

# Chapter Eleven

## HUMAN DEVELOPMENT ACROSS THE LIFE SPAN

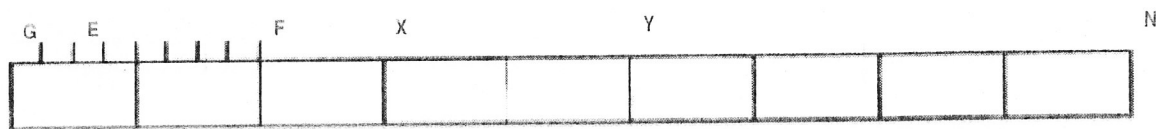
### Review of Key Ideas

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#### PROGRESS BEFORE BIRTH: PRENATAL DEVELOPMENT

##### 1. Outline the major events of the three phases of prenatal development.

- 1-1. Each box below represents one month in the typical pregnancy; each short line at the top of the boxes represents one week. Indicate the beginning and end of each phase of prenatal development by placing the appropriate capital letters from the diagram in the blanks after the descriptions below.



- a) The germinal stage begins at conception, represented by point \_\_\_\_\_ in the diagram, and ends at point \_\_\_\_\_.
- (b) The embryonic stage begins at point \_\_\_\_\_ and ends at point \_\_\_\_\_.
- (c) The fetal stage begins at point \_\_\_\_\_ and ends at point \_\_\_\_\_.
- 1-2. List the names of the three phases of prenatal development in the order in which they occur. In the parentheses at the right indicate the age ranges encompassed by each stage.
- (a) \_\_\_\_\_ ( )
- (b) \_\_\_\_\_ ( )
- (c) \_\_\_\_\_ ( )
- 1-3. Match each stage in the previous question with the descriptions below. Use the letters G, E, and F to

represent the germinal, embryonic, and fetal stages.

- \_\_\_\_\_ The placenta begins to form.
- \_\_\_\_\_ At the end of this stage the organism begins to have a human appearance; it is about an inch in length.
- \_\_\_\_\_ The zygote begins to implant in the uterine wall; about one in five are rejected.
- \_\_\_\_\_ Muscles and bones develop and physical movements occur.
- \_\_\_\_\_ Most major birth defects probably have their origins in this stage.
- \_\_\_\_\_ The age of viability (about 22 to 26 weeks after conception) occurs during this stage.

## **2. Summarize the impact of environmental factors on prenatal development.**

**2-1.** Indicate whether the following statements concerning environmental factors and fetal development are true (T) or false (F).

- \_\_\_\_\_ Severe malnutrition increases the risk of birth complications and neurological deficits.
- \_\_\_\_\_ Few if any drugs consumed by a pregnant woman are able to pass through the placental barrier.
- \_\_\_\_\_ Relative to its affluence the U.S. has a high infant mortality rate.
- \_\_\_\_\_ Recent studies indicate that moderate drinking during pregnancy produces no risk for the developing fetus.
- \_\_\_\_\_ Heavy drinking of alcohol by a pregnant woman may produce microencephaly, heart defects, and retardation in her child.
- \_\_\_\_\_ Smoking during pregnancy is related to increased risk of miscarriage and other birth complications.
- \_\_\_\_\_ The placenta screens out many but not all infectious diseases.
- \_\_\_\_\_ Genital herpes is usually transmitted during the birth process, when newborns come into contact with their mothers' lesions.
- \_\_\_\_\_ AIDS may be transmitted not only during the birth process but prenatally, through the placenta.

## **THE WONDROUS YEARS OF CHILDHOOD**

### **3. Understand the general principals and cultural variations in motor development.**

**3-1.** In the spaces below describe the two basic trends in motor development discussed in the text.

Cephalocaudal trend:

Proximodistal trend:

- 3-2. The average ages at which children display various behaviors and abilities are referred to as developmental \_\_\_\_\_. While these averages provide useful information they don't reflect variability, and the age at which children display certain behaviors or abilities varies (enormously/very little) across children.
- 3-3. With regard to the behavior of walking up steps, for example, which of the following is true?
- a. children walk up steps at approximately the same age.
  - b. many normal children don't walk up steps until well after or well before the average age indicated.
- 3-4. The term *maturation* refers to developmental changes that reflect (innate/environmental) factors, a gradual unfolding of one's genetic blueprint.
- 3-5. While cross-cultural research has revealed some consistencies in maturation among cultures, the discussion of the Kipsigis and Ache in your text makes clear that culture (does/does not) play a role in motor development.
- 3-6. In other words, cultural differences may \_\_\_\_\_ early motor development.
- a. accelerate
  - b. delay
  - c. either accelerate or delay

#### 4. Review Thomas and Chess's longitudinal study of infant temperament and other work on temperament.

- 4-1. Identify the following designs by indicating whether they are *longitudinal* or *cross-sectional*.
- (a) \_\_\_\_\_ In this experimental design researchers compare groups of subjects of differing ages at a single point in time.
  - (b) \_\_\_\_\_ This design measures a single group of subjects over a period of time.
- 4-2. Using a longitudinal design Thomas and Chess identified three basic temperaments, described below. Place the names of these temperamental styles in the appropriate blanks: *easy*, *slow-to-warm-up*, *difficult*. (Percentages in each category are in parentheses, with the largest group of children fitting the "happy" category. About 35% of children are a mixture of the three.)

- (a) \_\_\_\_\_ Happy, regular in sleep and eating, adaptable (40%).
- (b) \_\_\_\_\_ Less cheery, less regular in sleep and eating, more wary of new experiences (15%).
- (c) \_\_\_\_\_ Glum, erratic in sleep and eating, irritable (10%).
- 4-3. The major conclusion from the Thomas and Chess study is that a child's temperament at *three months* tended to be a \_\_\_\_\_ predictor of temperament at age ten years.
- a. poor
- b. fairly good
- c. excellent
- 4-4. Using direct observation, Kagan and his colleagues classified infants into two major categories: an \_\_\_\_\_ temperament (shy, timid) or an \_\_\_\_\_ temperament. About 15-20% of infants were in the former category and 25%-30% in the latter. As with the Thomas and Chess study, these classifications of infants (were/were not) predictive of later temperament, in this case 20 years later.
- 4-5. In addition, results from a recent study suggest that infant temperament at age 3 predicts adult *personality* traits at age 26. The general suggestion from this and the other studies reviewed in this section is that:
- a. temperament and personality are largely acquired as a function of the childhood environment.
- b. there may be a degree of genetic predisposition to temperament and personality.

## 5. Describe Harlow's and Bowlby's views on attachment and research on patterns of attachment.

- 5-1. Early behaviorists proposed that an infant's attraction to its mother occurred because the mother fed the baby, thereby forming an association with food. According to this point of view attachment was (learned/innate), and the mother functioned as a (primary/conditioned) reinforcer.
- 5-2. Doubts about the simple conditioning explanation of attachment occurred as a result of Harlow's famous studies with rhesus monkeys. In these studies infant rhesus monkeys grew up with either "wire" or "cloth" substitute mothers. Although the infant monkeys had been fed (or reinforced) by the \_\_\_\_\_ monkeys, they clung to the \_\_\_\_\_ mothers when frightened. The infants had formed attachments to the mothers that provided contact comfort, not to those that had fed them.
- 5-3. Bowlby has proposed an \_\_\_\_\_ basis for mother-infant attachment. What do infants do that make them so adorable to adults? They smile, they coo, they cling—they are fun to watch and play with. Bowlby proposes that an infant's behaviors, and the adult's protective and affectionate responses to them, are largely (learned/innate) and that they have clear \_\_\_\_\_ value for the species.



5-4. Ainsworth and her colleagues divide types of infant-mother attachment into three categories. Label each of the following with the pattern of attachment described: *secure*, *anxious-ambivalent*, or *avoidant*.

- (a) \_\_\_\_\_ The infant is anxious even when the mother is near, becomes very agitated when she leaves, and is not comforted when the mother returns.
- (b) \_\_\_\_\_ The infant seeks little contact with the mother and is not distressed when she leaves.
- (c) \_\_\_\_\_ The infant plays comfortably when the mother is present, is upset when the mother leaves, but is quickly calmed by her when she returns.

5-5. Other researchers have added a fourth category of attachment, the disorganized-\_\_\_\_\_ attachment, in which children are confused about whether to approach or avoid their mothers.

5-6. Attachment appears to be related to behavior in later childhood and adulthood. For a number of desirable characteristics (e.g., persistence, curiosity, self-reliance) infants who experienced a \_\_\_\_\_ attachment seem to have an advantage.

5-7. It is important to point out that the relationship between attachment and personality is correlational, so we (can/cannot) conclude that secure attachment, for example, causes the favorable characteristics that are listed above.

- 5-8. In addition, the type of attachment that emerges between an infant and mother may depend on:
- a. the infant's temperament
  - b. the mother's behaviors
  - c. both of the above

## 6. Discuss day care in relation to attachment and cultural variations in attachment.

- 6-1. Belsky's early research on the effects of day care suggested that in some circumstances (low-quality care, maternal insensitivity), day care tended to produce:
- a. insecure attachments
  - b. aggression and disobedience in preschool
  - c. both of the above
  - d. neither of the above

- 6-2. In later studies Belsky found that the impact of day care:
- a. tended to be small
  - b. diminished to some extent by the sixth grade
  - c. both of the above
  - d. neither of the above
- 6-3. Overall, taking into account recent studies, evidence on the effects of day care suggest that (true-false):
- \_\_\_\_ Nonmaternal care is not harmful to children's development.
  - \_\_\_\_ There may be some positive effects of high-quality day care.
  - \_\_\_\_ The effects found in these studies, whether positive or negative, are slight.
  - \_\_\_\_ Quality of day care (high or low) is not important for parents to consider.
- 6-4. Especially between the ages of 6 months and a year and a half, infants show emotional distress or \_\_\_\_\_ anxiety when apart from their caregivers. Separation anxiety seems to be universal, occurring in all cultures.
- 6-5. While there are slight differences in attachment patterns across cultures (e.g., a study of German infants found a somewhat higher level of avoidant attachments), in all cultures studied the \_\_\_\_\_ attachment is by far the predominant type.

**7. Describe the basic tenets of Erikson's theory and his stages of childhood personality development.**

- 7-1. Erikson's theory is derived from Freudian psychoanalytic theory. However, while Freud asserted that there are five childhood stages, Erikson proposed that there are a total of \_\_\_\_\_ stages and that these stages occur during an individual's (childhood/entire lifespan).
- 7-2. Erikson described four childhood stages and four adult stages. In the spaces below write the names of the crises that mark the four *childhood* stages, and indicate in the parentheses the approximate ages at which the crises are supposed to occur.
- (a) \_\_\_\_\_ vs. \_\_\_\_\_ ( \_\_\_\_\_ )
  - (b) \_\_\_\_\_ vs. \_\_\_\_\_ ( \_\_\_\_\_ )
  - (c) \_\_\_\_\_ vs. \_\_\_\_\_ ( \_\_\_\_\_ )
  - (d) \_\_\_\_\_ vs. \_\_\_\_\_ ( \_\_\_\_\_ )
- 7-3. Below are descriptions of several individuals. In what childhood stage would they have acquired these characteristics, according to Erikson? Use the letters from the question above to indicate the stages.
- \_\_\_\_ Jack has trouble functioning effectively in the world outside his family; he is unproductive, and he lacks a sense of competence.
  - \_\_\_\_ Kristi is insecure and suspicious of everyone.

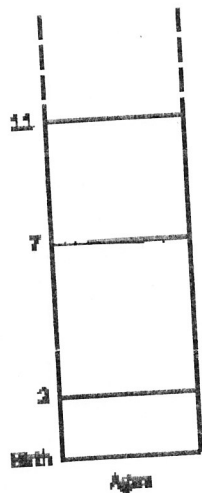
\_\_\_\_ Larry was torn between being independent of his family and avoiding conflict; as an adult he feels guilty and lacks self-esteem.

\_\_\_\_ From an early age Maureen's parents never seemed satisfied with what she did. Maureen is plagued by a sense of shame and self-doubt.

- 7-4. As you may have noted in responding to the previous item, a weakness of Erikson's theory is that it attempts to account for very (few/many) aspects of personality. Thus, the theory cannot explain the enormous individual \_\_\_\_\_ between people.

## 8. Outline Piaget's stages of cognitive development and critique Piaget's theory.

- 8-1. The diagram below represents Piaget's four main stages of development. Write the names of the stages in the appropriate blanks.



- (f) \_\_\_\_\_
- (c) \_\_\_\_\_
- (p) \_\_\_\_\_
- (s) \_\_\_\_\_

- 8-2. Following is a list of characteristics of children's thinking during various stages. Identify the stage by placing the correct letter (from the diagram above) in the blanks.

- \_\_\_\_ At the end of this stage the child is beginning to develop the capacity for symbolic thought (to think in terms of mental images).
- \_\_\_\_ At the beginning of this stage the child's behavior is dominated by reflexes and the ability to coordinate sensory input and movement.
- \_\_\_\_ The child understands conservation and can handle hierarchical classification but tends not to use abstractions.
- \_\_\_\_ The child's thought processes are abstract and systematic.
- \_\_\_\_ Object permanence occurs toward the end of this stage.
- \_\_\_\_ During the first part of this stage, "out of sight, out of mind" might describe the child's reaction to hidden objects.

- \_\_\_\_\_ In a demonstration used in this stage, water is poured from a wide beaker into a taller beaker; children say there is now more water in the taller beaker.
- \_\_\_\_\_ The child demonstrates progress in symbolic thought but does not yet show understanding of conservation.
- \_\_\_\_\_ The child shows the shortcomings of centration, irreversibility, egocentrism, and animism.
- \_\_\_\_\_ For the first time the child in this stage is mentally able to undo an action and also is able to focus on more than one feature of a problem at the same time.

8-3. When my (RS's) daughter Vanessa was about five, I placed two rows of stones on the grass, as illustrated below. Each row contained the same number of stones.

Row A:   ••••••••

Row B:   ••••••••

I then spread out one row so that it took up more space:

Row A:   ••••••••••

Row B:   ••••••••

- (a) I then asked Vanessa to point to the row that now had more stones. If Vanessa behaved like other *preoperational* children, which row would she point to? \_\_\_\_\_
- (b) The preoperational child has not yet mastered the principle that physical quantities remain constant in spite of changes in their shape or, in this case, arrangement. What is the name of this principle?  
\_\_\_\_\_

8-4. Some research has demonstrated that certain aspects of Piaget's theory may be incorrect in detail. For example, there is some evidence that object permanence may develop (earlier/later) than Piaget had thought.

8-5. Piaget also had little to say about individual \_\_\_\_\_ in development or about so-called \_\_\_\_\_ of stages in which elements of an earlier stage may appear in a later one.

8-6. Piaget thought that people of all cultures would pass through the stages at the same time; subsequent research has found that this (is/is not) the case. While the *sequence* of stages appears to be relatively invariant across cultures, the \_\_\_\_\_ that children follow in passing through these stages varies considerably across cultures. Nonetheless, Piaget's brilliance, the novelty of his approach, and the wealth of research that his theory inspired assure his place in history.

9. Describe Vygotsky's sociocultural theory of cognitive development and evaluate the notion that some cognitive abilities may be innate.

- 9-1. Vygotsky's theory of cognitive development differs from Piaget's in three major respects. First, while Piaget emphasized the child as active agent exploring the world around him, Vygotsky emphasized social \_\_\_\_\_ as a key factor in cognitive development. Second, Piaget viewed the stages of development as relatively universal across cultures; in contrast, Vygotsky asserted that \_\_\_\_\_ played a differentiating role in cognitive development. Third, for Piaget language was just one expression of a stage of cognitive development; for Vygotsky, language was a \_\_\_\_\_ factor in organizing the child's world.
- 9-2. Match the following with the *emphasis* in either Piaget's or Vygotsky's theories.
- |       |   |
|-------|---|
| _____ | The literacy and language in a culture is a crucial factor in cognitive development.                          |
| _____ | The interaction between children and their teachers, peers, and parents is critical in cognitive development. |
| _____ | Language occurs as a result of reaching a particular stage of development.                                    |
- 9-3. For Vygotsky, a child's cognitive development involves:
- collaborative interactions with experienced members of a society, an apprenticeship.
  - an individual journey of exploration and discovery.
- 9-4. For Vygotsky, children's conversations with themselves, which Vygotsky refers to as \_\_\_\_\_ speech, is:
- a simple characteristic of development.
  - a central directing and regulating function for behavior.
- 9-5. Vygotsky's theory emphasizes the *gap* between what a child can achieve alone versus what they can achieve with guidance from more skilled members of a society (such as a mentor or tutor). This gap is referred to as the zone of \_\_\_\_\_ development or ZPD.
- 9-6. Are some cognitive abilities innate? In a study reflecting on this question five-month old infants watched while objects (one, two, or three dolls) were placed or removed from behind a screen. Remarkably, once the screen was removed, the children exhibited \_\_\_\_\_, shown by longer looking, if the expected number of objects was not there.
- 9-7. For example, if one doll is added to another doll behind a screen, but only one doll is revealed when the screen drops, the infants would tend to look for a (longer/shorter) period of time. This result suggests that infants have some rudimentary understanding of numbers, that  $2+1=3$ ,  $3-1=2$ , etc.

- 9-8. More recently (see the Featured Study) researchers found that 9-month-old infants seem to understand even larger numbers ( $5 + 5$  and  $10 - 5$ ). The significance of this recent finding is that it supports the explanation that the infants' surprise was due to a basic (computation/object tracking) ability.
- 9-9. Because these cognitive abilities occur at such an early age, before infants would have had much chance to learn them, some theorists have concluded that these capacities are largely (acquired/innate).
- 9-10. Two groups of theorists favor the innate explanation: *nativists* and *evolutionary* psychologists. Of these it is primarily the (nativists/evolutionary theorists) who are interested in explaining *why* we would be pre-wired with certain cognitive abilities. They assert that basic addition and subtraction abilities, for example, had clear \_\_\_\_\_ value in a hunting, foraging, and social-bargaining society.

**10. Outline Kohlberg's stages of moral development and summarize the strengths and weaknesses of Kohlberg's theory.**

- 10-1. Kohlberg's theory includes three moral levels, each with two stages for a total of six stages. Indicate which of the three moral levels is described in each of the following statements.
- (a) Acts are considered wrong because they are punished or right because they lead to positive consequences. \_\_\_\_\_
  - (b) Individuals at this level conform very strictly to society's rules, which they accept as absolute and inviolable. \_\_\_\_\_
  - (c) This level is characterized by working out a personal moral code, such that stealing might be considered wrong in one circumstance but permissible in another. \_\_\_\_\_
- 10-2. The central ideas of Kohlberg's theory have received a fair amount of support. Research has found that children (do/do not) tend to progress through Kohlberg's stages in the order that he indicated. As children get older, stages 1 and 2 reasoning tends to decrease while stages 3 and 4 reasoning tends to \_\_\_\_\_.
- 10-3. There have also been several criticisms of Kohlberg's theory. First, individuals may show characteristics of several different stages at the same time, a "\_\_\_\_\_ of stages characteristic of other stage theories.
- 10-4. Second, Kohlberg's theory may be much more (value-free/culture-specific) than he had supposed. For example, some critics contend that Kohlberg's dilemmas reflect a liberal, individualistic ideology characteristic of Western thought.
- 10-5. Third, Kohlberg's focus on reasoning about interpersonal conflicts may have been too (narrow/broad). Recent research on morality has included the development of empathy, conscience, helping behavior, and moral emotions such as shame and guilt.

**11. Review the physiological changes of puberty and the ramifications of early versus late maturation.**

**11-1.** Read over the section on Physiological Changes in your text. Then fill in the blanks below with the appropriate concepts: adolescent growth spurt, secondary sex characteristics, puberty, menarche, primary sex characteristics.

- (a) \_\_\_\_\_ Rapid growth in height and weight in the two-year span preceding puberty.
- (b) \_\_\_\_\_ The period of time during which secondary sex characteristics appear.
- (c) \_\_\_\_\_ Physical features that distinguish one sex from another but that are not essential for reproduction (e.g., facial hair in males, breasts in females).
- (d) \_\_\_\_\_ The sexual structures essential for reproduction develop fully.
- (e) \_\_\_\_\_ The stage that includes menarche in females and the first production of sperm in males.
- (f) \_\_\_\_\_ The first occurrence of menstruation.
- (g) \_\_\_\_\_ The first occurrence of ejaculation.

**11-2.** Girls who mature (early/late) and boys who mature (early/late) may be subject to greater emotional distress during adolescence. In both sexes, early maturation is associated with difficulties (e.g., alcohol use, trouble with the law), but the problems encountered by early-maturing (females/males) are likely to be more severe.

**12. Summarize research on neural development in adolescence.**

**12-1.** Read over the section on Neural Development. Indicate true or false for the following.

- \_\_\_\_\_ The overall size of the human brain *increases* significantly during adolescence.
- \_\_\_\_\_ White matter (myelin) in the brain *increases* during adolescence.
- \_\_\_\_\_ Gray matter *decreases* in adolescence due to synaptic pruning and formation of neural networks.
- \_\_\_\_\_ Maturation of the brain is not complete until late adolescence or early adulthood.
- \_\_\_\_\_ The prefrontal cortex matures last, which may account for increased risky behavior during adolescence.

**12-2.** What is the significance of these findings? The general implication is that the erratic behavior characteristic of adolescence may be due to the fact that the brain, and especially the prefrontal cortex, (is/is not) yet mature. Of course, risk in this age group is influenced by other factors as well. In one study the presence of (peers/adults) markedly influenced risk taking among teenagers in a simulated driving task.

**13. Assess the claim that adolescence is a time of turmoil.**

- 13-1.** Is adolescence a period of turmoil and turbulence? With regard to suicide and other indicants of stress, current data indicate that: (Mark T or F for the following.)

\_\_\_\_\_ Actual suicide among adolescents is *higher* than for any other age group.

\_\_\_\_\_ The ratio of attempted to completed suicides is much higher for adolescents than for any other age group.

- 13-2.** The consensus of experts is that adolescence is *not* an exceptionally difficult period. In contrast, in his review of the data Arnett concludes that adolescence brings (mark T or F):

\_\_\_\_\_ an increase in conflict between parents and children.

\_\_\_\_\_ more risky behaviors.

\_\_\_\_\_ more negative emotions.

- 13-3.** So, while adolescence may not be *exceptionally* difficult (most theorists) it may be a *somewhat* more stressful period (Arnett). All sides agree, however, that adolescent turmoil clearly (*is/is not*) universal.

**14. Discuss some common patterns of identity formation in adolescence.**

- 14-1.** Adolescence is a period of change, so it is readily understandable that adolescents tend to focus on the struggle for \_\_\_\_\_, the question of "Who am I?"

- 14-2.** Recall that Erik Erikson described four crises that mark childhood. What is the crisis that marks the fifth stage, adolescence, according to Erikson? \_\_\_\_\_ vs. \_\_\_\_\_

- 14-3.** Marcia (1966, 1980) has described four orientations or statuses that individuals may adopt in attempting to resolve identity: identity *diffusion*, identity *foreclosure*, identity *moratorium*, and identity *achievement*.

- (a) One possible status is simply to take on the values and roles prescribed by one's parents, the status of identity \_\_\_\_\_. While this may temporarily resolve the crisis, in the long run the individual may not be comfortable with the adopted identity.
- (b) Another status involves a period of experimentation with various ideologies and careers and a delay in commitment to any one, termed identity \_\_\_\_\_.
- (c) If the experimentation and lack of commitment become permanent, the individual is said to be in a status of identity \_\_\_\_\_.
- (d) On the other hand, if the consideration of alternatives leads to conviction about a sense of self, one takes on the status referred to as identity \_\_\_\_\_.



- 14-4. Although identity achievement is the most mature status and diffusion the least, adolescents do not pass through the statuses in an orderly manner. In fact, recent research has found that (very few/most) adolescents shift back and forth among the four identity statuses. In addition, most individuals reach the most mature stage, identity \_\_\_\_\_ at a later age than Marcia had supposed.

**15. Articulate the chief characteristics of emerging adulthood as described by Arnett.**

- 15-1. People frequently think of adolescence as a "between" period, the time between childhood and adolescence. Arnett has proposed the radical new idea that there is another between period, a time between adolescence and adulthood that he calls \_\_\_\_\_ adulthood.
- 15-2. Why a new developmental stage? It is due in part to new demographic trends, including delay of marriage and parenthood, lengthier education, and barriers to financial independence. And the new classification seems appropriate because a majority of individuals in this age group, asked if they feel like they have reach adulthood, respond (yes/no/yes and no).
- 15-3. What are the characteristics of the proposed emerging adulthood period? (Mark T or F.)
- \_\_\_\_\_ Exploration of options.
- \_\_\_\_\_ Focus on others rather than self.
- \_\_\_\_\_ Optimism about one's personal future.
- \_\_\_\_\_ Identity formation.

**THE EXPANSE OF ADULTHOOD**

**16. Discuss the stability of personality in adulthood and outline Erikson's stages of adult development.**

- 16-1. Do people's personalities change throughout their lifetimes? Research evidence supports the conclusion that:
- a. personality is stable across one's lifetime
  - b. personality changes across one's lifetime
  - c. both of the above
  - d. neither of the above
- 16-2. The explanation for these apparently contradictory findings is that (1) in comparison with others in their age group, people's relative position tends to stay the same. However, (2) in comparison with their own scores as they age, people's traits tend to change. In other words, while the (raw/percentile) scores within age groups tend to stay the same, the (raw/percentile) score tends to change.

16-3. What traits change as people age? Scores on neuroticism, extraversion, and openness to experience tend to (increase/decline), while score on agreeableness and conscientiousness tend to (increase/decline). Overall, changes in personality across age tend to be somewhat (positive/negative).

16-4. In the spaces below write the names of the crises that mark Erikson's three stages of adulthood. In the parentheses indicate the approximate period of adulthood during which the crises are supposed to occur.

(a) \_\_\_\_\_ vs. \_\_\_\_\_ ( \_\_\_\_\_ )

(b) \_\_\_\_\_ vs. \_\_\_\_\_ ( \_\_\_\_\_ )

(c) \_\_\_\_\_ vs. \_\_\_\_\_ ( \_\_\_\_\_ )

16-5. Following are descriptions of the crises occurring in each of the above stages. Indicate the stages by placing the appropriate letters (a, b, or c from the previous question) in the blanks.

\_\_\_\_\_ Concern for helping future generations versus a self-indulgent concern for meeting one's own desires.

\_\_\_\_\_ Concern to find meaning in the remainder of one's life versus a preoccupation with earlier failures and eventual death.

\_\_\_\_\_ Concern for developing a capacity for intimacy with others versus a strategy in which others are manipulated as a means to an end.

## 17. Describe typical transitions in family relations during the adult years.

17-1. In part as a result of economic factors and in part due to shifting social and economic trends, remaining single or postponing marriage is a much more acceptable option today than it was a few decades ago. Nonetheless, over \_\_\_\_\_ percent of adults eventually marry.

17-2. Men and women may come into marriage with different role expectations, relating to work and other factors both inside and outside the home, which may put stress on a marriage. For example, women (still/no longer) do more of the housework than men.

17-3. \_\_\_\_\_ (true/false) Compared with 1960, about twice as many couples today decide *not* to have children.

17-4. Still, the vast majority of couples continue to have children, and the burdens of child rearing are likely to be considerable. Which of the following are true concerning the transition to parenthood?

\_\_\_\_\_ The transition to parenthood is generally more stressful for the mother.

\_\_\_\_\_ Most new mothers experience postpartum depression.

\_\_\_\_\_ Parents exhibit lower marital satisfaction than nonparents.

\_\_\_\_\_ Mothers of infants report the steepest decline in marital satisfaction.

\_\_\_\_\_ Couples with large numbers of children tend to have less marital satisfaction.

17-5. Adolescence, while not as contentious a period as previously believed, brings an increase in parent-child conflict. The effects of this conflict appear to be more adverse for the (children/parents).

- 17-6. Is it difficult for parents to adjust when their children leave home? In general, parents seem to adjust well and are, in fact, more likely to have problems if their children (return/stay away from) home. One recent study found that the "empty nest" transition was somewhat tougher for (fathers/mothers).

## 18. Summarize the physical changes associated with aging.

- 18-1. As we age, our physical and cognitive characteristics change. Indicate which of the following physical traits *increase* and which *decrease* by placing checkmarks in the appropriate blanks.

	Increases	Decreases
<i>Physical changes</i>		
Proportion of body fat:	_____	_____
Overall weight:	_____	_____
Brain weight:	_____	_____
Visual acuity:	_____	_____
Ability to see close:	_____	_____
Hearing:	_____	_____

- 18-2. The ending of the menstrual cycle and loss of fertility among women is referred to as \_\_\_\_\_. Most women experience some physical discomfort during menopause (e.g., hot flashes), but the emotional distress (does/does not) appear to be especially severe.
- 18-3. Men (also/do not) go through a comparable experience. Testosterone levels begin to decline at middle age; the eventual loss is (slight/substantial). The change occurs gradually, however, and is not comparable to the relatively sudden onset of menopause in women.

## 19. Review information on the onset, symptoms, and causes of Alzheimer's disease.

- 19-1. A \_\_\_\_\_ is an abnormal condition marked by loss of memory and other cognitive abilities. The condition occurs in approximately 10%-15% of individuals over age 75. Dementia (is/is not) a normal part of the aging process, but it occurs with increasing frequency as people age.
- 19-2. The disorder known as \_\_\_\_\_ disease accounts for approximately 70% of dementia. This disease is accompanied by a (slight/widespread) loss of neurons, beginning in the hippocampus and spreading to other areas of the brain.
- 19-3. Alzheimer's usually begins (before/after) age 65 and is initially marked by the rapid forgetting of (older/newly acquired) information.

- 19-4. Eventually, victims of Alzheimer's may:
- a. fail to recognize familiar people.
  - b. become disoriented and unable to care for themselves.
  - c. suffer from delusions, hallucinations, and paranoid thoughts.
  - d. all of the above.
- 19-5. Exercise and stimulating cognitive activities seem to be somewhat protective, but a cure for Alzheimer's (does/does not) appear to be close at hand. Genetic factors clearly (do/do not) play a role in Alzheimer's.

**20. Analyze how intelligence, memory, and mental speed change in later adulthood.**

- 20-1. Many theorists divide intelligence into two major types: Basic reasoning ability, memory capacity, and speed of learning, referred to as \_\_\_\_\_ intelligence; and ability to apply acquired knowledge to problem solving, referred to as \_\_\_\_\_ intelligence.
- 20-2. Research suggests that \_\_\_\_\_ intelligence is more likely to decline with age and that \_\_\_\_\_ is more likely to remain stable. For example, a 70-year old might be expected to have more difficulty:
- a. learning new concepts.
  - b. applying already acquired information.
- 20-3. With regard to changes in cognitive ability that accompany aging, which of the following is/are true? (Mark T or F.)
- \_\_\_\_\_ For the majority of people the decline in general intelligence that occurs in later years appears to be relatively slight.
  - \_\_\_\_\_ The major type of general cognitive loss that occurs with aging is thought to involve processing speed.
  - \_\_\_\_\_ Problem solving ability generally remains unimpaired as people age if older people are given additional time to compensate for reduced speed.
  - \_\_\_\_\_ Some studies suggest that the cognitive abilities of people who engage in intellectually challenging activities may decline less with age.
- 20-4. Are there sizeable declines in memory with age? While most researchers have concluded that memory losses associated with aging are moderate, recent studies by Salthouse conclude that the decreases are (minimal/substantial) and that they begin in (early/late) adulthood. Thus, the picture is mixed.

## REFLECTING ON THE CHAPTER'S THEMES

### 21. Identify the five unifying themes highlighted in this chapter.

- 21-1. Five unifying themes were highlighted in this chapter, as follows. Different theories were presented in exploring issues of development across the lifespan, the theme of \_\_\_\_\_ diversity. Social trends and vogues affect psychology, and vice versa, the theme that psychology evolves in a \_\_\_\_\_ context. Many factors affect development, the theme of \_\_\_\_\_ causation. Not only does psychology evolve as a function of culture but so too does the behavior of individuals, the theme that behavior is shaped by \_\_\_\_\_ heritage.
- 21-2. The fifth theme highlighted, and the one particularly emphasized in this chapter, is the theme that heredity and environment *jointly* influence behavior. The behavior of a child is the result of the child's genetic inheritance and the child's environment (an environment that includes the child's parents). In turn, the behavior of the parents toward the child is affected both by their own inherited characteristics and by their environment (an environment that includes the behavior of the child). Thus, behavior is the not simply the result of heredity or environment operating separately but of an \_\_\_\_\_ between the two factors.
- 21-3. To understand the concept of *interaction* consider this problem: There is a form of mental retardation that results from phenylketonuria, an inherited inability to metabolize a common amino acid in milk. When fed milk, children born with phenylketonuria become mentally retarded. Is this type of retardation an inherited disorder?
- Yes, it's genetic.
  - No, it's caused by the environment.
  - A certain proportion of the causal factors are hereditary and the remainder are due to the environment.
  - The disorder results from heredity and environment operating jointly.
- 21-4. This chapter has been concerned with changes in human behavior across the life span. The theme being stressed here is that these changes result from an *interaction* of heredity and environment. This is a complicated concept. In your own words, try to explain how the interaction operates with regard to human development.

**22. Summarize evidence on gender differences in behavior and assess the significance of these differences.**

- 22-1.** Which gender tends to show more of (or score higher on tests of) the following abilities or traits? Circle the correct answer at the right.

*Cognitive*

verbal skills	Males	Females	Neither
mathematical skills	Males	Females	Neither
visual-spatial skills	Males	Females	Neither

*Social*

physical aggression	Males	Females	Neither
sensitivity to nonverbal cues	Males	Females	Neither
sexually permissive attitudes	Males	Females	Neither

- 22-2.** There is an enormous overlap between the genders with regard to these traits. There are, of course, females who are more aggressive than the average male and males who are more sensitive to nonverbal cues than the average female. Thus, it is important to note that the differences referred to in this section are differences between group \_\_\_\_\_ and that there is enormous variability within groups.

**23. Explain how biological factors are thought to contribute to gender differences.**

- 23-1.** For evolutionary theorists, the relative invariance of gender differences found across cultures reflects natural selection. From this perspective males are more sexually active and permissive than females because reproductive success for males is maximized by seeking (few/many) sexual partners. Greater aggressiveness has survival value for males because it enhances their ability to acquire material \_\_\_\_\_ sought by females selecting a mate.
- 23-2.** Evolutionary theorists also assert that ability differences between the genders reflect the division of labor in our ancestral past. Males were primarily the hunters and females the gatherers, and the adaptive demands of hunting may have produced males' superiority at most \_\_\_\_\_ tasks.
- 23-3.** The evolutionary view of gender is certainly an interesting and plausible explanation of the remarkable similarity in gender differences across cultures. The viewpoint has its critics, however. For one thing, there are reasonable \_\_\_\_\_ theories of gender differences; for another, the evolutionary explanation is relatively (easy/difficult) to test empirically.
- 23-4.** Concerning other biological factors, several studies suggest that hormones contribute to shaping gender differences. For example, females exposed prenatally to high levels of an \_\_\_\_\_-like drug given their mothers during pregnancy tend to show more male-typical behavior than do other females.
- 23-5.** Other biological evidence indicates that males depend more heavily on the left hemisphere for verbal processing and the right for spatial processing than is the case with females. That is, males may tend to exhibit more cerebral \_\_\_\_\_ than females.

- 23-6. The specialization finding has been linked to another finding, that females have larger \_\_\_\_\_ callosums (the connecting sheath of axons between hemispheres) than do males.
- 23-7. Results from studies of specialization and of gender differences in the corpus callosum have been (incon-  
sistent/consistent), however. In addition, it would be difficult to see how gender differences in *specializa-*  
*tion* could account for gender differences in *ability*.

**24. Explain how environmental factors are thought to contribute to gender differences.**

- 24-1. Many researchers remain convinced that gender differences are largely shaped by the environment. One of the ways that children learn gender roles is from the consequences for their behavior, the rewards and punishments that they receive in the process known as \_\_\_\_\_ conditioning.
- 24-2. Children also acquire information by seeing what others do, the process of \_\_\_\_\_ learn-  
ing. While children imitate both males and females, they are more likely to imitate the behavior of (same-  
sex/opposite-sex) models.
- 24-3. In addition to operant conditioning and observational learning, children are active participants in their own gender-role socialization, the process referred to as \_\_\_\_\_-socialization. First, once they discover (at age 5 or 6) that being a boy or girl is a permanent condition, they will then \_\_\_\_\_ themselves as boys or girls. Second, following classification in terms of gender children will \_\_\_\_\_ characteristics and behaviors associated with their gender. Third, they will bring their \_\_\_\_\_ in line with their values by engaging in "sex-appropriate" behaviors.
- 24-4. Whether through operant conditioning, observational learning, or self-socialization, the major forces for gender-role socialization occur in three main areas of the child's environment: in their \_\_\_\_\_, in \_\_\_\_\_, and in the \_\_\_\_\_.

**CRITICAL THINKING APPLICATION • ARE FATHERS ESSENTIAL TO CHILDREN'S WELL-BEING?**

**25. Clarify and critique the argument that fathers are essential for healthy development.**

- 25-1. Over the past several decades the percentage of children brought up without fathers in the home has steadily increased, from about 17% in 1960 to more than 35% today. During the same period there has also been a dramatic (decrease/increase) in teen pregnancy, juvenile delinquency, violent crime, drug abuse, eating disorders, and family dysfunction in general.
- 25-2. Further, fatherless children are two to three times more likely than fathered children to drop out of high school, become a teenage parent, or become a juvenile delinquent. In other words, father absence (causes/is correlated with) a host of unfortunate cultural trends.

- 25-3. Based on the association between father absence and social problems, some writers have asserted that the presence of a father is essential for a child's well-being. As you are by now well aware, however, one (can/cannot) infer causation on the basis of correlational data alone.
- 25-4. Among the reasonable alternative explanations for the correlational relationship described are the following. Father absence frequently occurs when the parents \_\_\_\_\_, so it is possible that this factor, rather than father absence, may cause the negative effects referred to.
- 25-5. Or, since father absence is much more frequent in (low-income/high-income) families, it is possible that poverty, rather than father absence, may cause some (or all) of the negative effects.
- 25-6. In your continued critical thinking about the assertions discussed, recall also the fallacies in reasoning introduced in Chapter 10: irrelevant reasons, circular reasoning, slippery slope, weak analogies, and false dichotomy. Which of these apply to the following assertions? Use the abbreviations IR, CR, SS, WA, or FD.
- (a) \_\_\_\_ "If present trends continue, our society could be on the verge of social suicide."
- (b) \_\_\_\_ "To tolerate the trend of fatherlessness is to accept the inevitability of continued societal recession."

## Review of Key Terms

Age of viability	Fetal stage	Prenatal period
Animism	Gender	Primary sex characteristics
Attachment	Gender differences	Proximodistal trend
Centration	Gender roles	Puberty
Cephalocaudal trend	Gender stereotypes	Pubescence
Cognitive development	Germinal stage	Secondary sex characteristics
Conservation	Irreversibility	Separation anxiety
Cross-sectional design	Longitudinal design	Sex
Dementia	Maturation	Socialization
Development	Menarche	Stage
Developmental norms	Motor development	Temperament
Egocentrism	Object permanence	Zone of proximal development (ZPD)
Embryonic stage	Placenta	Zygote
Fetal alcohol syndrome		

1. The sequence of age-related changes that occurs as a person progresses from conception to death.
2. The period of pregnancy, extending from conception to birth.
3. The first two weeks after conception.



4. The structure that connects the circulation of the fetus and the mother but that blocks passage of blood cells.
5. The second stage of prenatal development, lasting from two weeks after conception until the end of the second month.
6. The third stage of prenatal development, lasting from two months after conception through birth.
7. The age at which the baby can first survive in the event of a premature birth.
8. A collection of congenital problems associated with a mother's excessive use of alcohol during pregnancy.
9. In a cross-sectional study, differences between age groups due to the groups growing up in different time periods
10. Developmental changes in muscular coordination required for physical movement.
11. The head-to-foot direction of motor development.
12. The center-outward direction of motor development.
13. The average ages at which people display certain behaviors and abilities.
14. Characteristic mood, energy level, and reactivity.
15. One group of subjects is observed over a long period of time.
16. Investigators compare groups of subjects of differing ages at a single point in time.
17. The type of intelligence that involves the ability to apply already acquired knowledge in problem solving (as opposed to basic memory capacity and speed of learning).
18. Emotional distress displayed by an infant when separated from a person with whom it has formed an attachment.
19. Culturally constructed distinctions between femininity and masculinity.
20. Widely held beliefs about females' and males' abilities, personality traits, and social behavior.
21. Development of thinking, reasoning, remembering, and problem solving.
22. The category of intelligence that involves basic memory capacity and speed of processing information (as opposed to the ability to apply already acquired knowledge).
23. The first occurrence of ejaculation in boys, signaling the onset of puberty.
24. A mental capacity that involves recognizing that objects continue to exist even when they are no longer visible.
25. Piaget's term for the awareness that physical quantities remain constant in spite of changes in their shape or appearance.
26. The Piagetian term for the tendency to focus on just one feature of a problem and neglect other important features.
27. The inability to cognitively visualize reversing an action.
28. Thinking characterized by a limited ability to share another person's viewpoint.
29. Vygotsky's term for the gap between what the child can achieve alone versus with guidance from more skilled members of a society.
30. Expectations concerning what is the appropriate behavior for each sex.

31. The attribution of lifelike qualities to inanimate objects.
32. A developmental period during which certain behaviors and capacities occur.
33. The biologically based categories of male and female.
34. A close, emotional bond of affection between an infant and its caregiver.
35. Physical features associated with gender that are not directly needed for reproduction.
36. The physical structures necessary for reproduction.
37. The two-year span preceding puberty marked by the appearance of secondary sex characteristics and by rapid growth.
38. The first occurrence of menstruation.
39. The stage during which reproductive functions reach maturity.
40. An abnormal condition marked by multiple cognitive deficits; more prevalent in older adults but not a product of normal aging
41. Developmental changes that reflect one's genetic blueprint rather than environment.
42. A one-celled organism created by the process of fertilization, the union of sperm and egg.
43. Behavioral differences between females and males.
44. The acquisition of norms, roles, and behaviors expected of people in a particular group.

## Review of Key People

Mary Ainsworth  
John Bowlby  
Erik Erikson

Harry Harlow  
Jerome Kagan  
Lawrence Kohlberg

Jean Piaget  
Alexander Thomas & Stella Chess  
Lev Vygotsky

1. Conducted a major longitudinal study in which they identified three basic styles of children's temperament.
2. Vygotsky.
3. Theorized that there are critical periods in human infants' lives during which attachments must occur for normal development to take place.
4. Partitioned the life span into eight stages, each accompanied by a psychosocial crisis.
5. Pioneered the study of children's cognitive development.
6. Developed a stage theory of moral development.

- 7. Described three categories of infant-mother attachment.
- 8. Conducted the famous study of attachment to surrogate mothers, in which infant monkeys preferred the cloth mother to the wire surrogate that had fed them.
- 9. Found that infant temperament (inhibited versus uninhibited) is a predictor of adult temperament.

## Self-Quiz

1. Which prenatal period begins at the second week and ends at the second month of pregnancy?
  - a. germinal stage
  - b. embryonic stage
  - c. fetal stage
  - d. seminal stage
2. In which prenatal stage do most major birth defects probably have their origins?
  - a. germinal stage
  - b. embryonic stage
  - c. fetal stage
  - d. seminal stage
3. Some research has found that when very young children (e.g., five months old) watch as objects are added or subtracted behind a screen, the children seem to:
  - a. think that the objects are members of a family
  - b. be uninterested, as if nothing has happened
  - c. model the behavior of the objects
  - d. be aware of processes of addition and subtraction
4. How does the brain change during adolescence?
  - a. It becomes smaller.
  - b. It becomes larger.
  - c. White matter increases.
  - d. Gray matter increases.
5. For which of the following theorists is language a central organizing factor in child development?
  - a. Piaget
  - b. Vygotsky
  - c. Kohlberg
  - d. Harlow
6. The crisis occurring in the first year, according to Erikson, is one involving:
  - a. trust versus mistrust
  - b. initiative versus guilt
  - c. industry versus inferiority
  - d. identity versus conformity