

Developmental Issues, Prenatal Development, and the Newborn

MODULE OVERVIEW

Developmental psychologists study the life cycle, from conception to death, examining how we develop physically, mentally, and socially. Module 13 mentions again the relative impact of genes and experience on behavior and then introduces two other major issues in developmental psychology: (1) whether development is best described as gradual and continuous or as a discontinuous sequence of stages and (2) whether the individual's personality remains stable or changes over the life span.

Most of the module is devoted to describing prenatal development and birth, including the destructive effects of environmental toxins on the embryo and fetus. The final section explains how psychologists have uncovered the amazing abilities of the newborn.

NOTE: Answer guidelines for all Module 13 questions begin on page 113.

MODULE REVIEW

First, skim this section, noting headings and boldface items. After you have read the section, review each objective by completing the sentences and answering the questions that follow it. In some cases, Study Tips explain how best to learn a difficult concept and Think About It and Applications help you to know how well you understand the material. As you proceed, evaluate your performance by consulting the answers on page 113. Do not continue with the next section until you understand each answer. If you need to, review or reread the section in the textbook before continuing.

Developmental Psychology's Major Issues

Objective 13-1: Identify three issues that have engaged developmental psychologists.

1. Scientists who study physical, cognitive, and social changes throughout the life cycle are called _____.
2. One of the major issues in developmental psychology concerns the relative importance of genetic inheritance and experience in determining behavior; this is called the issue of _____ and _____.
3. A second developmental issue concerns whether developmental changes are gradual or abrupt; this is called the issue of _____ and _____.
4. Stage theories that will be considered include the theory of cognitive development proposed by _____, the theory of moral development proposed by _____, and the theory of psychosocial development proposed by _____.
5. Although research casts doubt on the idea that life proceeds through age-linked _____, there are spurts of _____ growth during childhood and puberty that correspond roughly to the stages proposed by _____.
6. A third controversial issue concerns the consistency of personality and whether development is characterized more by _____ over time or by change.

- 7. The first two years of life _____ (do/do not) provide a good basis for predicting a person's eventual traits.
- 8. Research on the consistency of personality shows that some traits, such as those related to _____, are more stable than others, such as social attitudes.

APPLICATION:

- 9. In thinking about stability and change over the life span, most developmental psychologists believe that
 - a. development occurs in a series of sharply defined stages.
 - b. the first two years are the most crucial in determining the individual's personality.
 - c. the consistency of personality in most people tends to increase over the life span.
 - d. social and emotional style are among the characteristics that show the least stability over the life span.

Prenatal Development and the Newborn

Objective 13-2: Discuss the course of prenatal development, and explain how teratogens affect that development.

- 10. Conception begins when a woman's _____ releases a mature _____.
- 11. The few _____ from the man that reach the egg release digestive _____ that eat away the egg's protective covering. As soon as one sperm penetrates the egg, the egg's surface _____ all other sperm.
- 12. The egg and sperm _____ fuse and become one.
- 13. Fertilized human eggs are called _____. During the first week, the cells in this cluster begin to specialize in structure and function, that is, they begin to _____. About 10 days after conception, the fertilized egg attaches to the mother's _____ wall.
- 14. From about 2 until 8 weeks of age the developing human, formed from the inner cells of the fertilized egg, is called a(n) _____. The outer cells become the _____, which transfers _____ and

_____ from mother to fetus. Along with nutrients, a range of harmful substances known as _____ can pass through the placenta.

- 15. During the final stage of prenatal development, the developing human is called a(n) _____.
- 16. Moderate consumption of alcohol during pregnancy _____ (usually does not affect/can affect) the fetal brain. If a mother drinks heavily, her baby is at risk for the birth defects and mental retardation that accompany _____.

APPLICATION:

- 17. Marissa has just learned that she is two months pregnant. She is concerned about her baby's health because in the last few months she has been drinking heavily. Marissa is afraid that her unborn child may be at risk for birth defects and for future behavior problems, _____ and lower _____.

Objective 13-3: Describe some abilities of the newborn, noting how researchers are able to identify their mental abilities.

- 18. When an infant's cheek is touched, it will vigorously _____ for a nipple. Other infant reflexes include _____, _____, and _____.
- 19. American psychologist _____ believed that the newborn experiences a "blooming, buzzing confusion." This belief is _____ (correct/incorrect).

Give some evidence supporting the claim that a newborn's sensory equipment is biologically prewired to facilitate social responsiveness.

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20. To study infants' thinking, developmental researchers have used _____, which involves a _____ in responding with repeated stimulation. Using _____, researchers have found that infants prefer sights, such as faces, that facilitate _____ responsiveness.

APPLICATION:

21. Leonardo is only 6 months old so he can't tell his Mom what he likes. However, by looking away from a mobile that now seems to bore him, he is saying that he sees and remembers the mobile. His behavior indicates that he has _____ to the mobile.

PROGRESS TEST*Multiple-Choice Questions*

Circle your answers to the following questions and check them with the answers on page 114. If your answer is incorrect, read the explanation for why it is incorrect and then consult the text.

- Dr. Joan Goodman is studying how memory changes as people get older. She is most likely a(n) _____ psychologist.
 - social
 - cognitive
 - developmental
 - experimental
- Newborns vigorously root for a nipple when
 - their foot is tickled.
 - their cheek is touched.
 - they hear a loud noise.
 - they make eye contact with their caregiver.
- A child can be born a drug addict because
 - drugs used by the mother will pass into the child's bloodstream.
 - addiction is an inherited personality trait.
 - drugs used by the mother create genetic defects in her chromosomes.
 - the fetus' blood has not yet developed a resistance to drugs.

- A child whose mother drank heavily when she was pregnant is at heightened risk of
 - being emotionally excitable during childhood.
 - chromosomal abnormality.
 - being born with the physical and cognitive abnormalities of fetal alcohol syndrome.
 - addiction to a range of drugs throughout life.
- Which is the correct order of stages of prenatal development?
 - zygote, fetus, embryo
 - zygote, embryo, fetus
 - embryo, zygote, fetus
 - embryo, fetus, zygote
- Teratogens are
 - physical abnormalities in the developing fetus.
 - cognitive abnormalities in the developing fetus.
 - chemicals and viruses that cross the placenta and may harm the developing fetus.
 - fertilized eggs.

TERMS AND CONCEPTS TO REMEMBER

Using your own words, on a piece of paper write a brief definition or explanation of each of the following terms.

- developmental psychology
- zygote
- embryo
- fetus
- teratogens
- fetal alcohol syndrome (FAS)
- habituation

ANSWERS**Module Review***Developmental Psychology's Major Issues*

- developmental psychologists
- nature; nurture
- continuity; stages
- Piaget; Kohlberg; Erikson
- stages; brain; Piaget
- stability
- do not
- temperament

9. c. is the answer. Although some researchers emphasize stability and others emphasize potential for change, they all agree that stability increases over the life span.
- a. One criticism of stage theories is that development does not occur in sharply defined stages.
- b. Research has shown that individuals' adult personalities cannot be predicted from their first two years.
- d. Social and emotional style are two of the most stable traits.

Prenatal Development and the Newborn

10. ovary; egg
11. sperm; enzymes; blocks
12. nuclei
13. zygotes; differentiate; uterine
14. embryo; placenta; nutrients; oxygen; teratogens
15. fetus
16. can affect; fetal alcohol syndrome
17. hyperactivity; intelligence
18. root; sucking; swallowing; tonguing; breathing
19. William James; incorrect

Newborns reflexively turn their heads in the direction of human voices. They gaze longer at a drawing of a facelike image. They focus best on objects about 8 to 12 inches away, which is about the distance between a nursing infant's eyes and the mother's. Within days, they recognize their mother's smell and voice.

20. habituation; decrease; visual preference; social
21. habituated

Progress Test

Multiple-Choice Questions

1. c. is the answer. Developmental psychologists study physical, cognitive (memory, in this example), and social change throughout the life span.
 - a. Social psychologists study how people influence and are influenced by others.
 - b. Cognitive psychologists *do* study memory; because Dr. Goodman is interested in life-span changes in memory, she is more likely a developmental psychologist.
 - d. Experimental psychologists study physiology, sensation, perception, learning, and other aspects of behavior. Only developmental psychologists focus on developmental changes in behavior and mental processes.

2. b. is the answer. The infant turns its head and begins sucking when its cheek is stroked.
 - a., c., & d. These stimuli produce other reflexes in the newborn.
3. a. is the answer. Any drug taken by the mother passes through the placenta and enters the child's bloodstream.
 - b. Addiction cannot be inherited; it requires exposure to an addictive drug.
 - c. Drugs may disrupt the mechanisms of heredity, but there is no evidence that such changes promote addiction.
 - d. This answer is incorrect because at no age does the blood "resist" drugs.
4. c. is the answer.
 - a., b., & d. A child's emotional temperament, attachment, and addiction have not been linked to the mother's drinking while pregnant.
5. b. is the answer.
6. c. is the answer.
 - a. & b. Physical and cognitive abnormalities usually result from teratogens, but that's not a definition of a teratogen.
 - d. A fertilized egg is a zygote.

Terms and Concepts to Remember

1. **Developmental psychology** is the branch of psychology concerned with physical, cognitive, and social change throughout the life span.
2. The **zygote** (a term derived from the Greek word for "joint") is the fertilized egg, that is, the cluster of cells formed during conception by the union of sperm and egg.
3. The **embryo** is the developing prenatal organism from about 2 weeks through 2 months after conception; formed from the inner cells of the zygote.
4. The **fetus** is the developing prenatal human from 9 weeks after conception to birth.
5. **Teratogens** (literally, "monster maker") are agents, such as chemicals and viruses, that cross the mother's placenta and can harm the developing embryo or fetus.
6. **Fetal alcohol syndrome (FAS)** refers to the physical and cognitive abnormalities that heavy drinking by a pregnant woman may cause in the developing child.
7. **Habituation** is decreasing responsiveness to a stimulus that is repeatedly presented. It is used by researchers to find out what infants see, hear, smell, and think.