

08/21/19

Major Issues in Developmental Psychology

- Is development a matter of quantitative or qualitative change?
 - ◆ Development is more about qualitative change; we think/feel different when we're kids vs. adults
 - ◆ Stage theories - Erikson, Sigmund Freud, Piaget

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What is a theory? What is a human development theory?

- The theory
 - ◆ A set of ideas or organizing principles
 - ◆ Relevant assumptions based on beliefs about a phenomenon
 - ◆ Systematically related to each other
 - ◆ **Empirical definitions (operational definitions):** you have a specific content; ex. Attachment
- Empirical and operational definitions
 - ◆ **Freudian fixation:**
 - you are fixated if you express oral behaviors such as chewing gum, biting pencils/fingernails
 - ◆ PMS
 - ◆ "The terrible twos": have temper tantrums a certain times a day
 - ◆ Colic: babies have different types of cry that differentiate in pitch; cry at least 3 hours/days/weeks/months (operational)
 - Happens a month after birth
 - ◆ **Sexual promiscuity:** having a lot of partners in a short time
- Developmental theories allow us to:
 - ◆ **Describe behaviors:** should be doing certain things at a certain time
 - ◆ **Explain**
 - ◆ **Predict:** allows us to see when development is off track
- Development is in the following domains:
 - ◆ **Cognitive:** thinking, reasoning, problem solving
 - ◆ **Social:** all the social parts of the interactions we make; smiling, socializing, friendships/relationships; ex. babies giggling at dogs
 - ◆ **Physical:** we change physically over our lifespan; babies are proportioned differently;
- Are these domains separate?
 - ◆ Example: Otitis Media
- Otitis Media Symptoms:
 - ◆ Snotty nose
 - ◆ Eye drainage

- ◆ Cranky
- ◆ Frequent night waking
- ◆ Unwillingness to be flat
- ◆ Crying, screaming combined with cold symptoms
- ◆ Drainage from ear
- ◆ Sudden worsening of cold symptoms
- ◆ Fever
- ◆ But may have none of these

→ OM issues

- ◆ OM is not contagious but respiratory infections are
 - OM is more common in daycare situations
 - OM is less common in breastfed babies
 - Breast milk has antibiotic properties; offers protection
 - There is currently concern about effective treatments
 - Antibiotics: 40-60% are viral and antibiotics do not respond to viral infections
 - Tubes: small tube in eardrum

→ Otitis Media and Daycare Attending Toddlers

- ◆ Feagans, Kipp, & Blood
 - Purpose to examine the effects of OM on children in three daycare situations differing in quality.
 - Good daycares have staff that is trained and don't leave often
 - Children (12-18 months) were divided into chronic OM and non-chronic groups.
 - Children were given a picture book reading task
 - Mothers were given questionnaires about children's behavior.

→ Results

- ◆ Mothers of children with chronic OM rated them as less attentive.
- ◆ Children with Chronic OM in low quality daycare settings, attended less and showed more off task behavior on the picture book task.
 - Those in higher care did not show this
 - Cognitive delay: language delay which can lead to a lot of problems
 - Can go undetected
 - Issues in social development: do not want to complete tas

→ Development

- ◆ **Age-graded:** things that typically happen to most of us; ex. getting a driver's license, going to kindergarten at 5

- ◆ **History graded (cohort):** ex. living through the Great Depression, saved money carefully and made sure to always have enough food
 - Cohort can be sorted by decade or can be narrowed down
- ◆ **Nonnormative:** changes that don't tend to happen to most people, can be rare but do not have to be; ex. taking piano at age 8, participating in soccer

→ Major Issues in Human Development

- ◆ Is development a matter of quantitative or qualitative change?
 - **Qualitative:** viewing things differently; ex. sandwich cut into 4 pieces = more
- ◆ Continuous or discontinuous?
- ◆ Are genetic or environmental factors the most important determinants of child development and behavior?
 - When something happens we question; was it biology?
- ◆ Development takes place in context
- ◆ Importance of Context
- ◆ Multidimensional and multidirectional
 - Sometimes things go backwards; we regress

→ Organismic vs. Mechanistic Theories

- ◆ **Organismic**
 - **Qualitative change:** we think of the world qualitatively different; apples and oranges
 - **Active development:** opposite would be reactive/passive; we drive our development ourselves, actively engaged in our environment
 - **Movement towards a goal:** there is an end state; at some point we are developed; operational theory
- ◆ **Mechanistic**
 - **No qualitative change:** there are quantitative changes; if you don't have qualitative change then you don't have discontinuous development; everyone learns the same way; continuous development
 - **Passive reaction:** reactions to environment; environment is guiding development
 - **No movement towards a goal:** no final development/end stage; social learning theory

→ Another word view!

- ◆ **Contextual:** the context is everything; historical, where you are, if you grew up with a single mom, if you grew up in the 80s; it is time and place

Theories

→ Behaviorism

- ◆ **Classical Conditioning (Watson):** Albert experiment - Watson classically conditioned babies; what do babies come with innately and are afraid of; babies are afraid of loud noises and being dropped; classical conditioning is about forming a new association; classically conditioned baby Albert to associate loud noises w/ furry animals - scared of loud noises so he was scared of furry animals
- ◆ **Operant (Instrumental) Conditioning:** trained behavior; reinforcement and punishment - something is added or taken away and does behavior increase (positive) or decrease (negative)
 - Behavior Modification
- ◆ **Social Learning Theory (Bandura):** Bobo doll experiments - brought kids in and saw adults abuse Bobo dolls; observed if kids mimicked the adults and they did; kids will model what they see

→ Ethology

- ◆ Emphasis on the relevance of environmental contexts:
- ◆ Seeks to understand the adaptive or survival value of behavior and its evolutionary history: why do parents attach to babies and vice versa and how does that happen
- ◆ Important ethological concepts:
 - **Imprinting:** Konrad Lorenz worked with big geese; after 24 hours of hatching geese will imprint on the first moving object they see - geese saw Lorenz first so they imprinted on him; if hatched in isolation, after 48 hours geese do not imprint
 - Sensitive/critical periods
 - Bonding

→ Do humans "imprint"?

- ◆ **Klaus and Kennell:** skin-skin contact is necessary for bonding; failed to replicate
- ◆ **Bowlby:** father of attachment theory; woman went to the hospital and medicated out of their minds - woman birthed with twilight (drug) knocked them out; women who were not medicated - bonded with babies and hit development milestones better; birthing practices changed so women are now aware while giving birth
- ◆ **Today attachment parenting:** idea of a very natural approach to birth - unmedicated

→ "Babyhood"

- ◆ Rounded head shape

- ◆ Large eyes below middle of head
- ◆ Protruding forehead

The Ecological Approach

- “From this perspective, it can be said that much of developmental psychology, as it now exists is the science of the strange behavior of children in strange situations with strange adults for the briefest possible periods of time.” Urie Bronfenbrenner
- Ecological Approach/Bronfenbrenner
 - ◆ **Microsystem:** individual’s immediate surroundings; form reciprocal relationships
 - ◆ **Mesosystem:** connections among microsystems; conversations
 - ◆ **Exosystem:** doesn’t directly contain individual but influences them; parents workplace is an exosystem for a child
 - ◆ **Macrosystem:** values, ideals, customs, and laws of a particular culture; we use affirmative consent - has to be a YES, but research shows that we do not and it is more about body language; more about the rules; spanking is a macrosystem
 - ◆ **Chronosystem:** temporal (time)- age-graded/history-graded change

Design

- Experiments
 - ◆ Important Terms:
 - **Independent variable:** the variable you manipulate
 - **Dependent Variable:** where you look at the effects; the variable we measure
 - **Reliability:** consistency
 - **Validity**

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Experimental Designs used in Developmental Psychology:

- **Cross-Sectional Design:** comparing 3 year old vs 5 year old
 - ◆ **Advantages:**
 - Quick
 - Inexpensive
 - differences in behavior at different points in development can be studied: different kids, different times
 - ◆ **Disadvantages:** only being assessed once; no tracking development;
 - no information about past determinants of age related changes
 - no information about individual development
 - no information about developmental process

→ **Longitudinal Design:** same subjects assessed repeatedly; testing same babies repeatedly

◆ **Advantages**

- stability of a behavior can be determined
- impact of early events on later behavior can be investigated
- differences in behavior at different points in development can be studied

◆ **Disadvantages**

- **Cost:** more time and money
- **subject loss:** first group of people and then when tested again they do not show up or move away or die
- changes in people (cohorts)
- **Inflexibility:** once you start you cannot change it
- **test/retest effects:** affects performance

→ **Sequential Design:** Combines Cross-sectional and Longitudinal

◆ **Advantages**

- Flexible
- stability of behavior can be determined
- impact of early events on later behavior can be investigated
- differences in behavior at different points in development can be studied

◆ **Disadvantages**

- Cost
- subject loss
- test/retest

◆ **Year of testing**

- 1980 1985 1990 1995 2000
- Ages 5 10 15 20 25
- 10 15 20 25 30
- 15 20 25 30 35
- 20 25 30 35 40
- 25 30 35 40 45

→ **Correlational Studies**

◆ **Correlation does not equal causation**

◆ **Important Terms:**

- **Positive correlation:** the closer it is to the absolute value of 1; ranges from 0 to 1
- **Negative Correlation:** ranges from 0 to -1; high on 1 predicts low on the other

- **Correlation coefficient:** positive and negative correlation numbers (1 to -1)

Studying Development

→ Observation and Interview

◆ Observation

- **Naturalistic Observation:** Jane Goodall and chimps; do this in preschools, can see the whole room and observe; if you sit there and just observe it hopefully will not disturb their natural behavior; you don't see the behaviors that you want to see
- **Structured Observation:** you set up the environment so that you see the behavior; you take away half the toys away to see if they are going to share

◆ Interview

- **Clinical Interview:** Piaget would ask kids about time, space, and reality; the questions are based off of responses
- **Structured Interview** (same questions to all): doesn't matter the response everyone gets the same questions;

→ Ethical Issues in Developmental Research

- ◆ **Deception Research:** said it was about one thing but was about another; completely deceive participants
- ◆ **Research with children:** kids cannot consent legally
- ◆ **Research with the individuals who are cognitively impaired:**
- ◆ **Research with animals:**

→ Rights of Research Participants

- ◆ Protection from harm
- ◆ Informed consent
- ◆ Privacy
- ◆ Knowledge of results
- ◆ **Beneficial treatments:** if it is an educational or medical program can receive benefits

Genetics

→ Genetics

- ◆ Terms you should know:
- ◆ **DNA:** codes templates for proteins
- ◆ **Genes:** stretches of DNA; genes that determine timing (puberty, development)
- ◆ **Chromosomes:** little sets of genes; half from father and mother; we have 47;

→ Genetics

- ◆ Terms you should know:
- ◆ Mitosis vs. Meiosis:
 - **mitosis** is how you replicate
 - **meiosis** forms genes, reduces the number of chromosomes and genes by half
- ◆ **Homozygous:** when a copy of gene from mother/father is the same
- ◆ **Heterozygous:** different copy of genes
- ◆ **Dominant:** gene would be expressed
- ◆ **Recessive:** gene is only expressed if there is no dominant gene present

→ Genetics

- ◆ Terms you should know:
- ◆ **Genotype vs. Phenotype:** the type you have vs. the one displayed
 - Ex. curly hair, straight hair
 - Genotypes possible: CC, Cc, cc (capital is dominant and lowercase is recessive)
 - Phenotypes you display:
 - CC, Cc = curly
 - cc = straight

→ Genetics

- ◆ Terms you should know:
 - **Range of reaction:** the idea that for some traits both physical and psychological the expressed characteristics (or phenotype) of an organism depend both on genetic characteristics (or genotype) and the environment
 - **Canalized:** traits that can't be pushed around as much, traits with broader range of reaction are weakly canalized
 - Examples:
 - ◆ Height
 - ◆ IQ

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→ Examples of Human Inherited Diseases

- ◆ **Dominantly Inherited Diseases:** less common, there are no carriers

- **Huntington's disease:** a degenerative brain disorder, developed a screening test for it in 1993, you are born with it but don't show symptoms until mid adulthood, onset age 30-50, people have made decisions to have children before they get huntington's, can test prenatally if child has the disease, cannot be cured - can be given treated to slow symptoms, lose control of your body
- **Neurofibromatosis:** does not generally kill but develop tumors all over body,

→ **Recessively Inherited Diseases:** more common

- ◆ **Cystic Fibrosis:** life-shortening, thick like mucus builds up along the respiratory tract, can live up to 40 but most around the world don't live past childhood, common in white European descent
- ◆ **Sickle Cell Anemia:** co-dominant, common in African and African-American, affects about 90,000, red blood cells sickle and cause congestion and blockage in blood vessels, causing damage to body systems and can lead to death, kids that were carriers were protected from malaria
- ◆ **PKU:** if born in hospital you are tested immediately, cannot process PKU and can destroy central nervous system, will cause severe damage to the brain if not on a restricted diet,
- ◆ **Tay-Sachs:** when babies are born with it they seem fine, but then develop cognitive problems and gradually lose skills, die around 2-3, high around Jewish populations

→ **Examples of Human Inherited Diseases**

- ◆ **Human X-linked Inherited Diseases:** x chromosomes are big, girls tend not to have it
 - **Color Blindness (some forms):** x-linked recessive
 - **Hemophilia:** x-linked recessive
 - **Severe Combined Immune Deficiency:** x-linked recessive, born without an immune system,

→ **Genetics Quiz**

- ◆ John's mother had Huntington's disease. Her mother had it but her father did not. John's father did not have Huntington's
- ◆ What are John's chances of having Huntington's?
 - 50%
- ◆ What are his sister's chances?
 - 50%

→ **Genetics quiz**

- ◆ Bill is a carrier for cystic fibrosis, his wife is not a carrier nor does she have cystic fibrosis.

- ◆ What are their chances of having a child who is a carrier?
 - 0% - both parents have to be carriers
- ◆ Who has CF?
 - neither

→ **Genetics Quiz**

- ◆ Lisa's father was red/green color blind but Lisa is not! Her husband Dave is not color-blind.
- ◆ What are their chances of having a color blind daughter?
 - 0%
- ◆ What are their chances of having a daughter who is a carrier?
 - 25%
- ◆ A son who is color-blind?
 - 50%

→ **Genetics Quiz**

- ◆ Lisa is pregnant, amniocentesis shows that the fetus is a boy.
- ◆ What are the chances he will be a carrier for color-blindness?
 -
- ◆ What are the chances he will be color-blind?
 -
- ◆ What are the chances he will have normal color vision?
 -

→ **Genetics continued:**

- ◆ **Imprinting:** one copy of the gene is silenced in the egg or sperm
- ◆ **Polygenic inheritance:** multiple genes working together (ex. height)

→ **Fragile X Syndrome:** caused by trinucleotide repeat in the FMR-1 gene on the X-chromosome

- ◆ There is a "broken" segment in the X chromosome.
- ◆ Tends to be more of an issue with males (1 in 4,000 men); effects when synapses are forming, don't produce appropriate proteins
 - Results in learning disabilities, and mental retardation; differences in IQ scores, tend to have autism spectrum,

→ **Chromosome Abnormalities**

- ◆ Autosomal Chromosome Abnormalities
 - Down Syndrome: an extra 21-chromosome;

→ **Down Syndrome**

- ◆ Characteristics
 - Short stocky build
 - Flat facial profile
 - Heart abnormalities: sometimes requires surgery