hindsight bias
  - Overconfidence
  - Confirmation bias
- Scientific attitude
  - Curiosity
  - Skepticism
  - Humility
- Scientific method
  - Theories
  - Hypothesis
  - Operational definitions
  - Replication

**Methodology**

- Case study
- Survey
  - Wording effects
  - Random sampling
  - False consensus effect
- Naturalistic observation
  - * Must avoid Hawthorne Effect
- Correlational studies
  - Prediction
  - NOT CAUSATION
  - Illusory correlation
  - Superstition
  - Experiment (see experimentation)

**Experimentation**

- Cause & effect
  - Procedure:
    - Blind study
    - Double-blind study
    - Experimental group vs. control group
  - Independent variable
    - Experimenter manipulates
  - Dependent variable
    - Experimenter measures
  - Confounding variables
  - Random selection
  - Random assignment
  - Generalizability

**Measuring data**

- Descriptive statistics
  - Central tendency (averages)
    - Mean
    - Median
    - Mode
  - Normal curve
  - Correlations (relationships)
    - Scatterplot
    - Correlation coefficient
- Variation
  - Range
  - Standard deviation
  - Variance
- Inferential statistics
  - Do my results mean anything?
    - * Sample size influence
    - * Significant differences
    - p<.05 (alpha level)
### The basics

- Sensation vs. perception
- Bottom-up processing
- Top-down processing
- Prosopagnosia
- Thresholds
- Psychophysics
  - Absolute threshold
  - Signal detection theory
  - Subliminal messages
- Difference threshold (JND)
  - Weber’s Law/Fechner’s Law
- Sensory adaptation
- Transduction
- Receptors

### SENSATION

#### Vision

- Light energy
- Wavelength (color)
- Amplitude (brightness)
- Parts of the eye
  - Cornea
  - Pupil
  - Lens
    - Accommodation
    - Retina (transduction here)
    - Rods (120 million)
    - Cones (6 million)
    - Fovea
  - Bipolar cells
  - Ganglion cells
  - Optic nerve to occipital lobe
    - Blind spot
  - Visual acuity
    - Nearsightedness/farsightedness
  - Feature detectors
  - Parallel processing
  - Blindsight
  - Change blindness
- Retina to thalamus to cortex
  - Color interpretation
    - Young-Helmholtz theory
    - Subtractive color mixing
    - Additive color mixing
    - Opponent-process theory
    - Afterimages
    - Color constancy

#### Audition (hearing)

- Sound energy
- Frequency (pitch)
- Amplitude (loudness)
- Measured in dB (decibels)
  - Every 10 dB = 10 times louder
- Parts of the ear
  - Outer ear
    - Pinna (visible part)
  - Auditory canal
  - Middle ear
    - Tympanic membrane (eardrum)
    - Ossicles (hammer, anvil, stirrup)
  - Inner ear
    - Oval window
    - Cochlea
      - Basilar membrane
      - Hair cells (transduction here)
      - Organ of Corti
    - Semicircular canals (NOT for hearing)
- Auditory nerve to temporal lobe
- Perceiving sound
  - Place theory
  - Frequency theory
  - Volley principle
- Sound localization
- Hearing loss
  - Sensorineural hearing loss
  - Cochlear implant
  - Conduction hearing loss

### Other senses

- Touch
  - Pressure, temperature, pain
  - Nociceptors
  - Gate-control theory
- Taste (gustatory sense - chemical)
  - Sweet, sour, salty, bitter, umami
  - Taste buds
- Smell (olfactory sense - chemical)
  - Does not go through the thalamus
- Kinesthesia
- Vestibular sense
  - Semicircular canals
- Synaesthesia
PERCEPTION

**The basics**
- Sensation vs. perception
  - Bottom-up processing
  - Top-down processing
- Prosopagnosia
- Selective attention
  - Cocktail party effect
  - Inattentive (change) blindness
- Choice blindness
- Visual capture

**Perceptual organization**
- Figure-ground relationship
  - Gestalt principles
    - Proximity
    - Similarity
    - Continuity
    - Connectedness
    - Closure

**Visual perception**
- Depth perception
  - Binocular cues
    - Retinal disparity
    - Convergence
  - Visual cliff
- Monocular cues
  - Linear perspective
  - Relative size
  - Interposition
  - Relative clarity
  - Texture gradient
  - Relative height
  - Light & shadow
- Motion perception
  - Relative motion (motion parallax)
  - Stroboscopic movement
  - Phi phenomenon
- Constancies
  - Color constancy
  - Size constancy
  - Shape constancy
  - Lightness constancy
- Illusions
  - Muller-Lyer illusion
  - Cultural influence
  - Ponzo illusion
  - Moon illusion
  - Sensory deprivation
  - Critical periods

**Other principles**
- Perceptual adaptation
- Perceptual set
- Context effects
- Human factors
- ESP (extra-sensory perception)?
  - Parapsychology
  - Telepathy
  - Clairvoyance
  - Precognition
  - Psychokinesis
  - Way to test: Ganzfeld procedure
## Biology of sleep

- Biological rhythms
  - Circadian rhythm (25 hr cycle)
  - Light (suprachiasmatic nucleus)
  - Pineal gland (near thalamus)
  - Melatonin
  - Adenosine (sleep-inducing)
- Sleep stages
  - Prior to stage 1 (alpha waves)
  - Stage 1 (theta waves) 5 min.
  - Stage 2 (K-complexes, sleep spindles) approx. 20 minutes
  - Stage 3 (<50% delta waves)
  - Stage 4 (>50% delta waves)
    - Stage 3 & 4 — slow wave sleep
- Order of stages
  - 1, 2, 3, 4, 3, 2, REM, 2, 3, 4, 3, 2, REM
- REM — paradoxical sleep
  - Active brain, paralyzed body
- Benefits
  - Memory consolidation
  - Concentration
  - Mood
  - Moderates hunger/reduces obesity
  - Improves immune response
- Disorders
  - Insomnia (10-15% of adults)
  - Narcolepsy
  - Sleep apnea
  - Night terrors (stage 4)
  - Sleepwalking (stage 4)

## Dreaming

- Freud’s analysis
  - Manifest content vs. latent content
  - Information-processing theory
    - Filing experience
    - Synthesizing memory
    - Pruning connections
    - Build neural pathways
  - Activation-synthesis theory
    - Pons generates neural firing
    - Lucid dreams
    - Conscious awareness of dream state

## Psychoactive drugs

- Tolerance/withdrawal
  - Involves neuroadaptation
- Addiction vs. dependence
  - Nucleus accumbens
- Depressants
  - Alcohol
    - Reduces inhibitions
    - Impairs activity of frontal lobe
    - Disrupts formation of LTM
  - Barbiturates (tranquilizers)
    - Reduce anxiety, mimic alcohol
  - Benzodiazepines (Xanax, Valium)
- Opiates (endorphin agonists)
  - Morphine, heroin, oxycontin
- Stimulants
  - Amphetamines/meth
  - Cocaine — rush/crash
  - Ecstasy — also a hallucinogen
    - Stimulates serotonin
    - Interferes w/sleep, impairs memory, reduces immune response
- Hallucinogens
  - LSD — serotonin agonist
  - Marijuana — cannabinoid agonist
    - Disrupts memory formation
    - Reverse tolerance

## Hypnosis

- Mesmer (18th century)
- Susceptibility
  - Creativity, desire influences
- Therapeutic capacity
  - Posthypnotic suggestions
  - Pain alleviation
  - Selective attention?
- Theories:
  - Social influence theory
    - Emphasizes desire of subjects to do well
  - Divided consciousness theory
    - Emphasizes dissociation
    - Hilgard’s “hidden observer”
MOTIVATION

Physiology of hunger
Keys’ research
Cannon’s research
Body chemistry
Insulin up, glucose down
Hypothalamus stimulation
Lateral—hunger increases
Orexin (protein)
Ghrelin (hormone)
Ventromedial—hunger declines
PYY—suppresses hunger
Leptin (protein)
go up, hunger down

Psychology of hunger
Neophobia (avoidance of unfamiliar food)
Eating disorders
Anorexia nervosa
At least 15% underweight
Continue to view self as fat
Bulimia nervosa
Binge-purge pattern
Not necessarily low weight
Obesity (30% in US)

Theories of motivation
Instinct theory (evolutionary)
- fixed patterns, unlearned
Drive-reduction theory (Clark Hull)
Object is homeostasis
- Pulled by incentives (external)
Arousal theory
Yerkes-Dodson Law
Easy task—high arousal
Difficult task—moderate
Maslow’s hierarchy of needs
Physiological at base, then safety,
belonging & love, esteem,
self-actualization, transcendence
Need to belong
Ostracism—activates anterior cingulate cortex (also activates with pain)

Achievement motivation
Flow
I/O psychology
Personnel psychology
To avoid the interviewer illusion
Structured interviews
360-degree feedback
Grit (determination, breeds success)
Theory X vs. Theory Y
Task leadership vs. social leadership
Great person theory
Transformational leadership

Physiology of sex
Kinsey report
Masters & Johnson research
Sexual response cycle
Excitement—plateau—orgasm—resolution (refractory period)
Sexual disorders
Premature ejaculation
Erectile dysfunction
Orgasmic disorder
Hormones
Estrogen / androgens (testosterone)

Psychology of sex
External stimuli
Habituation occurs
Decreased satisfaction w/sexual partners
Gender roles/gender identity
Sexual orientation
Estimated 3-4% men, 1-2% women
But could be higher (response bias)
Identical twin studies support genetic basis
Hypothalamus differences (LeVay)
Anterior commissure differences
Fraternal birth order effect
Same sex attraction in animals (6-10%)
Finger length/fingerprint ridges
(7th/16th week of development)
**EMOTION**

**Theories**

- Emotion—arousal, expressive behavior, and conscious experience
  - James-Lange theory: physiological response 1st, emotion 2nd
  - Cannon-Bard theory: physiological response at the same time as experience of emotion
  - Schachter’s two-factor theory: physiological arousal, then appraisal (cognition) creating emotion label
  - Spillover effect: Stirred up physiological state can be misinterpreted as emotional state
  - Zajonc’s theory: Subliminal processing of emotions (neural pathway is from thalamus to amygdale)
  - Lazarus: Cognitive appraisal controls emotion

**Nervous system**

- Autonomic arousal
  - Sympathetic nervous system: pupils dilate, dry mouth, perspiration, fast breathing, accelerated heart rate, slowed digestion, stress hormones released (fight-or-flight)
  - Parasympathetic nervous system: returns body to original calm state

**Experience of emotion**

- Emotion = valence (pleasant/unpleasant) and arousal (low/high)
  - Fear—learn early, through conditioning, observation
    - Amygdala key
    - Anterior cingulated cortex
  - Anger -
    - Catharsis hypothesis—release
      - But creates more anger
      - Reinforcement
    - How to control?
      - Waiting to act
      - Exercise
      - Forgiveness
  - Happiness (subjective well-being)
    - Feel-good, do-good phenomenon
    - People who value love over money report higher life satisfaction
    - Adaptation-level phenomenon
    - Relative deprivation principle

**Predictors:** high self-esteem, optimism, close friendships/marriage, engaging work, meaningful faith, good sleep, exercise

**Contributors:** know that wealth doesn’t make you happy, control your time, act happy, seek enjoyable work, exercise, sleep, make relationships a top priority, help others, be grateful, seek spiritual fulfillment

**Expressed emotion**

- Nonverbal communication
  - Easily detect threatening cues
  - Thin slices (quick views of interactions) - some better at reading
- Gender differences
  - Women tend to be more able to read non-verbal cues
  - Also tend to communicate emotion better
- Ekman’s research
  - Microexpressions
  - Universal emotional expressions
    - Happiness, surprise, fear, sadness, anger, disgust
- Facial feedback: we feel the emotion we show
- Display rules: may vary by culture, gender, etc.
- Behavior feedback: we feel the emotion our body looks like it’s feeling
- Empathy: feeling another’s emotion
- Mirror neurons
- Reading emotion: autistic people show problems in reading emotional states of others
**Intuition**

Factors:
- Blindsight
- Right-brain thinking
- Moral thinking (Haidt’s theory)
- Automatic processing/implicit memory
- Creativity
- Thin slices
- Subliminal stimulation
- Microexpressions
- Dual attitude system
  - Unconscious/conscious
  - Implicit/explicit
- Gut-level/rational

**About Language**

Structure
- Phonemes
- Morphemes
- Grammar
  - Semantics
  - Syntax
Appearance
- Babbling (approx. 4 months)
- One-word stage (1 year)
- Two-word stage (telegraphic speech)
  - At 1 1/2 years
  - No 3 word stage

**Cognition**

**Theories of language development**

- Skinner—nurture
  - Behaviorist explanation
    - Follows usual learning pattern
      - (Reinforcement/punishment)
- Chomsky—nature
  - Language acquisition device (innate)
  - Evidence:
    - * Overregularization of language (or overgeneralization)
      - Ex: “I goed to the store.”
    - * Common elements
      - Surface structure (syntax)
      - Deep structure (semantics)
    - * Critical period
      - Age 7 for language acquisition
  - Cochlear implants
    - Best results 2-4 year olds

**About Language**

- Whorf’s linguistic determinism theory
  - (or linguistic relativity theory)
  - Language shapes thinking
  - Evidence: bilingual advantage
  - Thinking in images (process simulation)
- Animal thinking
  - * Concept formation
  - * Theory of mind—similar to 2 yr. old
  - * Language: honeybees, ape language
Theories of intelligence

- It’s conceptual, not a thing (reification—assuming it’s a thing)
- Single intelligence theory
  - Spearman: “g” represents related clusters of skills (used factor analysis)
- Multiple intelligence theories
  * Based on evidence from savants
  - Thurstone: primary mental abilities
    - 7 clusters
  - Gardner: 8 intelligences
    - linguistic, logical-mathematical, musical, spatial, kinesthetic, intrapersonal, interpersonal, naturalistic
  - Stenbergs triarchic theory
    - analytical, creative, practical
- Emotional intelligence (EQ)
  - Relates to success in family, career

Creativity

- Convergent vs. divergent thinking
- How to maximize:
  - Develop expertise
  - Keep a venturesome personality
  - Stay intrinsically motivated
  - Live in creative environment

Assessing intelligence

- Binet’s test (to identify special needs)
- Terman (Stanford)
  - Supported eugenics (Social Darwinism)
  - American version (Stanford-Binet)
  - MA/CA X 100 = IQ
- Wechsler Adult Intelligence Scale (WAIS)
- Wechsler Intelligence Scale for Children (WISC)
- Bias: Stereotype threat, gender bias

Neurological evidence

- Brain anatomy:
  - Larger brain (thickening of cortex due to enhanced connections?)
  - 17% more synapses (maybe better neural plasticity?)
  - Einstein’s brain — thicker in parietal lobe (math/spatial intelligence?)
- Brain function:
  - Frontal lobe activity during IQ test questions
  - Perceptual speed correlates positively
  - Neurological speed (evoked brain response faster)
  - More efficient glucose consumption
    - Uses less, processes more efficiently?
- Genes:
  - Identical twins highly correlated
  - Adopted children, little correlation
  - Heritability

INTELLIGENCE

Creating tests

- Standardization
  - Representative sample, compare scores
  - Chart on normal curve
    - 68-95-99.7 (standard deviation)
- Flynn effect
  - IQ scores improving over time
- Principles of test creation
  - Reliability: test needs to get same results each time it’s given
    - Test-retest reliability
    - Split-half reliability
  - Validity: test needs to measure what it’s designed to measure
    - Content validity (material reflects what should be tested)
    - Face validity
    - Criterion-related validity (matches in dependent measure of what the test is designed to measure)
    - Concurrent validity
    - Predictive validity
      - May be affected by range of scores tested
    - Construct validity (use a previous validated instrument and correlate to that test’s results)

Extremes of intelligence:

- Mental retardation:
  - Mild (50-70 IQ), moderate (35-50 IQ), severe (20-35 IQ)
  - Down syndrome (extra 21st chromosome)
- Gifted (Terman’s study — “Termites”)
  - Healthy, well-adjusted, successful
  - No tracking, special treatment in China/Japan
Anxiety disorders

- GAD (generalized anxiety disorder)
  - Free-floating anxiety
- Panic disorder without agoraphobia
  - Strikes suddenly
  - Panic attacks (seem like heart attacks)
- Panic disorder with agoraphobia
- Specific phobia—focused fear

Obsessive-compulsive disorders

- Obsessive-compulsive disorder (OCD)
  - Obsessions—thoughts
  - Compulsions—behaviors
- Hoarding Disorder
- Body Dysmorphic Disorder

Sources of OCD and anxiety disorders:
* Classical conditioning & generalization
* Negative reinforcement maintains the fear

Biology (natural selection, genes, activity in anterior cingulate cortex, activity in amygdala, GABA)

Dissociative disorders

- Dissociative identity disorder
  - Multiple personality
- Dissociative fugue
  - Person doesn’t remember past, wakes up in strange location
- Dissociative amnesia
  - Person doesn’t remember past
  - No biological explanations

Mood (affective) disorders

- Depression (common cold of disorders)
- Major depressive disorder (more than 2 weeks of debilitating depression)
- Persistent Depressive Disorder aka Dysthymic disorder (more than 2 years feeling bad most days)
- Bipolar disorder
  - Mania (restlessness, risk-taking, craziness, fast talking) alternates with depression
  - May be fast cycling or slow cycling

Explanations:
* Genetic predispositions (linkage analysis, association studies)
* Brain chemistry (serotonin, norepinephrine, dopamine; decreased activity in left frontal lobe)
* Social-cognitive
  - Self-defeating beliefs (learned helplessness)
* Optimistic / Pessimistic Explanatory Style
  - Stable, global, internal (depressed)
  - Temporary, specific, external (non-depressed - optimistic)
* Vicious cycle of depression:
  - Stressful experience….leads to
  - Negative explanatory style... leads to
  - Depressed mood… leads to
  - More stressful experiences…and the cycle begins again

Fight depression by:
* Changing environment, reducing self-blame, making positive predictions about the future, exercise, become focused on helping others, laugh more!

Trauma and stressor related disorders

- PTSD (post-traumatic stress disorder)
**Brain abnormalities**
- Dopamine overactivity
  - D4 receptors 6X normal
- Glutamate—may relate to negative symptoms
- Enlarged ventricles
- Shrunken thalamus

**Environmental factors**
- Low birth weight, famine, oxygen deprivation?
- Virus during pregnancy? Flu link during 2nd trimester

**Genetic factors**
- Much higher chance of shared schizophrenia with identical vs. fraternal twins

**Psychological factors/warning signs**
- Birth complications
- Mother with schizophrenia
- Separation from parents
- Disruptive or withdrawn behavior
- Poor muscle coordination
- Poor attention span
- Poor peer relationships/solo play
- Emotional unpredictability

**Diagnosis**
- Typical onset—teens or early 20s
- Diathesis-stress model

**Personality disorders**
- Cluster A (eccentric)
  - Paranoid personality disorder
  - Schizoid personality disorder—odd, withdrawn behavior
  - Schizotypal personality disorder—with some schizophrenic-like symptoms
- Cluster B (dramatic)
  - Antisocial personality disorder—lack of remorse, empathy (mirror neurons); typical onset about 8 yrs.
  - Borderline personality disorder—on the borderline of psychosis
- Cluster C (anxious)
  - Avoidant personality disorder—stays away from others
  - Dependent personality disorder
  - Obsessive-compulsive personality disorder

**Somatic symptom and related disorders**
- Somatic symptom disorder—diagnosis based on a long list of medically unexplained symptoms
- Conversion disorder—psychological problem converted to non-biological physical problem (ex. paralysis in “Heidi”)
- Illness anxiety disorder (Hypochondriasis)
Behavioristic

Classical conditioning applications:
- Counterconditioning—replace previous fear response with new relaxation response
  - Exposure therapy (Mary Cover Jones)
    - Gradual exposure to feared object
  - Systematic desensitization (Wolpe)
    - Anxiety hierarchy, then relaxation
  - Virtual reality exposure therapy
  - Implosion therapy
    - Includes flooding
  - Aversive conditioning (substitute neg. response for unwanted behavior)

Operant conditioning applications:
- punishment (bed-wetting buzzers)
- behavior modification
  - * token economy

Psychoanalysis

- Based on Freudian ideas
  - Repressed ideas must be accessed
  - Insight is the goal
- Methods
  - Free association
  - Resistance
  - Dream analysis
  - Latent content most important
- Transference
- Duration
  - Years
- Psychodynamic therapy—same foundation, less intense

Humanistic

- Focus: boost self-actualization (Maslow)
  - Become more self-accepting
- Method:
  - Client-centered therapy
    - active listening (no judgment)
    - Reflect feelings of client
  - non-directive
- Therapist: genuineness, unconditional positive regard, empathy
- Goal: promote personal growth, personal responsibility

Cognitive therapy

Aaron Beck (cognitive triad)
Albert Ellis (RET)
- Stress inoculation training (change in thinking patterns to stress)
- Cognitive-behavioral therapy

Effectiveness

People report that therapy is effective
- * But regression toward the mean?
- * Selective recall
- * Eysenck’s research: 2/3 improved with or without therapy

Depression: cognitive, interpersonal, behavior
Anxiety: cognitive, exposure, behavioral
Bulimia: cognitive-behavioral therapy

Other unusual treatments:
- EMDR— For trauma victims
- Light exposure therapy—for SAD

Biomedical therapy

1950’s—deinstitutionalization

Antipsychotic medications (neuroleptics):
  - Chlorpromazine (Thorazine) - pos. symptoms
  - Clozapine (Clozaril) - negative symptoms
- * Problem: tardive dyskinesia

Atypical antipsychotics (D2 & serotonin antagonists) - fewer side effects

Antianxiety meds: Xanax, Valium, Ativan
  - (GABA agonists - benzodiazepines)

Antidepressants: also for OCD, anxiety
  - SSRI’s—Prozac, Zoloft, Paxil, etc.

Mood stabilizers
  - Lithium—bipolar
  - Depakote—bipolar (originally for seizures)

Brain stimulation
  - ECT (electroconvulsive therapy)
  - rTMS (magnetic stimulation)

Surgery: Lobotomy (Moniz)
SOCIAL PSYCHOLOGY

Attribution theory
- Internal vs. external attributions
  * Fundamental attribution error
  * Actor-observer bias
  * Self-serving bias

Group behavior
- Social facilitation vs. social inhibition
  * related to Yerkes-Dodson Law
- Social loafing
- Deindividuation
  * loss of identity, others don’t know who you are
- Group polarization
  * movement to more extreme positions
- Groupthink (Janus)
  * influenced by desire for harmony
- Minority influence
  * self-confidence, determination key
- Prejudice (attitude) — leads to discrimination (behavior)
  * Social roots: social inequality, blame-the-victim, in-group vs. out-group leading to in-group bias
  * Emotional roots: Fear, anger (leads to scapegoating)
  * Cognitive roots: Categorization, availability heuristic, just-world phenomenon
  * Jane Elliot study—children and stereotyping - self-fulfilling prophecies

Aggression and conflict
- Biology: genetics, amygdala, decreased frontal lobe activity, testosterone levels
- Psychology
  * Frustration-aggression principle
  * Modeling (observational learning)
  * Social scripts (mental tapes on how to act)
  * Video games?
  * Catharsis hypothesis (builds more anger)
- Conflict
  * Social traps
    - pursue self-interest, everyone loses
  * Enemy perceptions
    - mirror-image perceptions

Attraction and altruism
- Passionate love (two-factor theory)
  vs. companionate love (key is equity, self-disclosure)
  * Physical attractiveness key
  * Similarity
  * Proximity (mere exposure effect)
- Altruism
  Bystander affect
  * diffusion of responsibility
  * pluralistic ignorance
  * Explained by social exchange theory
    * Reciprocity norm
    * Social responsibility norm
- Peacemaking, GRIT
  *Superordinate goals

Attitude change
- Cognitive/affective components of attitudes (attitude vs. opinion)
- Action affecting attitudes
  * Foot-in-the-door
  * Door-in-the-face
- Persuasion
  * Central route to persuasion
  * Peripheral route to persuasion
- Role playing (Zimbardo prison study)
- Cognitive dissonance (Festinger)

Group influence
- Conformity (Asch study)
  * chameleon effect
  * mood linkage (mimicry)
- Normative social influence vs. Informational social influence
- Obedience (Milgram’s study)