PSYCH 1000

March 2013

STUDY GUIDE

WUCK EXAMS

This guide contains notes on *"Psychology: Frontiers and Applications"* Fourth Canadian Ed. by Passer, Smith, Atkinson, Mitchell and Muir.

LANGUAGE CHAPTER 9

Language - system of symbols and rules to generate infinite possible meanings
Psycholinguistics - study of psychological aspects of language

COMPONENTS OF LANGUAGE

Grammar	Rules of how symbols can be combined
Syntax	Rules that govern order of words
Semanticity	Conveys meaning
Generatively	Finite symbols can be combined to an infinite number of messages
Displacement	Allows us to communicate things that aren't physically present (imaginary, past, future)

Noam Chomsky's Transformation Grammar

Surface structure
Symbols and the their order

Deep structure
Underlying meaning, semantics

Phoneme

No meaning on their own. About pronunciation.

Ex. Letter L or D

Morpheme

Smallest unit of *meaning*. Letter "s" conveys pluralness so it is a morpheme.

Ex. Dog, pre-, "s"

Words

Almost anything in english can be said with a vocabulary of 850 words.

Phrases

Sentences

Discourse

Sentences combined into paragraphs, articles, books, conversations.

Q. **How many morphemes in “crosswords”?**

Two. (←Tilt screen to see answer)

Explanation: “Crossword” is one and “s” is another. “Cross” and “word” aren’t conveying separate meaning so they are *one* morpheme. “S” conveys separate meaning than the rest of the word, pluralness, so it is also its own morpheme.

PSYCH WITH MIKE

Humor

- **Phonological ambiguity** - confusion of sounds *(Knock knock jokes)*
- **Lexical ambiguity** - double meaning *(a baker kneads the dough)*
- **Syntactic ambiguity** - confusion in structure *(man eating salmon vs man-eating salmon)*
- **Semantic ambiguity** - meaning *(Call me a cab. Okay you’re a cab.)*

Bottom up processing: patterns ➡ syllables ➡ meaning
Top down processing: interpreting things based on expectations *(Reading “The Bead Store” as “The Bread Store”)*

Speech segmentation - how do we know when words end?

- We learn certain sequences are more likely to be at the end of words
- Context also makes it easier to tell when words end

Pragmatics - knowledge of the practical aspects of using language

- Using language requires more than vocabulary and grammar
- You must know not only what people are saying but what they mean and want you to do *(Social context)*

THE BRAIN

Broca's Area	Speech
Wernicke's Area	Comprehension

- Women have language in both hemispheres, men have it in the left
- If you acquire a language earlier in life, both languages use the same neural network
- If you learn a language later in life, it gets its own neural network and you use a different part of the brain when you use that language
- Even if you learn early and fluently, the **inferior frontal gyrus** goes off when you use a second language, indicating it requires more effort

LANGUAGE LEARNING

- Infants vocalize (cry, babble) from the first moments of life - even deaf infants
- Show **phoneme discrimination** by 2 months (PA vs BA)
- Babies are equally sensitive to phonemes from foreign languages - we're hard wired to acquire languages
- At 6-12 months, they can only discriminate between sounds in their native tongue
- **Language Acquisition Device (LAD)** - humans are born with an innate biological mechanism that contains general grammar rules (nouns, verbs)
  - A huge electrical "switchboard" that is calibrated to your language
- Is language learned as a result of imitation and reinforcement *(Skinner's idea*)?
  - Not really. Parents don't correct kids' grammar but they still learn it.
  - **Language Acquisition Support System (LASS)** - social environment that facilitates language learning. Mutually supportive with LAD

The One-Word Speaker

- *5-8 months of age* - respond to parents words
- *10 to 20 months* - talking begins
- The early vocabulary simple. The #1 word is "no".
- Vocab more likely to include objects they can manipulate (ball vs ceiling)
- Difficult to tell what kids mean when they use single words, they tend to *undergeneralize*

The Two-Word Speaker

- Around 2 years old - telegraphic speech
- Vocabulary of several hundred words
- Speech shows proper organization: "throw ball" not "ball throw"
- By 2.5 years child moves beyond 2 words, and sentences become more complex
- The 4 or 5 year old makes mistakes in tense (runned not ran, eated or ate)
  - Child now *overgeneralizes* rules
- Formal schooling takes over

Motherese

- High pitch, slow rate, exaggerated tone mothers use when talking to babies
- Adults shift "automatically"
- Infants prefer this speech to normal adult speech
- Learning about pausing, pitch, characteristics of speech

Bilingualism

- Children mixing two language when they learn is *not* an issue, they can discriminate by age 2

Bilingual children have

- Superior cognitive processing
- Better understanding even before they read
- Better symbolic understanding of the nature of print
- Preform better on attention inhibition tasks (flexibility of thinking)

Teaching immigrants both English *and* their native language in school causes better English fluency, academic performance & self-esteem.

PSYCH WITH MIKE

Critical Periods

- The white crowned sparrow must be exposed to an adult song between day 7 and 60 or it will never be able to sing
- Humans must be exposed to language between 3 months to around puberty (early teens) or they will not be able to learn to speak

Second language critical periods:
You definitely learn the language better if you learn it earlier, but a biological critical period is debated.

Will language develop on its own?

A. "Feral children" (Amala and Kamala) did not learn language on their own.
B. Isolated children might learn language depending on how early they are introduced to it. 6yo is fine, 14yo is too late.
C. Children with no models may be able to learn language. Ex. Deaf children with hearing parents who don't sign.
D. Can other animals learn language? No. Languages have been taught to chimps but they have no real syntax or propositional thought.

THINKING

Thought and language are closely related. Telling people to talk out loud can be used to study thinking patterns (called **directed thinking**).

Linguistic Influences on Thinking

- **Linguistic relativity hypothesis** - language determines what we are capable of thinking
- For example: would a culture with fewer words for colors actually be less able to tell colors apart? Studies testing this are inconsistent.
- Language doesn't determine what you think, it influences it
- Chinese language uses ten-one, ten-two instead of eleven and twelve so children learn math easier in Asian countries

TYPES OF THOUGHT

Propositional thought - inner speech
- Concepts - basic units of semantic memory (objects, abstractions, activities)
- Some concepts are defined by prototypes (most typical members of the class)
- Propositions are statements about concepts that may be true or false

Imaginal thought - images we see, hear or feel in our mind
Motoric thought - mental representations of motor movements

Organization of Thought

- Hierarchical structure
- Goal-direct
- Schema driven

REASONING

Deductive reasoning - reasoning from the top down, based on logic and premises
- If X, then Y
- Syllogism - classical deductive argument

Inductive reasoning - reasoning from the bottom up
- Evaluating facts to from general principles
- Inductions are less certain - they form likelihoods, not certainties

Obstacles to Reasoning
- Distraction from relevant info
- Belief bias - abandoning logical rules to favor your opinions
- Emotions and framing - same info presented in a different way *(50% success rate vs 50% failure rate)*

PROBLEM SOLVING

- **Framing the problem** - looking at it the right way can make the answer seem obvious
- Testing solutions - **mental sets** are tendencies to stick with solutions that worked in the past and can cause inefficiencies

Problem Solving Schemas - mental blueprints

Algorithms - procedures that auto generate correct solutions
Heuristics - general problem solving strategies that apply to certain classes of situations (shortcuts)

Representativeness heuristic - infer how closely something fits into our prototype of a concept.

ex. *Which coin toss sequence is more likely, HHHTTT or HTHTTH? They are equally likely, HTHTTH is just more representative of our heuristic of randomness.*

Availability heuristic - we think things that are easier to think of are more likely to happen.
- This is why we think murder is more likely than suicide (its not)

Confirmation bias - looking for evidence to confirm your beliefs
- You can be sure you are wrong, but its hard to be sure you are right
- Best to look for evidence to *disprove* your hypothesis

Framing effect - the phrasing of the situation affects how you interpret it, even if the information is identical

Means-ends analysis - identify difference between present state and goal and make chances to get to goal

Subgoal analysis - formulate intermediate steps to the solution

KNOWLEDGE, EXPERTISE AND WISDOM

- **Schema -** mental framework (concepts, categories)
- **Scripts -** type of schema concerning sequence of events (going shopping, going to the movies)

Experts - rely on many schemas and knowing of when to apply them
- Schemas are enhanced by experience
- Once you become an expert, you use long term memory instead of working memory, which is much more efficient.

Wisdom - system of knowledge about the meaning and conduct of life
1. Rich factual knowledge about life.
2. Rich procedural knowledge about life (strategies, handling conflict)
3. Understanding of lifespan contexts: life involves many contexts (family, friends, work)
4. Awareness of the relativism of values and priorities
5. The ability to recognize and manage uncertainty

Mental Imagery

- **Mental rotation** - asking people if two shapes are the same
- Mental images involve spatial representation - if you imagine a map, it takes longer to mentally "go" from two places that are further apart
- Some argue that mental imagery is more like language: when you think of a brick wall it is represented by various linguistic concepts (brick, mortar, spread)
- Is mental imagery a perception?
  - Hemispatial neglect also affects your ability to form mental images
  - There is a lot of brain overlap between visual and mental perception

Metacognition - knowing your own cognitive abilities
- If you have good **metacomprehension**, you are good at knowing what you do and don't understand
- **Metamemory** is your knowledge of what you do and don't remember
- Metacognition is very important for a student
- Writing summaries of chapters helps you find out what you truly know and don't know

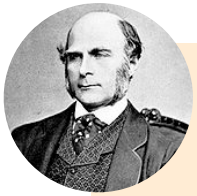
Q. **How many deep and surface structures does the phrase "smoking volcanoes can be bad for your health" have?**

2 deep and 1 surface. (←Tilt screen to see answer)

INTELLIGENCE CHAPTER 10

Intelligence - ability to acquire knowledge, to reason effectively, and to deal adaptively with the environment.

Intelligence is a socially constructed concept. People that live in farming communities in different countries don't solve logical problems the same way as others but it doesn't mean they're less intelligent.



SIR FRANCIS GALTON

- Believed that **intelligence was inherited** and that smart people were "more fit" for thinking than dumb people
- Measured reaction speed, hand strength, and sensory acuity to test intelligence
- Believed intelligence was **unitary** (based on mental quickness)
- Thought skull size was related to intelligence
- Turned out to be totally **wrong** about intelligence but he did create interest in the field.
- He also developed the **correlation coefficient** so he wasn't totally useless

ALFRED BINET

- French government asked him to find out why certain kids didn't learn in school as well
- Believed that **intelligence was a "collection of higher-order abilities"** meaning there would be no correlation between each of the abilities that make up intelligence
- Assumed that a) mental abilities develop with age and b) rate of development is constant
- Developed a standardized test measuring memory, math, vocabulary etc.
- Also correlated his test with the teachers' ratings of the children to make sure the results were meaningful **(criterion validity)**
- Developed a testing score called **"mental age"**

WILLIAM STERN

- Built on Binet's idea of mental age and came up with **IQ**
- **IQ = mental age ÷ actual age**
- Today's IQ tests are no longer based on mental age because:
  - It only really works with children
  - Mental age of 80 isn't actually 2x better than a mental age of 40
- So Weshler comes up with deviation IQ based on z-score
- IQs have a **mean of 100** and a **standard deviation of 15**

BINET'S LEGACY

Stanford-Binet	A prof at Stanford developed an IQ test for american culture. Initially verbal based, now includes Verbal Reasoning, Abstract/Visual Reasoning, Quantitative Reasoning, and Short-Term Memory.
Army Alpha	IQ test for army recruits
Army Beta	IQ test for army recruits that couldn't read
Lorge-Thorndike Intelligence Test & **Otis-Lennon School Ability Test**	Still used by school districts today
Wechsler Adult Intelligence Scale (WAIS-IV)	Measure verbal and non-verbal abilities, most popular intelligence tests in North America.
Wechsler Intelligence Scale for Children (WISC - IV)	• Separate scores for Verbal Comprehension, Perceptual Organization, Freedom from Distractibility, and Processing Speed • As kids mature, general intelligence remains stable but specific abilities become more differentiated

Correlation between IQ & Academics

- IQ and high school grades: **0.6**
- University grades: **0.3 - 0.5**
- US university entrance examinations: **0.5**
- Correlation high enough to justify using it but not just it alone

Correlation between IQ & Other Things

- IQ and socioeconomic status: **0.4 - 0.7**
- IQ and achievement: **0.3 - 0.7**
- People with higher intelligence perform better on their jobs, especially during training
- IQ predicts job performance better than experience, specific abilities, or personality
- People high in intelligence show better recovery from brain injuries
- Higher childhood IQ = significantly greater survival to age 76

TEST CONCERNS

Reliability - consistency of measurement

- **Test-retest reliability** - are scores stable over time?
- **Internal consistency** - do all items seem to be measuring the same thing?
- **Interjudge reliability** - do different raters/scorers agree on their scoring?

Validity - does test measure what it s supposed to?

- **Construct validity** - To what extent is the test actually measuring the thing of interest?
- **Content validity** - Do the test questions relate to all aspects of the thing being measured? *(Can't just test addition if you're testing math)*
- **Criterion-related validity** - Do scores on the test predict some present or future behavior related to what its supposed to measure? *(Like what Binet did with the teacher's ratings)*

Standardization

The development of **norms -** test scores from a large sample that represent particular age segments of the population

Culture Fairness

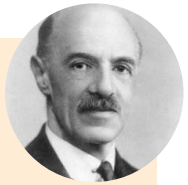
Is the test **culture-fair** or does it require knowledge only available to specific cultures? *I.e. asking an urban community farming related IQ questions.*

- **Chitterling test** is bias to people in Southern US states

THE NATURE OF INTELLIGENCE

Psychometric Approach

- Psychometrics - statistical study of psychological tests
- What are the mental abilities of the human mind?
- Is intelligence a general mental capacity, or several specific mental abilities?
- Uses **factor analysis** to see if there are clusters of abilities that are correlated with each other *(ex. if reading, writing and speaking are correlated maybe there is an underlying skill that makes you good at all of them)*



SPEARMAN

- Modern Galton - believed intelligence is a based on one general skill
- Called this general skill the **g-factor**
- The g-factor is what most people call "intelligence" today
- G-factor predicts job success even better than measures of specific ability tailored to specific jobs

THURSTONE

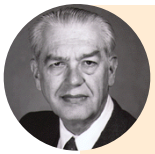
- Modern Binet - believed intelligence is more complex than just a g-factor
- Believed there are **7 independent primary mental abilities**
- Believed not all tests are necessarily correlated because they are measuring different primary mental abilities
- These types of measures are much more useful for education, because you can help children succeed in specific subjects

Thurstone' 7

- Spacial ability
- Verbal comprehension
- Word fluency
- Number facility
- Perceptual speed
- Rote memory
- Reasoning

CATTELL & HORN

- Believed there are two subtypes of the g-factor: crystalized and fluid intelligence
- **Crystallized intelligence (g_c)** - ability to apply previous knowledge to current problems
  - Vocab, info tests
  - Based on long term memory
- **Fluid intelligence (g_f)** - ability to solve new problems
  - Reasoning, creative problem solving
  - Towers of hanoi, 9 dot problem
  - Based on working
- We use more fluid intelligence when we're children, and more crystallized when we're adults



CARROLL

The **Three Stratum Model**

- **Stratum III** - General intelligence (g)
- **Stratum II -** Eight broad intellectual factors, in order of their correlation with g
  - Fluid, Crystalized, Memory/learning, Visual, Auditory, Cognitive speediness, Processing speed
- **Stratum I -** 70 highly specific cognitive abilities
  - These correlate on average 0.3 with one another, indicating the influence of g

Cognitive Approach

- Attempt to explain *why* people vary in mental skill
- Explore specific info-processing that underlies intellect

STERNBERG

Triarchic theory of intelligence

- ***Metacomponents*** - higher order processes used to plan and regulate task performance *(Smart people spend more time framing problems and developing strategies)*
- ***Performance components*** - actual mental processes used to perform task *(Perception, memory, schema retrieval)*
- ***Knowledge-acquisition components*** - learn from experience, story info in memory, combine new insights with old info

Beyond Mental Competencies

GARDNER

Gardner's Multiple Intelligences

- Intelligence is made up of independent intelligences that relate to different adaptive demands
- **Linguistic intelligence** - the ability to use language well
- **Logical-mathematic intelligence** - ability to reason mathematically and logically
- **Visuospatial intelligence** - the ability to solve spatial problems
- **Musical intelligence** - the ability to perceive pitch and rhythm
- **Bodily-kinesthetic intelligence** - the ability to control body movements and skillfully manipulate objects
- **Interpersonal intelligence** - the ability to understand and relate well to others
- **Intrapersonal intelligence** - the ability to understand oneself
- **Naturalistic intelligence** - the ability to detect and understand phenomena in the natural world
- **Existential intelligence** - oriented ability to ponder questions about the meaning of one's existence, life, death

The first three are measured by existing tests, the others are not. Einstein, Tiger Woods and a street-smart gang leader all exhibit adaptive forms of intelligence says Gardner.

Sternberg's Classes Of Intelligence

- ***Analytical intelligence*** **-** academic style problem solving
- ***Practical intelligence*** **-** skills to cope with everyday demands, manage oneself and others
- ***Creative intelligence*** **-** skills needed to deal adaptively with novel problems
- These classes also have an underlying g-factor but sometimes they are completely distinct

Emotional Intelligence

- Perceiving emotions
- Using emotions to facilitate thought
- Understanding emotions
- Managing emotions
- Measured by the Mayer-Salovey-Caruso Emotional Intelligence Test

Proponents suggest that emotionally intelligent people

- Form stronger emotional bonds with others
- Enjoy greater success in careers, marriage, and childrearing
- Modulate their own emotions to avoid depression, anger, anxiety
- Work more effectively toward long-term goals
- More effective coping strategies

PSYCH WITH MIKE

In class, Mike gave the example of a sea serpent underwater to explain the multifaceted nature of intelligence. You can only see some parts above the water so you can't properly tell if its one serpent? or two? four?

Aptitude *vs* Achievement

Achievement testing
- **Pro:** is usually a good predictor of future performance in a similar situation
- **Con:** it assumes that everyone has had the same opportunity to learn the material being tested

Aptitude testing
- **Pro:** It is fairer
- **Con:** It is difficult to construct a test that is independent of prior learning

Static *vs* Dynamic Testing

Static testing
Completely standardizing test environment so everyone is responding to the same stimulus and all that is being tested is their ability

Dynamic testing
Standard testing followed up by the examiner giving the subject feedback, and then measuring their ability to improve and respond to feedback

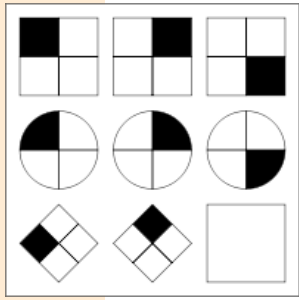
- Dynamic test scores correlate more highly with education outcomes
- Very useful when testing people without equal educational opportunities, and people not accustomed to Western-style testing

The Flynn Effect

- The world's population is progressively scoring **higher and higher on intelligence tests**
- The nature of IQ allows its meaning to be preserved even when this happens because the mean is always calibrated to be 100 - IQ is a relative measure
- IQ's increase 3 points per decade in the west
- *Why?* Better nutrition? Technology? Complex learning environments?

Intelligence in Other Cultures

- Sternberg's **Theory Of Successful Intelligence:** intelligence is what is required to meet adaptive demands of the culture
- **Raven's Progressive Matrices** - non-verbal task where one must decipher rules of the pattern and pick the next figure
  - Good example of a non culture-specific measure of intelligence
- Other approach is to ***tailor culture specific*** questions for that culture



Raven's Progressive Matrices

INTELLIGENCE & BIOLOGY

Brain Size & Intelligence

- In some ways, **Einstein's brain was smaller** than the average person. His parietal lobes were 15% wider and extremely densely packed
- Neanderthals had bigger brains than us
- Women's brains are larger
- Men have 6.5x more grey matter *(related to general intelligence)*
- Women have 10x more white matter (*related to connectivity)*
- So, it would appear men have better info processing and women have better connectivity
- Women's general intelligence tends to be more centralized (e.g. in frontal lobe)

Galton Revived: Intelligence and Neural Efficiency

- Modest relations have been shown between IQ and brain responses to visual and auditory stimuli
- Intelligent people use less glucose when solving problems, suggesting they work more efficiently
- Some believe differences in **brain plasticity** - brain's ability to change in response to environment - may be key
- There may be a critical period for growth of neural circuits that ends around age 16, the same time when crystalized intelligence stabilizes

Genes, Environment & Intelligence

- **0.5 to 0.7** heritability coefficient for intelligence
- Genetic factors become even more important as we age
- 30-50% variation accounted for by environment
- IQ Scores correlate **0.4 with socioeconomic status** a child is raised in
  - When deprived children are adopted into middle/upper class homes, their IQ increase 10-12 points
- Environmental factors explain the Flynn effect (better schooling, parenting, tech, etc.)

Early Childhood Intervention

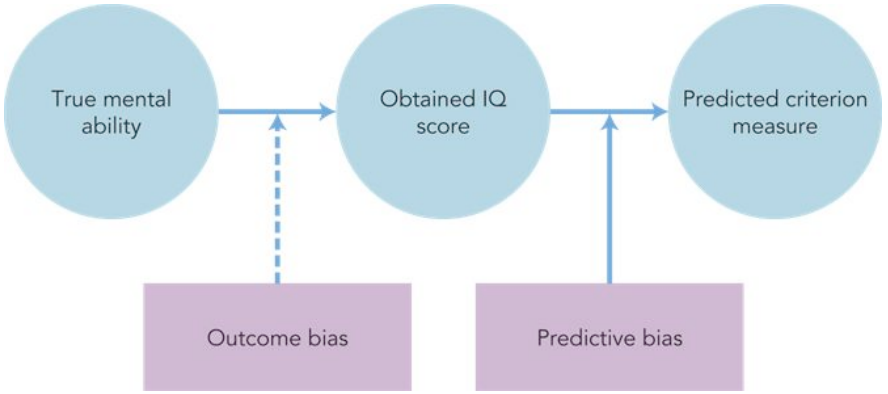
- Children in early intervention programs have lower crime rates, need less welfare, better grades, and higher incomes
- These programs only work for disadvantaged children, they do little for children in middle/upper class homes who already have these resources at home

Effective Schooling to raise IQ

- Teach specific program solving approaches, not general mental ability (focus on specific skills, not g)
- Less repetition, more instruction about how to learn, critical thinking and application
- Teach memory enhancement strategies first rather than waiting for lower-level skills to be mastered

ETHNIC GROUP DIFFERENCES

- There are consistent differences in the intelligence test scores of members of different racial/national groups
- Asian > White > African-American in terms of average scores
- Asians have lower verbal scores but higher spatial/math scores



Explanation for Differences

- Black people are less likely to be schooled in enriched environments
- As more black people had access to school because of social changes over the last 25 years, the IQ gap dropped
- Family environmental factors account for 2/3 of the test score gap
- In reality, there is more variation within groups than between them

Outcome bias
Extent that a test underestimates a person's true ability

Predictive bias - if test predicts criterion (e.g. school performance) for some groups but not others

GENDER DIFFERENCES

Men are better at
Spatial tasks
Target directed skills (throwing)
Math reasoning

Women are better at
Perceptual speed
Verbal fluency
Math calculation
Precise manual tasks

Explanation

- Different social experiences (boys catch balls when they grow up)
- Evolutionary: men hunt (visuospatial), women raise kids + make tools (verbal + precise manual abilities)
- Hormones affect brain organization
  - Women 7 days before period have more estrogen and perform better on precise motor tasks

Q. **A woman should do better than a man at all but:**

- A game of darts
- Tests of mathematical calculation
- Tests of fine motor coordination
- Tests of perceptual speed
- Tests of verbal fluency

A game of darts. (←Tilt screen to see answer)

MENTAL DISABILITY

- 3-5% (10 millions people) of the population is cognitively disabled
- 4 forms: Mild, moderate, severe, profound
- **Mild (85%):** Can attend school but difficulty with reading, writing, memory, math
  - With social support, can function normally in society
- Variety of causes (genetic, biological, environmental)
  - 28% genetic abnormalities
  - Profound retardation is caused by genetic accidents, so it doesn't run in families
  - Mild retardation is much more likely to run in families
- Also could be caused by oxygen deprivation, disease/drugs during pregnancy
- For 75-80%, no clear biological cause can be identified

SAVANT SYNDROME

- The term “idiot savant” was coined by J. L. Down, the guy that discovered Down Syndrome
- Idiot was an accepted category of mental retardation (IQ < 25), although savants usually have higher IQ’s than that
- Savants are people with mental disabilities that excel in a very narrow range of abilities
- Most common combination: blind and autistic with very high musical skill
- May have multiple skills (usually just one)
- All seem to be right hemisphere based skills
- All linked with phenomenal (but narrow) memory
- Savants are very rare: less than 100 reports, only 25 living
- 6x more likely in males
- About half of savants have autism

Example of Skills Some Savants Have

- Lightening-fast math
- Music
- Calendar calculations
- Art
- Mechanical or spatial abilities
- Time estimation
- Sensory discrimination
- ESP?

CAUSES?

1. Eidetic Imaging

- Perhaps photographic memory? Unlikely.
- Some can make calculations beyond things they have seen
- High % are blind

2. Heredity

Early studies suggest family relationship but recent data suggests “no”

3. Sensory Deprivation

Sensory deprivation resulting from autism promotes intense concentration. But 90% of autistic kids don’t develop any exceptional skills so there must be something more.

4. Reinforcement

Social attention serves as reward for display of talent.

- Unlikely: many crave attention without developing exceptional talent

5. Lateralization - the most likely cause

- Most savants have left hemisphere deficits
- Right hemisphere develops before the left in the womb
- If damage occurs while left is still developing (10 to 18th week), neurons in left die
- Right hemisphere “recruits” neural connections across the corpus callosum
- Effect can be triggered by testosterone (explains why its more likely in males)

PERVASIVE DEVELOPMENT DISORDER

- Is a form of **Autism Spectrum Disorder**
- 1 in 50 births
- More common in males when IQ > 35
- Universal, in every society in the world
- Symptoms develop before 36 months

Other forms of Autism

- Asperger's disorder - *highest functioning*
- Rett's disorder
- Childhood disintegrative disorder

Symptoms

Impaired social interactions

- No friends
- No eye contact, even with mom

Impaired communication

- Limited or unusual speech
- ***Echolalia*** - they repeat what you say

Restricted behaviors, interests

- Like things to "stay the same"
- Ritualistic behavior, e.g.
  - Spinning around
  - Looking at hand for hours

Causes

Not ~~vaccines~~

Dr. Andrew Wakefield faked the data for the studies linking autism to vaccines

Not ~~poor parenting~~

Has a genetic tag

If one child has autism, risk increases by a factor of 10,000

Brain damage likely

- MRI scans show abnormally small cerebellum (responsible for fine tuned motor behaviors)
- Only visible around age 3, brain is normal at birth
- Cortex and white matter overload the cerebellum and destroy Purkinje cells

Treatment

- Drugs not really effective
- Intense social stimulation and care are the best option
- Effectiveness of treatment depends on IQ loss
- The higher IQ is, the more stimulation can help

MOTIVATION & EMOTION CHAPTER 11

INSTINCT THEORY

Instinct - inherited predisposition to behave in a specific and predictable way to a particular stimulus

- Genetic, universal within species and doesn't depend on learning
- Human instinct theories are questionable and often rely on circular reasoning
- Today scientists examine hereditary contributions to motivation by looking at how much specific behaviors are hereditary

HOMEOSTASIS AND DRIVE THEORY

Homeostasis - state of internal physiological equilibrium that the body strives to maintain

- Homeostasis requires a sensory mechanism to detect environmental changes, a response system and a control centre to activate the response system

Drive Theory *(Clark Hull)* - disruptions to homeostasis produce drives that motivate the organism to restore the balance (hunger, thirst)

- Proposed that reducing drives is the ultimate goal of motivated behavior
- Problem with the theory: people often do things that *increase* arousal like diet or watch horror movies

INCENTIVE AND EXPECTANCY THEORIES

- Drives are internal push factors, incentives are environmental pull factors
- Hull believed incentives are things that reduce biological drives (food reduces hunger) but nowadays it is believed that stimuli can be incentives in absence of biological drive, for example:
  - Eating desert even if you're full
  - People take drugs to make themselves feel good, not to avoid withdrawal

Extrinsic motivation - doing something for reward/avoid punishment

Intrinsic motivation - doing something for its own sake

- **Over-justification hypothesis** - giving extrinsic motivation for something you already intrinsically value makes you want to do it less. Once you stop being rewarded for it, you no longer want to do it.

Expectancy × value theory

(AKA just Expectancy theory)

- Goal-directed behavior is determined by
  - Strength of expectation that behavior will lead to goal (expectancy)
  - Value person places on goal (value)
  - ***Motivation = expectancy * value***
  - If you have low expectancy or low value, you won't be motivated

PSYCHODYNAMIC THEORIES

- To Freud, unconscious impulses struggling for release motivate our behaviors
- His theories prompted research into self-esteem and relatedness

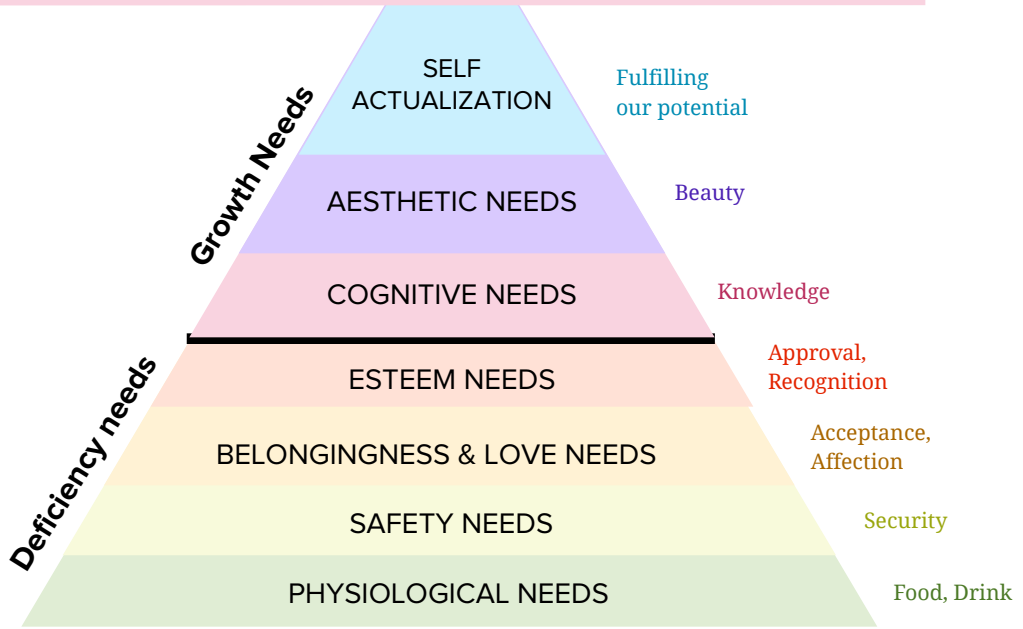
MORE HUMANISTIC THEORIES

Self-determination theory - three fundamental needs:

- **Competence** - need to master new challenges & perfect skills
- **Autonomy** - people experience their actions out of free choice
- **Relatedness** - desire to form meaningful bonds with others
  - Autonomy and relatedness are complementary, not contradictory. People feel freer to be themselves around those they are connected to.
  - Workers given freedom to develop their own plans feel more bond with their company.

HUMANISTIC THEORIES

Maslow's Need Hierarchy - once the bottom needs are satisfied, then we move up to the next need



Critics say: Why do prisoners of war endure torture instead of betray their county? Why do women starve themselves to be thin?

HUNGER

Metabolism - body's rate of energy utilization

- Your body regulates this short-term (hunger) and long-term (how much fat you have)
- Hunger is not necessarily linked with immediate energy needs. Homeostatic mechanisms are designed to prevent you from running low in the first place.

Signals that Start/End Meal

- Hunger pangs and fullness can be experienced even if all the nerves from the stomach to the brain are cut, or if the stomach is removed.
  - Fullness is caused both by physical signals and chemical signals
- **Glucose** is the body's main source of useable fuel
- Hypothalamus and liver monitor glucose levels
- Intestines release **peptides** to help terminate meal
- **CCK (cholecystokinin)**, for example, makes you feel full

Signals That Regulate Appetite & Weight

- Fat secrets **leptin**, which decreases appetite (the fatter we are, the less appetite we have)
- Leptin would make you feel full sooner by increasing your sensitivity to your body's chemical/physical "fullness" signals
- Genetic problems with leptin production or reception can cause obesity

Brain Mechanisms

- The **lateral hypothalamus (LH)** appeared to be the hunger-on centre
- Stimulating it makes a rat hungry, destroying it makes the rat starve itself
- The **ventromedial hypothalamus (VMH)** appeared to be the hunger-off centre
- ***But*** it turned out that many brain nerves funnel through the hypothalamus, so it was probably something else
- **Paraventricular nucleus** - cluster of neurons within hypothalamus
  - Secrets neuropeptide Y which makes us very hungry
  - Leptin inhibits this, so when we are dieting we lose leptin and feel very hungry

Psychological Aspects of Hunger

- Food is positively reinforced by taste and negatively reinforced by hunger suppression
- Women think they are fatter than they should be, men don't as much
- Women think men want skinnier bodies than they actually do, men think women want bulkier bodies than they do
- Women restrict eating to restore self-esteem

Cultural and Environmental Factors

- People's eating is sensitive to portion size, # of people present and amount others eat
- People eat more if there is more variety (buffets)
- Smells, sights and sounds classically conditioned with foods we like can make us hungry even if we already ate

OBESITY

Obesity is not caused by a lack of willpower or emotional disturbances.

- Maybe obese people react more strongly to food cues? (Schachter, 1968). Evidence for this is mixed.
- Genetics accounts for 40-70% of variation in body mass
  - Obesity is linked to a combined effect of genes (not one gene)
- Environment matters too (USA has more obesity)
  - Abundance of cheap fatty food
  - Cultural emphasis on "getting the best value" (supersizing)
  - Technology that decreases physical activity
- Pima Indians of Arizona were genetically predisposed to obesity that their cultural lifestyle prevented. However, after WWII, they became exposed to American food and now they have very high obesity rate.

DIETING

- Being fat primes you to stay fat
  - Obese people have more insulin which increases conversion of glucose to fat
  - Dieting decreases your metabolism because you have less energy to spend
- We don't have good estimates of weight-loss success rates because so many people just do it on their own without clinics and are never heard from
- It is important to avoid cues that make you hungry
- Eating a small amount of food before a meal makes you ***hungrier*** (appetizer)
  - It increases variety which increases consumption
  - Stimulates insulin secretion which increases hunger
- Weight lost through **exercise** is regained much slower than weight lost through **dieting**
- Exercising makes your metabolism better because all you lose is fat (not lean body mass too like with dieting)

SEXUAL MOTIVATION

- Peer pressure is more important than sexual gratification when predicting who will have sex earliest
- Men have sex for the first time 1 or 2 years later than women
- 10-20% of women find sex not pleasurable
- Non-married cohabiting partners have the most sex of all groups

Hypothalamus ➡ pituitary gland ➡ gonadotropins ➡ gonads secrete androgens (testosterone) and estrogens

- Sex hormones direct development of male/female characteristics in womb (organizational effects)
- Males constantly release hormones (always sexually receptive), women follow estrus cycle (only receptive during high periods)
- Contrary to popular belief, short term hormonal fluctuations have little effect on sex drive
- Androgens are primary influence of sex desire (in both men and women)
  - Removing androgens produces gradual loss of sexual desire, desire does not go up and down like a yo-yo with regular changes

Sexual response cycle

excitement phase
↓
plateau phase
↓
orgasm phase
↓
resolution phase → **refractory period**
Orgasm not possible for a period. This period is shorter for women.

- Violent pornography increases aggression
- Research shows that giving men info about sexual assault reduces rape myths
- Sexual orientation is a combination of genetics and environment - 50% concordance rates with identical twin

ACHIEVEMENT MOTIVATION

Motivation for success - outperforming others, mastery goals
Fear of failure - performance avoidance goals

Having both is NOT better than just being motivated for success - stress is bad!

High-need achievers perform best when
- Doing challenging/important tasks
- Perception of personal responsibility
- Perception of possibility of not succeeding
- Opportunity for performance feedback

High achievers choose tasks with medium difficulty because outcome is uncertain.
People with fear of failure choose tasks where success is either assured or not expected at all.
High-need for achievement develops when parents encourage achievement but do not punish failure.

MOTIVATIONAL CONFLICT

Approach-approach conflict - picking between two desirable things
Avoidance-avoidance conflict - two undesirable choices
Approach-avoidance conflict - attracted and repelled by the same thing
- Avoidance tendency increases faster than approach as we approach the goal

Delay discounting - value of a reward decreases the longer you have to wait for it

NONVERBAL BEHAVIOR

Paralanguage
- Non-content aspects of speech
- Tone of voice
- Speed
- Amplitude
- Rise time/fall time
- Hesitations and pauses

Eye Contact
- Typical conversation: 60-70% gazing
- 30% mutual eye contact
- 1-3 second eye contact at a time
- Eye contact longer than 7 seconds is a *stare* (people really don't like stares from strangers)

Facial expressions
- Typically emotions
- May reflex other cognitive states (e.g. comprehension)

Interpersonal distance

Hall's Interaction Zones - the distance we use in interaction conveys the social significance of the people interacting
- **Intimate zone**: Touch-0.5m (close friends, lovers)
- **Personal zone:** 0.5 - 1.25m (talking to acquaintances, strangers)
- **Social zone:** 1.25 - 3.5m (strangers in a mall)
- **Public zone:** 3.5 - 7.5m (public speaking)
  - Mediterranean and Middle Eastern cultures prefer closer distances

Body movement/position
- **Kinesics -** movement, posture, etc.
- **Gestures -** hand signals

Ekman & Friesen (1969) - **types of gestures**
- **Emblems -** meaningful substitutes for language (huge cultural differences)
- **Illustrators -** Accompany speech, accent a point, etc
- **Regulators -** maintain or change speakers

LYING

- *Intentional* falsehoods
- Eye-contact is a good indicator of lying
- Women are better at lying and at detecting it
- **Ekman:** nonverbal cues that escape attempts to conceal lies
  - Can detect lying with **"microexpressions"**
  - Ekman's study: its easier to detect deception in the body than in the face. Its easier to control your face than your body.
- Average ability to detect deception is 55%
- Are customs officials or police officers better at detecting lying? No.
- What about police and customs officials detecting lying in kids? Still no. But they *thought* they did well.

EMOTION

Orienting responses or "taxes"

- Overall musculature response toward (positive taxes) or away way from (negative taxes) a stimulus
- *Example:* Moths have a positive phototaxis (response to light) moths, cockroaches have a negative phototaxis

Autonomic Nervous System

Sympathetic nervous system: gears up for action
- Accelerated heart rate
- Inhibition of peristalsis
- Vasoconstriction

vs

Parasympathetic nervous system: conserves energy
- Decelerated heart rate
- Stimulation of peristalsis
- Vasodilation

These are antagonistic - they have rebound effect. If you activate one, you activate the other.

Some emotions have distinct arousal patterns, others don't (jealousy, tenderness)
Anger and fear both speed up heart rate but where blood gets pumped differs
- Anger causes blood to go to hands a feet, whereas fear reduces blood there
- Polygraph tests try to use this but they have very high rate of false positives

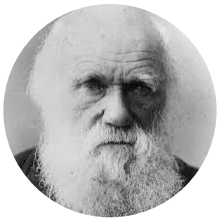
Pupil Dilation

Hess & Polt (1960)
- Showed people interesting slides and recorded their eyes
- The more interesting the slide, the wider your pupils dilate
- Men found women more attractive if the woman's pupils were retouched to be larger
  - Maybe because the men interpret it as a sign that the women are interested

RELATIONSHIP BETWEEN PLEASURE & AROUSAL

Stimulus intensity and novelty cause fear: why do we like new and intense things?

- **Berlyne's set point theory**: everyone has a set point of neutral arousal
  - If we raise or lower arousal a little bit, we like it *(relaxation or excitement)*
  - But if we raise of lower it too much, we don't like it *(boredom or stress)*



Darwin: expression intensifies experience

Freud: expression reduces experience

In a study by Tourangeau & Ellsworth, highly aroused subjects show little expressiveness.

THEORIES OF HOW EMOTION WORKS

Common Sense Theory

Emotion provoking event → Perception *(danger)* → Perception of emotion *(fear)* → Bodily Arousal

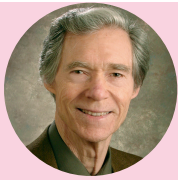
James-Lange Theory - the body informs the mind of emotions *(somatic theory)*

Emotion provoking event → Perception *(danger)* → Bodily Arousal → Perception of emotion *(fear)*

Canon-Bard Theory - brain simultaneously causes both

Emotion provoking event → Subconscious thalamus activity → Bodily Arousal
Subconscious thalamus activity → Perception of emotion *(fear)*

Izard: Facial Feedback Hypothesis



- Facial expressions cause emotions
- Number of studies indicate that the adoption of the appropriate expression yields that emotion

Laird: Subjects asked to smile *OR* frown

- Self reported happiness is higher in the group that's smiling
- Stimuli are seen as funnier for smile group

Ekman

Low heart rate emotions

- Happiness
- Disgust
- Surprise

High heart rate emotions

- Anger (high skin temperate)
- Fear or Sadness (low skin temperate)

Is movement of facial muscles really necessary to experience emotion?

- Patient with bilateral facial paralysis did report feeling emotional.
- However, after Botox (when facial expressions are inhibited), there is less activity in the emotional parts of the brain (amygdala).
- Subjects report higher happiness when told to hold a pencil in their mouth, simulating smiling

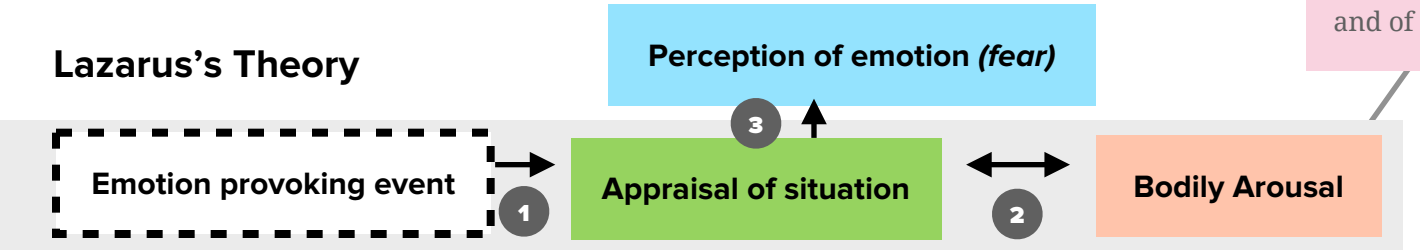
Q. **Whenever John sees June, his heart starts to race, his breaching rate goes up, and his pupils dilate. What's being activated?**

Sympathetic nervous system (←Tilt screen to see answer)

COGNITIVE-AFFECTIVE THEORIES OF EMOTION

The difference between Bard-Cannon and Lazarus Theory is that Lazarus is based on appraisal. Two people would only experience the same emotion in the situation if their appraisals of the situation and of their own arousal were the same.

Lazarus's Theory



Schachter's Two Factor Theory

Perception and arousal determine separate aspects of the ultimate emotion. If you inject people with epinephrine (arousal), they report more happiness from a comedy and more fear from a horror movie. But if you warn them of the effects of the drug, the effect goes away. *So,* if you *think* your heart rate is going up because you're happy, you *become* happier.

Dutton & Aron (1974)

Men who see a woman while on a scary bridge find the woman more attractive. They misattribute the arousal of the bridge as arousal from the woman.

Excitation Transfer

Residual arousal from one event is transferred to another situation

- Working out at the gym will make you feel more emotional
- People rate others as more attractive after a roller coaster than before

The Amygdala

- Evaluates the emotional significance of sensory input
- Generates immediate reaction
- Removal of amygdala results in **psychic blindness**
  - Objects lose psychological significance
  - Fearful stimuli no longer cause fear
  - Subject no longer desires food or sex
  - Can no longer identify facial expressions
- Hypothalamus, amygdala, hippocampus & prefrontal cortex are also all involved in emotion
- **Dual system:** amygdala responds first with emotion, then cortex analysis situation

Lateralization of Emotion

- Right hemisphere plays greater role than left in emotion
- However, damage to the left frontal lobe can be just as bad for emotional perception
- You can see emotions more & earlier in the *left* side of the face (because the right side controls it)
- Left hemisphere activates positive emotions, right activates negative ones
  - Damage to left ➡ depression, damage to right ➡ indifference/euphoria

NATURE AND FUNCTIONS OF EMOTION

- *Lazarus:* There is always a link between motives and emotions
- Motivations are internal stimuli to direct behavior
- Emotions are responses to events that relate to important goals
- Emotions have adaptive value: rousing us to action, helping us communicate, eliciting empathy and help

Features of Emotion (Averill)

- Response to external/internal stimuli
- Response of cognitive appraisal of this stimuli
- Body responds physiologically to appraisal
- Include behavior tendencies
- Is an ongoing dynamic process

THE BEHAVIORAL COMPONENT

Empathy - others' emotional displays evoke similar emotions in us
Expressive behaviors - emotional displays from which we can infer others' emotions

- University students responded to angry/happy faces with subtle facial responses within a third of a second

EMOTIONAL EXPRESSIONS

- Darwin argued that emotional displays are products of evolution (both humans and wolves show their teeth when angry)
- There is evidence of **fundamental emotional patterns**
  - Expressions of rage/terror are similar across cultures
  - The expression of winning athletes at the olympics are universal
  - In general, there is 40-70% agreement among cultures regarding emotions
  - Children blind from birth express these basic emotions the same as sighted children
  - Still, some cultures express some emotions differently
- Women are better at reading emotions (maybe because of women's evolutionary role, or cultural encouragement)

Q. If an individual was completely unable to experience arousal, but still reported an experience of emotion, this would argue strongly ***against*** which theory of emotion?

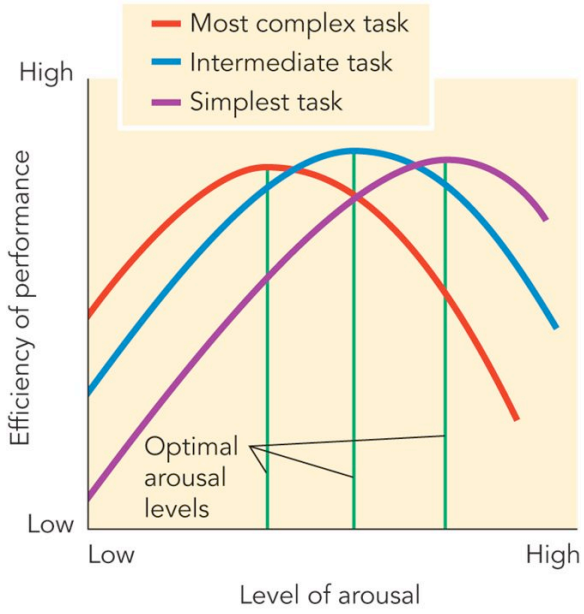
James-Lange (←Tilt screen to see answer)

Display rules - norms indicating when and how emotions are expressed

- Thumb's up in Greece means fuck you
- Spitting on someone in Masai tribe is a compliment
- Japanese cultures have more subdued emotions than Western cultures
- In Utku Inuit culture, anger is absent (except to dogs and exiled people)

Performance and Arousal

- There is an optimal level of arousal, you can either have too much or too little
- The optimal level depends the complexity of the task. More complex tasks require less arousal.



DEVELOPMENT CHAPTER 12

NOTE: Does not cover the Adolescence and Adulthood section of this chapter. You should skim that.

Nature *vs* **Nurture**
Nature picks the maximum (how tall you can be, nature decides what you end up with *(ex. proper nourishment)*.

Stage vs **Continuous Development**
Stages are discontinuous and separated by rapid growth *(like caterpillar ➡ butterfly)*. Continuous development is a smooth gradual change *(like a growing tree)*.

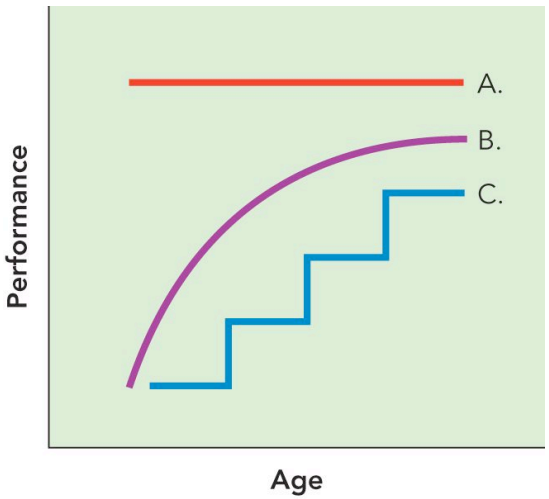
Critical periods vs **Sensitive Periods**
Critical periods are age ranges where certain experiences must occur for proper development *(ex. experiencing language)*. Sensitive periods, rather, are *optimal* periods for certain experiences.

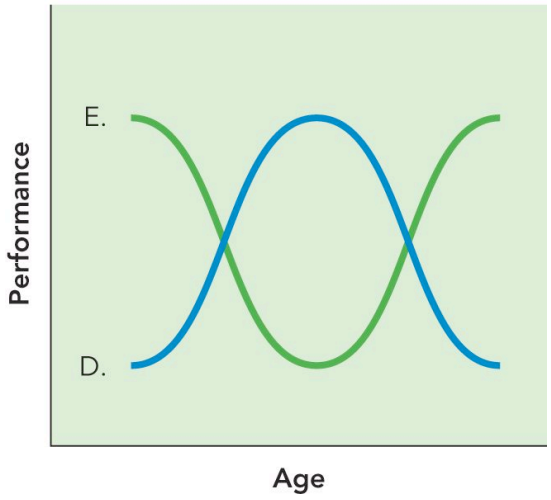
Stability vs **Change**
Do our characteristics remain consistent as we age?

PSYCH WITH MIKE

DEVELOPMENTAL FUNCTIONS

A) **No change** - present at birth and remains high *(sound discrimination, figure ground perception)*
B) **Continuous change** - develops over life *(intelligence)*
C) **Stages** - motor development *(rolling, crawling, standing, walking)*
D) **Inverted U-shaped** - peaks mid-life and goes back down *(visual acuity over life, separation anxiety)*
E) **U-shaped function** - high at birth, disappears mid-life but later returns *(newborns turning toward off-centered sound, stepping with support)*





Normative Testing

Look for typical sequence of change, look for consistency. Uses **cross-sectional** methodology: take a bunch of people of different ages and test them at once, then compare how different age groups performed.

vs

Individual Testing

The consistency is not there, focus on the individual. Uses **longitudinal** methodology: take the *same* group of people and retest them over time as they grow older. **Sequential design** is when you simultaneously follow several age groups as they grow older.

PRENATAL DEVELOPMENT

germinal stage	first two weeks, called a zygote (fertilized egg)
embryonic stage	2nd to 8th week, called an embryo now
fetal stage	8 weeks on, called fetus
age of viability	28 weeks, can survive out of womb

Environmental Influences

- During the end of the pregnancy baby moves when they hear a loud sound
- **Fetuses learn:** they stop responding to repeated sounds, indicating that they have short term memory
- Newborns prefer the sounds they get to know in last months of pregnancy
- Fetuses learn about odors from mothers diet - if mom likes anise-flavored foods, so will they

Sex Determination

- Egg always has X chromosome, sperm can have X or Y
- Y chromosome contains **TDF** *(testis determining factor)* gene that triggers male development
- At six to eight weeks, TDF causes testes to develop, which secrete androgens (testosterone)
- If androgens aren't secreted, female development happens instead

Teratogens - environmental agents that cause abnormal prenatal development

Fetal alcohol syndrome - facial abnormalities and small, malformed brains. IQ and motor impairments.

- A third to a half of alcoholic mothers' kids have FAS
- No amount of exposure to alcohol is safe for fetus

STDS - 25% of mothers with syphilis have stillborns, 25% of mothers with HIV give it to their kids

Smoking increases the risk of miscarriage, premature birth, and low birth weight

Heroin/cocaine causes addiction for the baby, loss of cognitive function, arousal regulation, attention

NEWBORN DEVELOPMENT

Newborn Learning

- Can distinguish mother from stranger within hours of birth
- Prefer looking at novel stimuli
- Prefer hearing novel stimuli, will turn away from habituated sounds
- Can learn through classical, operant or observational learning

Taste & Smell

- Very much like adult
- Suck faster for sweet liquids
- Reject salty liquids
- Pleased expression for bananas
- Frown for rotten eggs
  - These preferences must be hard wired

Visual System

Infants prefer complex patterns, human faces to solid colors

Brain Development

- 100-200 billion neurons at birth
- No more neurons produced after the second trimester
- Increase in brain weight over time due to glial cells & myelination, not neurons
- Number of synapses increases rapidly
- Cortical development "mirrors" the emergence of abilities
  - Different parts of the brain develop at different times
  - Frontal lobe develops last

Hearing

- Prefer complex sounds to monotone ones
- Especially sensitive to sounds in range of the human voice
- Prefer voice most similar to mom's
- *First few days:* turn head towards sounds, discriminate sound sequences
- **Sound localization** - will turn their head towards an off-center sound. This behavior follows a U-shaped function - it disappears in the second month and returns in 4/5th month (reason unclear).
- Another U-shaped function: newborns can discriminate between foreign language phonemes at birth, but they lose this when they learn their native tongue. However, they can relearn a foreign language later in life.
- Young infants also appear to perceive music as adults do

1st day

- Visual tracking: turn head to keep object in view (especially mom's face)
- Visual accommodation not well developed, but can focus 18-38 cm away
- Visual acuity about 20/600 (that's terrible)
- Improves steadily over first eight months

3-4 months

- Some depth perception
- Binocular vision only, can not judge distance with one eye covered *(monocular depth cues are learned)*
- Pattern perception organized by Gestalt principles of closure and proximity, others come later

4-5 months: can reach for nearby toys

6-7 months: ability to accurately grasp

9-10 months: avoid the deep end of visual cliff

Motor Development

"Bundle of reflexes" at birth

- **Babinski reflex:** toes fan when sole of foot is touched
- **Grasping:** fingers clench object in hand
- **Rooting:** head turns towards object on cheek
- **Moro reflex:** if there's a sudden head shift, baby's arms swing up
  - Most disappear as child grows older (Babinski is gone by 8 months)

Motor development is:

- **Cephalocaudal** - progresses from head to feet
- **Proximodistal** - proceeds from centre to extremities

Environmental and Cultural Influences

- Rats raised in enriched environment have heavier brains, larger neurons, more synapses, and more neurotransmitters that enhance learning
- Physical touch affects growth - massaging premature babies speeds up weight gain and neurological development
- Experience and culture affect what age you will walk

PIAGET & COGNITIVE DEVELOPMENT

- Most cited theorist after Freud
- Observed his own kids
- Found that kids don't think the same way as adults
- Observed **four stages of cognitive development**

Assimilation - new experiences are incorporated into existing schemas

- Young infant sees new object, they will try to suck it
- Child sees horse for the first time: "these are big doggies"

Accommodation - new experiences cause existing schemas to change

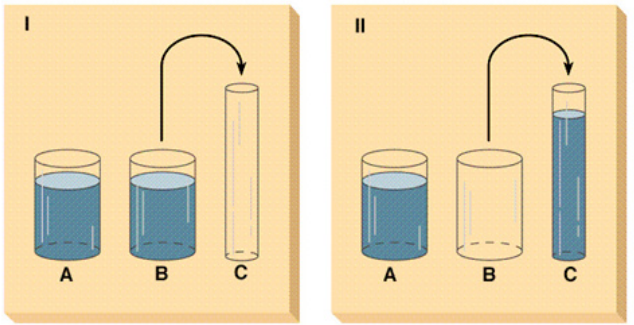
- Some things can't be sucked
- Big doggie doesn't do dog things

1 Sensorimotor Stage *(0-2yrs)*

- Understand world entirely though **sensory and motor experience**
- Coordination of activities not present until 5 months
- No self concept
- **Object permeance** - understanding that objects continue to exist even when they cannot be seen. Happens at 8 months.
- **Pseudo-imitation** is present - child can imitate but only if the action was just produced *(11-12 months)*
- Symbolic/representational thought emerges towards end

2 Pre-operational Stage *(2-7yrs)*

- **Symbolic thinking**: images and words to represent objects
- Don't understand **conservation** - the idea that quantity of something (ex. a liquid) is the same regardless of what container it is put it
- Thinking displays **egocentrism** (can't view the world from other people's perspective), **irreversibility** (can't imagine reversing an action), and **centration** (focus on one aspect of a situation)



Conservation. If you pour the water from B into C and ask a pre-operational child which container has more, they'll say C has more water than A.

3 Concrete Operational Stage *(7-11yrs)*

- Can think logically about concrete events/objects, but thinking is still tied to the real world
- Trouble thinking abstractly
- Less centration
- Grasp concepts of conservation, reversibility (7yo) and serial ordering *(put these in order of height)*
- Rigid thinking

4 Concrete Operational Stage *(7-11yrs)*

- Can think more logically, abstractly, and flexibly
- Thinking like adults
- Can form hypotheses and test them systematically
- If you ask them to play 20 questions, they start by asking general questions *(is it a person?)*. Younger kids just guess specific things right away *(is it Elmo?)*.
- Thinking is no longer rigid - can use reversible thinking

CRITICISM OF PIAGET'S STAGES

Universality

The general stages occur cross-culturally, although Piaget equated cognitive development with scientific-logical thinking, and not all cultures do that.

Object Permeance

Some suggest infants have earlier understanding of object permeance that Piaget suggest. According to the **violation of expectancy method**, infants stare longer if they are surprised by something. *Spelke* did studies with moving rods behind blocks to show 4 month olds have some understanding of object permeance, because they stare longer when the rod doesn't come back on the other side.

Zone of proximal development

There's a difference between what a child can do independently and with assistance from adults. We can move a child's development forward (within the limit of the zone).

Conservation

Maybe there is a methodology problem with conservation experiments. If a powerful figure like the experimenter changes something (pours the water from B to C) and asks you if its different now, you feel like you should say yes.

Egocentrism

Children *can* show non-egocentrism if its a familiar scene. Piaget's tests used unfamiliar scenes.

False Beliefs Test

1. Child and Teddy (a teddy bear) examine a green and red box. Candy is in the red box, nothing in the green.
2. Teddy leaves the room.
3. Child and the experimenter move the candy to the green box.
4. Teddy comes back. Child is asked "where will teddy look for the candy?"

3-4yr olds say: "green box". They can't see the world from Teddy's perspective.
4-5yr olds say: "red box". They are exhibiting non-egocentrism. *This is troubling for Piaget's theory.*

Formal Thinking

Mortonano studies 11-18 year olds and argues that even 18 year olds don't have format thinking, much less 11 year olds.

Theory of the mind - ability to understand other people's mental states

- Piaget said that children under 7 have trouble understanding what people are thinking
- But by age 4, children can tell other people have different info than them
- Children 3-7 can lie convincingly: parents, strangers, trained officials can't detect the lies
    - Children can tell elaborate lies, but they become more detectable
- 3-months old have **"joint-attention"** - if you are looking at them and then switch to an object, they look at the object too
- 1.5 - 2 years: child will only attach name to an object if the adult is looking at it as they say the name
- By age 4, children only attach words to objects if adult appears certain about object's name

SOCIAL-EMOTIONAL & PERSONALITY DEVELOPMENT

Temperament - general style of reacting emotionally and behaviorally to the environment

- 2-year-olds that were highly shy/unshy continued being shy/unshy 7-year-olds
- Shy 3 year olds had fewer adult relationships, undercontrolled 3 year olds were more antisocial

Erikson's Psychosocial Theory

Personality develops through 8 major psychosocial stages involving a different "crisis".

Age	Crisis	Description
0-1	Basic trust *vs* Basic mistrust	Depending on how well our needs are met (how much love and attention we get), we trust or distrust the world
1-2	Autonomy *vs* Shame and doubt	If parents restrict and make harsh demands, children develop shame and doubt their abilities
3-5	Initiative *vs* Guilt	If they are allowed freedom to explore, they develop a sense of initiative. If held back or punished, they develop guilt about their curiosity.
6-12	Industry *vs* Inferiority	Children who experience pride and encouragement develop industry: strive to achieve. Children with repeated failure and lack of praised develop inferiority.
12-20	Identity *vs* Role confusion	*Etc etc. The names of the stages are pretty clear. Focus more on the theory in an abstract sense rather than the details of each specific stage.*
20-40	Intimacy *vs* Isolation	
40-65	Generatively *vs* Stagnation	

ATTACHMENT

Attachment - strong emotional bond between children and caregivers. In humans, it involves a *sensitive period.*

Imprinting - biologically primed form of attachment

- Birds follow whoever they see when they hatch
- Occurs in birds, and a few mammals
- Involves critical period

Cupboard theory (Freud) - attachment to mom is a side-effect of her ability to give food

- In reality, contact is more important in fostering attachment than nourishment
- Premature babies develop faster if they are touched and held

Attachment Phases

Indiscriminate attachment - Newborns cry, smile to everyone and this evokes caregiving from adults

Discriminate attachment - At 3 months infants direct attachment to familiar caregivers

Specific attachment behavior - 7-8 months, develop first meaningful attachment. Caregivers become secure base.

Strange Situation Test (SST)

Infant plays with mom in a room. Then a stranger (the experimenter) enters the room and mom leaves. In a few minutes, mom comes back. The way the infant reacts to her return determines the child's **attachment style**.

Attachment is a predictive characteristic. *It describes you later in life too.*

- Avoidant subjects report never having been in love at 18, secure subjects report enduring relationships
- Children with higher levels of avoidance have less sexual satisfaction later in life

Attachment Styles

Securely attached infants - reacts positively to strangers, distressed when mom leaves, greets her when she returns (50-75% of infants)

Anxious resistant infants - fearful of stranger when mom's there, demand attention, highly distressed when she leaves, not soothed when she returns

Anxious avoidant infants - few signs of attachment, self cry when mom leaves, don't seek contact when she returns

Attachment Deprivation

- Infancy is a sensitive period, not critical period, for attachment development
- Prolonged attachment depravation creates risks but when placed in a nurturing environment at a young enough age, many if not most become attached to caretakers and grow into normal adults

Freud: 5 Psychosexual Stages

1. Oral stage *(1st year)*
2. Anal stage *(2nd year)*
3. Phallic *(3-5yrs)*
   - **Oedipal crisis** - psychologically become dad to overcome this
4. Latency *(5-13yrs)*
5. Genital *(13+)*

Q. If you predict a monkey would rather have a cold wire-frame "mother" that gives it food, than a warm soft comforting mother that doesn't give it food, you are following which theory:

a. Piaget's theory
b. Kohlberg's theory
c. Cupboard theory (freud's theory)
d. Lack of attachment
e. Contact comfort

C (←Tilt screen to see answer)

Daycare

- If daycare is high quality doesn't disrupt attachment to parents
- No differences in social development as long as the care is good
- Can actually improve cognitive development

Parenting Styles

	WARM	COLD
CONTROLLING	**Authoritative** Clear rules, consistently enforce them, reward compliance with affection. Positive outcomes in life.	**Authoritarian** Low self esteem, less popular in school, perform poorly in life.
PERMISSIVE	**Indulgent** Immature, self-centered children.	**Neglectful** Insecurely attached children, low achievement, disturbed relationships, aggressive.

These factors are bidirectional - an irritable child causes his parents to be harsher.

Q. William can draw a map showing the route to school and shows reversible thinking. Which Piagentan stage of child development is he probably in?

Concrete Operational Stage (←Tilt screen to see answer)

SOCIAL THINKING & PERCEPTION CHAPTER 13

Personal (internal) attributions - people's behavior is caused by their own characteristics
Situational (external) attributions - aspects of the situation cause people's behavior

Your friend Kim says Calc 1000 is a bad class. To evaluate, we use:
Consistency - Does she always say its bad, or does she like it at other times?
Distinctiveness - Does she only think Calc 1000 is bad, out of all her courses?
Consensus - Does everyone think its bad?

If all three are high, we make a ***situational*** attribution: Psych 1000 really is shitty.
If consistency is low, transient conditions are in play: Kim's in a bad mood maybe.
If consistency is high, but the other two are low, we make a ***personal*** attribution: Kim is too critical.

FUNDAMENTAL ATTRIBUTION ERROR

Humans tend to overestimate personal attribution and underestimate situational attribution.

- We expect actors to have the same personality as their characters.
- We expect a student to agree with the paper they wrote, even if we *know* their position in the paper was assigned by the teacher.
- But we don't make this error about ourselves
  - We have more info about the situation
  - **Figure-ground relations** - when we watch people, they are the focus and the situation is the background
  - **Self-serving bias** - failures are situational, successes are personal

Culture Differences in Attribution

- Individualistic cultures make more ***personal*** attributions than collectivistic ones (India, Korea)
- More holistic thinking in those cultures results in considering more info when making attributions
- Chinese culture values modesty so people make have less self-serving bias

Impressions

- **Primacy effect** - tendency to attach more importance to the initial info that we learn about a person
- **Recency effect** takes over when we are told specifically to avoid making snap judgements

Schemas

- If you are told a person is cold, you think they're cold
- If told they're shy, same behavior makes you think they're shy
- Stereotypes are schemas
- **Study:** A girl's performance on answering questions is rated higher if participants think her parents are upper class

Self-fulfilling prophecy - your wrong expectation causes the expected behavior to happen

- You smile less to the person you think is cold, so they act colder to you

ATTITUDES

Theory of Planned Behavior

Intention to do something is strongest when:

- We have a positive attitude toward that behavior
- When subjective norms (our perceptions of what other people think we should do) support our attitudes
- When we believe that the behavior is under our control

- Attitudes influence behaviour more when counteracting situational factors are weak
- Attitudes have a greater influence on behaviour when we are aware of them and when they are strongly held
- General attitudes are better at predicting general classes of behaviour, and specific attitudes are better at predicting specific behaviors

Cognitive Dissonance

Festinger's Study:

1. Bring people into a lab and get them to do something **really** boring
2. When they come out, ask them to do you a favor and tell the guy in the lobby that the task is really fun *(guy in the lobby is actually a confederate)*
3. After they lie to the guy, give them either $1 or $20 for lying
4. Then ask them how fun they actually found the task

The people that you give $1 for lying say they like the task **more** than the people you gave $20 for lying. Why? People like to think they are honest. But they just did something dishonest **(counterattitudinal behavior).** To overcome this dissonance between their actions and their self-perception, they change their opinion on the task. If it was fun, they're no longer lying and they can continue feeling honest.

- Counterattitudinal behaviour (such as lying when you think you're an honest person) only produces dissonance if our actions were **freely chosen**
- It is maximized when behavior has consequences, or threatens **self-worth**
- It is reduced by thinking the behaviour wasn't important, finding external justification, or making other excuses

Self-perception theory (Daryl Bem)

You make inferences between your own behavior and attitudes just like you do with others. You actually don't know if you liked it or not. It's not dissonance, you just feel you must have liked it if you did it for $1.

Difference between dissonance and self-perfection theory:

- Dissonance assumes ***heightened arousal*** caused by counterattitudinal behavior
  - If participants are made to think the arousal is caused by a pill, the effect of dissonance is reduced
- In situations where behavior doesn't threaten self-image, or if we didn't have strong opinions to begin with, the effect is caused by self-perception theory
- *Both are right depending on situation*

ATTRACTION

Causes of Attraction

Craig Hill: Four Reasons We Affiliate
- To obtain positive stimulation
- Receive emotional support
- Gain attention
- Permit social comparison

Physical proximity
- 50% of brides and grooms live within 20 blocks before marriage
- You like your neighbors more than people from different buildings
- You like people more if you can talk to them easier
- We prefer familiarity - you friends prefer a normal photo of you, but you prefer mirror image (what you normally see in the mirror)

Mere exposure effect - repeated exposure increases your liking under any circumstance (but only if initial reaction isn't negative)

"Average" - people find averaged faces of many people the most beautiful

Beauty - people date people of similar attractiveness **(matching hypothesis)**

Similarity

Halo effect - attractive people are seen as having other positive attributes (except in the courtroom)

Context makes a difference - if Charlie's Angels is playing the background, you rate people less attractive. You find opposite sex more attractive when the bar/cafe is about to close.

PSYCH WITH MIKE

Straight men prefer baby-faced, thin & seductive, confident women. High consensus among men.
Straight women prefer mature, dominant faces, muscular. Lower consensus among women (they are more selective).
Gay people are inconsistent.

Emotional State - can music influence attractiveness?

Social Exchange Theory

A relationship is determined by rewards + costs the partners face

- **Comparison level** - outcome one expects from relationship, determines satisfaction with it
- **Comparison level for alternatives** - potential alternatives, determines commitment

Sexual strategies theory - men seek fertile young mates, women seek older more committed and protection providing mates

Social structure theory - differences in sexual preferences occur due to society - more gender equal societies have more similar preferences

Qualities people seek in ideal long term mates:

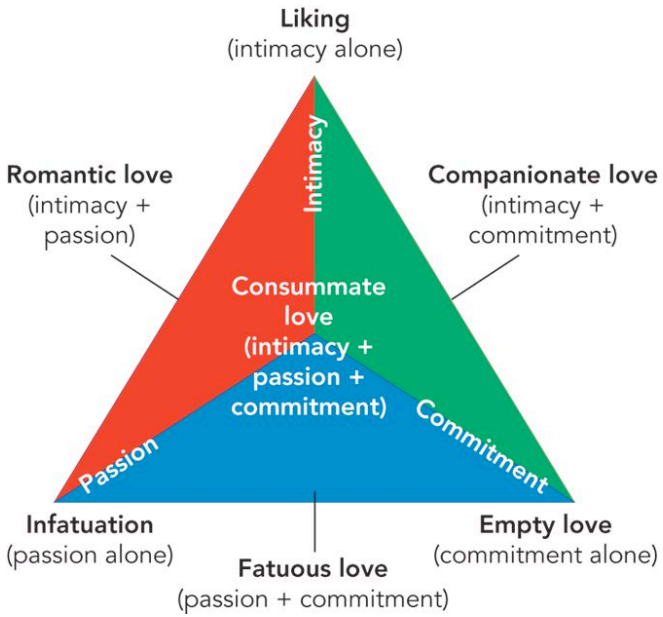
1. Mutual attraction/love
2. Dependable character
3. Emotional stability
4. Pleasing disposition

These vary with culture. Cultural differences are stronger than gender differences

LOVE

Passionate love - intense emotion, arousal, and yearning for the partner (less stable)

Companionate love - affection, deep caring about their well-being, and a commitment to "being there" for them



Sternberg's Triangular Theory of Love

Love is based on combinations of intimacy, passion and commitment. Non-love is absence of all 3.

Making Relationships Work

- Gottman: after studying how couples interact, he can predict with 83% accuracy which marriage would fail
- Signs of failure:
  - **Criticism, contempt, defensiveness, and stonewalling**
- Successful couples experience conflict but make frequent repair attempts, listen to each other, and deescalate the conflict by soothing each other
- Also they make the effort to get to know each other's psychological world—their fears and dreams, philosophy of life, attitudes, and values

PREJUDICE AND DISCRIMINATION

Prejudice is attitude, discrimination is behavior. Both negative and unjustified.

Amygdala activity is related to implicit racism.

Even when groups are assigned randomly, we display

- **In-group favoritism**
- **Out-group derogation**
- **Out-group homogeneity** - other groups members are more similar to *each other* than our group's members

Motivational Roots of Prejudice

Displaced aggression - shown to not be true

Realistic conflict theory - competition for limited resources fosters prejudice

Social identity theory - prejudice stems from a need to enhance our self-esteem. We take pride in our group's accomplishments, and threats to our group threaten us. Derogating other groups makes us feel better.

Prejudice confirms itself

- Prejudice causes black applicants to be treated worse by interviewers, which makes they perform worse in the interview
- **Stereotype threat** - the fear that you will live up to a stereotype about your group causes you to perform poorly and actually causes the stereotype to be true
  - Ex. If a test is described as an "intelligence test" black people do worse than white people. If it is called a "lab test" they do not.

HELPING OTHERS

Social learning and cultural influences

- **Norm of reciprocity** - we should reciprocate when others treat us kindly
- **Norm of social responsibility** - we should help others and contribute to the welfare of society

- **Empathy-altruism hypothesis** - altruism produced by empathy
- **Negative state relief model** - high empathy causes us to feel distress when others suffer, so by helping them we reduce our own personal distress

Bystander intervention in an emergency

- Social comparison is very important in determining if something is an emergency
- **Bystander effect** - presence of multiple bystanders inhibits each person's tendency to help, due to social comparison and diffusion of responsibility

Who do we help?

- Similar people
- Men like helping women more, women don't care
- People who are not perceived as responsible for their problem
  - **Just world hypothesis** - people get what they deserve (victim blaming) so they are responsible for their situation and I don't need to help them

We are more likely to help when we are

- in a good mood
- guilty about something else
- observing a helpful role model
- not in a hurry

AGGRESSION

Frustration-aggression hypothesis

1) All frustration causes aggression
2) All aggression is caused by frustration

Proven false. Some people respond peacefully or with despair. Pain, provocation, crowding, and heat also cause aggression.

Learning

- When aggression produces positive results, it will be repeated
- It can also be learning by observing others, as with the Bobo Doll experiments where kids learn how to attack a Bobo doll

Biology of Aggression

- There is a genetic predisposition to aggression
- No one brain structure that turns aggression on and off, its multiple neural circuits
- **Hypothalamus** - stimulate it in a cat and it will arch its back and attack
- **Amygdala** - defensive aggression decreases if it is destroyed
- **Frontal lobe** - impulse control, impulsive killers had less activity here
- **Testosterone** - social aggression (weaker in humans)

Psychodynamic Factors

- **Attribution of intentionality** - when others' negative behavior is intentional, we are more aggressive (more aggressive people are more likely to see intent)
- **Empathy** - if someone apologizes, reaction depends on how well we can understand their viewpoint
- **Regulation of emotions** - cultural and cognitive factors

Psychodynamic Theory

- Aggression is an instinctive, never-ending cycle of buildup and release
- **Catharsis** - aggression discharges aggressive energy and temporarily reduces impulse to aggress
  - Problem with this theory: violent porn and vigorous exercise make you more likely to be violent

Q. Joyce is opposed to abortion. She is told that she had to write an essay in favor of it. Will this cause cognitive dissonance?

No, only voluntary behavior does. (←Tilt screen to see answer)

Exposure to TV violence is related to aggression (Social Learning Theory)

- Learn new aggressive behaviors through modeling
- Believe aggression is rewarded/rarely punished
- Desensitized to violence and suffering
- Fear of becoming target increases violence
- Boys are more susceptible to TV violence
- Negative stimulus must be present to trigger it
- Aggression highest when situation matches the TV program situation

Playing violent video games has a weak association with increasing aggression.

TV/ Aggression Studies

- **Modeling studies** - kids copy the behavior they see in a TV show and attack a Bobo doll.
- **Lab studies** - Libert & Baron got kids to watch a violent or non-violent film. Then they are given the opportunity to help or hurt another child. Violent film kids spend more time pressing the hurt button. When kids get older, men are more violent than women.
- **Long-term field studies** - steady diet of violent movies makes you more violent.

SOCIAL INFLUENCE

Social Facilitation (Zajonc) - The presence of another person increases our arousal and increases our dominant response. If we are good at something or if it's easy, other people make us perform better. If we are learning something or it's very complex, they make us perform worse.

- Nickolas Cottrell theorized that this effect is due to evaluation apprehension - the presence of others creates anticipation of positive or negative outcomes
- If your audience is expert, you have higher expectation of evaluation, and the effect is higher
- If audience is blindfolded, you get no effect
- ***But***, you do get the effects with mannequins. This effect also happens in animals. So is it really evaluation apprehension?

GROUPS

Group Performance

- **Social loafing** - people put in less effort when working in a group
- Most likely when
  - people believe that individual performance within the group is not being monitored
  - the task has less value or meaning to the person
  - the group is less important to the person
  - task is simple and the person's input is redundant with that of other group members
  - Men do it more
  - Individualist cultures do it more
  - Fatigue increases it
- If the goal is highly desired, **social compensation** occurs - working harder to make up for loafing of others

Deindividuation - a loss of individuality that leads to disinhibited behaviour

- Anonymity to outsiders is the key
- Deindividuation was a big factor in the Stanford Prison Experiment, where a mock jail experiment got way out of hand

Groups Decision Making Is Influenced by:

- Acceptance of common goals
- Status structure (leaders talk too much)
- Group size (effectiveness decreases as group size increases)
- Cohesiveness (we-feeling)

Group polarization - ex. conservative groups become more conservative, liberal groups become more liberal, etc.

- **Normative social influence** - adopt more radical views to be accepted
- **Informative social influence** - people hear arguments supporting their positions that they had not previously considered

Groupthink - tendency for group members to suspend critical thinking because they are striving to seek agreement

Most likely when the group:

- is under high stress to reach a decision
- is insulated from outside input
- has a directive leader who promotes his personal agenda
- has high cohesion, reflecting a spirit of closeness and ability to work well together

CONFORMITY

Informational social influence - follow people because we believe they are right (private acceptance)
Normative social influence - follow people to avoid rejection (compliance)

Nonconformity
Independence - doing what you believe
Anti-conformity - disagreeing not because you think it's right, but just to be different

Asch's Line Studies

- Had people look at three lines and pick the longest one (very easy task)
- Everyone in the group but one person (the subject) was working for the experimenter and picked the *wrong* answer
- Only 23% of subjects didn't conform to the group
- 33% yielded to group pressure 7/12 times

Factors affecting conformity

- Group size - after 4 or 5 conformers, it doesn't matter how many more you add. Larger groups only increase conformity up to a certain point.
- Presence of a dissenter greatly reduces conformity
- If there is economic incentive, conformity decreases for easy tasks but increases for hard ones

Compliance Techniques

Foot in the door
Get a small compliance first, then ask for a bigger one.

"Will you sign this petition?" "Will you also donate $5?"

Door in the face
Make huge request first, then ask the real one.

"Will you volunteer 10 hours?" "Well, will you donate $5?"

Norm of Reciprocity
If others treat us well, we should treat them well.

Law-ball technique
Give a low price and gradually increase it with 'extra fees'.

Milgram's Obedience Experiment

Volunteers were told the experiment was testing "learning". They had to give electric shocks to the "student" subject in the other room whenever they got a question wrong. The shocks are getting gradually more powerful. The student (actually just a recording) would eventually scream with pain and complain about a heart condition. Would people still administer the shocks if the experimenter told them to?

- **65%** were completely obedient - this surprised even Milgram
- Making the screaming happen earlier only reduced it to **62.5%**
- **40%** were still fully obedient if the "student" was in the same room
- **30%** were willing to manually put the student's hand onto a "shock plate"
- When they don't do the shocking themselves, but are "one step removed" from the act (i.e. telling someone else to do it) **37 out of 40** subjects comply 100%
- When people choose their own shock voltage, they shocked much lower amounts
- If there are two authority figures and one tells you to stop but the other doesn't, obedience is greatly reduced (disobedient models)
- Personal characteristics of the participants were not a factor
- Making the subjects feel personally responsible for the "learner" decreases obedience

Models - behavior shaped in absence of direct intentional influence

- **Response disinhibitation** - model performs a desired, but prohibited act (jaywalking)
  - Increase in suicide following highly publicized ones
- **Response facilitation** - copying perfectly allowable behavior (yawning)

Q. Katie punches Laura. If you assume that Katie has a very aggressive personality, you have committed the...

Fundamental Attribution Error (←Tilt screen to see answer)

YOU MADE IT!

HOW WAS IT? GREAT? GREATEST?
TALK TO US AT HELLO@WUCKEXAMS.COM