

PSYC355 Exam 1 Study Guide

Intro to Developmental Psych

What is development?

- Differs from growth and change in 3 ways:
 - Development makes an individual better adapted to the environment
 - Development proceeds from relatively simple and global to more complex and specific
 - Development is relatively enduring

What Develops?

- Many aspects of a child change over time
- Physical/ motor
- Cognitive
- Social/emotional
- →The domains of development

Who studies development?

- Developmental scientists

Why study development?

- To gain insight into human nature- most intriguing questions, Research now shows timing of experience influences their effects
- To gain insight into the origin of individual differences adult behavior, sex differences/ gender
- To gain insight into developmental problems- origins, treatment, prevention
- To optimize conditions of development- enhance children's lives
- To help raise children- feeding, responding to them, learning, activities
- To help choose social policies- knowledge of child development permits informed decisions about social- policy questions that affect children

Goals of developmental research:

- To describe what people are like at different ages and how they change as a result
- To explain what causes developmental change
- To predict what an individual will be like at a later point in development based on past and present
- To intervene or use knowledge to change children's lives

Historical Foundations:

- Plato and Aristotle believed long-term welfare of society depended on child's raising
- John Locke and Rousseau focused on how parents and society could promote child development
 - Differed in the inherent nature of children and approaches to instruction

Research- based approach:

- The result of two converging forces (social reform movements)
- Charles Darwin's theory of evolution

Formal Field of Inquiry

- Early assessment
 - G. Stanley Hall- contents of children's minds
 - Alfred Binet- intelligence test 1900
 - Sigmund Freud
 - John Watson

Nature vs. Nurture

- Single most basic question, how do they interact to shape the developmental process?

Universal vs. Individual Differences

- Species- typical developments
- Developments that vary across individuals

Perspectives on Nature/ Nurture

- Driven by nature
- Driven by nurture
- Part nature part nurture
- Results from interaction of nature with nurture

Nature Perspective:

- Nativism- characteristics are innate, not acquired or learned
- Genetic determinism- human qualities are genetically determined and cannot be challenged
- Eugenics "good genes"- stance advocating for controlled breeding to keep "desirable" traits

Mechanisms Contributing to Genetic Diversity:

- Parents and child's genotypes- mutations, random assortment, crossing over
- Child's genotype and phenotype expression- dominance patterns, polygenic effects, regulator genes

Nurture Perspective:

- Environmentalists- newborn is unformed, characteristics are product of experience
- Tabula rasa—blank slate
- Socio- cultural theories
- Macro, exo, meso, micro, chro-systems

Part Nature- Part Nurture Perspective:

- Perspective changed- both play a role, key to figure out how much each contributes
- Behavior genetics- twin studies, adoption studies, family relatedness studies, heritability
 - Minnesota study of twins reared apart- located and studied twins who have not met since they were infants- they were very similar
- Heritability- statistical estimate, proportion of the measured variance on a given trait among individuals in a population attributable to genetic differences among the individuals

- Limits- applies to populations not individuals, applies to a particular group at that time, can differ with development, high heritability does not imply low malleability
- Criticisms- genes and environment are correlated, genes don't have the same effect in all environments, even if a trait is largely inherited- some is still environment and can change

Interaction of Nature and Nurture Perspective:

- More contemporary
- Darwin's theory of evolution- survival of the fittest, natural selection
- Probabilistic epigenetic
- Genes and environment interact
- Ex: children with PKU (disorder related to a defective gene on chromosome 12) are unable to metabolize phenylalanine, with early diagnosis though and a restricted diet mental retardation can be avoided
- The nurturing rat- "good" mothers had children who had better stress response and became good mothers also
- Caspi et al- men who experienced maltreatment were more likely to engage in antisocial behavior than those who were not treated this way, effect was much stronger for those who had a relatively inactive MAOA gene
- Gene expression- process through which genes influence the production of specific proteins → phenotype

Prenatal Development and the Newborn Period

Prenatal Development

Conception:

- Results from the union of 2 gametes, the egg and the sperm
- Gametes are produced through a specialized cell division, which results in each gamete's having only half the genetic material of all other normal cells in the body
- Female reproductive system- reproduction starts with the launching of an egg from one of the woman's ovaries into the fallopian tube, if sex takes place near the time the egg is released then conception is possible
- Sex differences begin at conception:
 - Approx 120- 150 males are conceived for every 100 females
 - But male embryos are miscarried more than females and boys are more vulnerable to developmental disorders
 - Males are more vulnerable to illnesses throughout life
- The zygote- the fertilized egg, has a full complement of human genetic material, half from each parents (marks the beginning of the three periods of prenatal development)
- Germinal/ zygotic (conception- 2 weeks) → embryonic (3rd-8th week) → fetal (9th week- birth)

Developmental Processes:

- 4 major developmental processes transform zygote → embryo → fetus
- 1. Cell division: results in proliferation of cells