

REVIEW FOR EXAM I

- **Note:** you are responsible for all material covered in my lectures, on the lecture outline posted my web site, on any handouts, and in your textbook (assigned readings). This outline is meant to serve as a general overview of what will be on the exam.
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CHAPTER 1: THEORIES

- Historical perspective: John Locke, Jean-Jacques Rousseau, Charles Darwin, Sigmund Freud, Erik Erikson, John B. Watson, Arnold Gesell
 - Six Major theories of development: (1) Vygotsky's sociocultural theory, (2) Piaget's theory of cognitive development, (3) Information processing theory, (4) Psychoanalytic theory (Freud & Erikson), (5) Bowlby's Adaptational Theory, and (6) Bandura's Social Learning Theory.
 - Function/Purpose of theories: For all of the theories know what area of development they focus on (e.g., social, cognitive), where each falls on the nature vs. nurture and qualitative vs. quantitative debates, benefits and limitations of the theories, methods used to formulate theory (e.g., baby biographies/case studies, clinical interviews), and how they are similar and different from each other.
 - Principle & Issues: qualitative vs. quantitative, continuous vs. discontinuous, stages vs. gradual, normative vs. ideographic, nature vs. nurture (interactionist perspective), natural selection, adaptation
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CHAPTER 1: RESEARCH METHODS FOR STUDYING DEVELOPMENT

- Methods: Case studies, experimental design (experiments), naturalistic observation, quasi-experimental design, longitudinal, cross-sectional, cohort effect, naturalistic & structured observations, and the clinical method.
 - Know advantages and disadvantages of each type of research design.
- Concepts: Internal validity, external validity, generalizability, content validity, reactance, reliability (test-retest & interjudge), independent variable, dependant variable, random assignment and random sampling, practice effect, cohort effect, selective attrition, informed consent (special requirements for children).

CHAPTER 2: THE CONTEXT OF DEVELOPMENT

- Canalized (McCall's work/theory), interaction of genes and environment, role of environment in development, role of genetics, influence of environmental factors (e.g., mom, dad, daycare, divorce, social economic class, parenting)
 - Brofenbrenner's Model
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CHAPTER 3: GENETICS

- Genetics: Cell division (meiosis, mitosis), genes, DNA, homozygous, heterozygous, dominant, recessive, codominant, modifier genes, phenotype, genotype, polygenic, sex chromosomal abnormalities (e.g., Klinefelter's or Turner's syndrome), sex-linked traits (e.g. blue-green color blindness and hemophilia), chromosome disorders (e.g., Down Syndrome), gene disorders (e.g., sickle cell anemia, PKU), amount of genetic information shared with our siblings (e.g., identical vs. fraternal twins vs. regular siblings).
 - Study of gene-environment interaction: range of reaction studies, twin studies, kinship studies, adoption studies, quasi-experimental design, and animal research. Know the advantages and disadvantages of each.
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CHAPTER 3: PRENATAL DEVELOPMENT

- Prenatal development: critical periods, trimesters, stages of prenatal development (e.g., embryonic, fetal – know what develops during each stage and how influence by environment), brain development, fertilization, zygote, blastocyst, fetus. Effects of teratogens (e.g., alcohol, drugs, caffeine, nicotine).
 - Detection & treatment of fetal disorders & infant disorders: amniocentesis, ultrasound, chorionic villus sampling), Apgar Scale, factors that best predict survival after birth.
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CHAPTER 3: ENVIRONMENTAL INFLUENCES ON PRENATAL DEVELOPMENT

- Environmental influence on prenatal development: teratogens, drugs, alcohol, medications, diseases, maternal stress, maternal age, maternal nutrition, congenital defects, research methods used to study teratogens and why the study of teratogens is problematic (e.g., thalidomide, DES), how timing effects the influence that the teratogen will have, sleeper effects, susceptibility.
- During which phase of prenatal development do teratogens have the greatest effect? Why?

CHAPTER 4: FIRST ADAPTIONS

- Early brain development: structure and function of neurons; neuron proliferation, neuron migration, neuron differentiation, role of experience (e.g., enriched-impoverished studies), size and function of various brain areas at birth, lateralization (hemisphere specialization), plasticity, postnatal development, prenatal development.
- Infant states: sleep states
- Reflexes, voluntary control, involuntary control,
- Effects of environment/experience on abilities
- Body Growth And Development: Norms, height, failure to thrive, nature-nurture influence and evidence for both, polygenetic, hormones, brain influence.
- Development of motor skill: effects of experience on walking, developmental milestones.
- Principles of growth and motor skill development: cephalocaudal principle, proximodistal principle

CHAPTER 4: INFANT SENSATION, PERCEPTION, & LEARNING

- Infants' abilities & Methods used to study infants' abilities: Habituation/dishabituation (orienting response), classical and operant conditioning, attention techniques (preferential looking), Piaget
- Preparedness, critical periods, preadapted, prewired, contingencies
- Sensing & Perceiving the World: Audition, vision, depth perception, taste, smell, perception of faces, whole vs. parts, role of experience.

CHAPTER 5: INFANT COGNITIVE DEVELOPMENT

- Piaget: sensory motor stage, stages involved in sensory motor stage, decalage, accommodation, assimilation, adaptation, scheme, object permanence task, stages of object permanence and what marks each (e.g., A not B error), criticisms of object permanence task and ages, circular reactions, coordination of schemes, deferred imitation.
- Challenges to Piaget's & the neo-Piagetians
- Impossible event methodology: Baillargeon's research, age at which infants gain object permanence according to these new methods
- Memory: development of memory, methodology for studying memory, limitations of memory in infancy, working memory, recognition memory, recall memory, cued recall memory, implicit memory, explicit memory, Case's theory of memory, infantile amnesia, Rovee-Collier's research.
- Concept of numbers, categories
- Infant IQ: habituation, Infant IQ tests and their association with childhood IQ.
- Lev Vygotsky's Theory
- Information processing theory and memory development.
- Difference between Piaget and Information processing approach