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**Test Bank**  
*to Accompany*  
**The Life Span: Human Development  
for Helping Professionals**  
**Fifth Edition**

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Chapter 1  
**Organizing Themes in Development**

Multiple Choice Questions

1. Dr. Jones encountered a problem with a new client in therapy. Using the model of reflective practice described in Chapter 1, what is the sequence of steps he should use in order to work with this client effectively?
  - a. Reflect on what has worked best in his own personal experience and apply that knowledge to the client's problem.
  - b. Reflect on well-established theories; apply the theoretical knowledge to the individual's case; and then test out new ways of thinking about the problem if prior theory does not suffice.
  - c. Apply experience-based knowledge first, and then use theory-based knowledge.
  - d. First test out any method by subjecting it to rigorous scientific experimentation and then apply it for use with the client.
2. Theories of development differ from opinion primarily because
  - a. they provide a complete picture of development.
  - b. they have been proven to be true.
  - c. they are based on scientific research.
  - d. they are more abstract than opinions.
3. Which of the following terms is most closely associated with *stage theory* of development?
  - a. Gradual transformation
  - b. Instability
  - c. Incrementality
  - d. Discontinuity
4. Which of the following helpers is most likely to have an implicit "incrementalist" belief about intelligence?
  - a. A counselor who recommends a strategy of academic skill building for a client who is experiencing academic problems.
  - b. A therapist who helps the client adjust to the limitations of his academic ability.
  - c. A school counselor who bases the decision about which career information to provide on the client's intelligence test results.
  - d. A counselor who develops a program to track elementary school-aged children in classes that reflect their academic achievement.
5. Stage theories of development typically describe \_\_\_\_\_ changes in behavior, cognition, or social relationships.
  - a. quantitative
  - b. incremental
  - c. qualitative
  - d. cumulative

6. Sigmund Freud developed a psychoanalytic theory about three aspects of adult personality. According to Freud, which of these aspects is the last to emerge during development?
  - a. Id
  - b. Ego
  - c. Superego
  - d. Autonomy
7. Based on Erik Erikson's psychosocial stages, what is the positive outcome of the *industry versus inferiority* stage that typically occurs between the ages of 6 and 12?
  - a. Fidelity
  - b. Willpower
  - c. Competence
  - d. Purpose
8. Jean Piaget's cognitive development theory is based on stages of reasoning and understanding ability (cognition). Which stage describes the cognition of children during most of their years of schooling from elementary through middle school (typically ages 7 through 12)?
  - a. Operational
  - b. Concrete operational
  - c. Sensorimotor
  - d. Formal operational
9. Theoretical models that portray development as a continuous process emphasize which of the following?
  - a. Stages of change
  - b. Steps on a ladder of change
  - c. Incremental change
  - d. Periods of stability
10. A child at school performs a behavior such as being the quietest one in her group. This behavior, an operant, is followed by something that makes the child feel rewarded—being selected to go to recess first. The reward is also called which of the following?
  - a. Reinforcement
  - b. Respondent
  - c. Conditioned stimulus
  - d. Conditioned response
11. Mrs. Washington is conducting her weekly group counseling session for single young adults. Karen, a lonely young professional woman, talks about feeling abandoned by her boyfriend. The other group members listen patiently and respond empathically. Mrs. Washington reflects Karen's feeling with concern and sensitivity. What would operant learning theory predict about Karen's behavior in the next group session?
  - a. Karen will be embarrassed about her past self-disclosures and feel anxious about speaking up.

- b. Karen will not self-disclose because she fears the group will lose patience.
  - c. Karen will not self-disclose because her problems have been resolved.
  - d. Karen will speak openly because she has previously received attention and support.
12. Mrs. Washington is conducting her weekly group counseling session for single young adults. Karen, a lonely young professional woman, talks about feeling abandoned by her boyfriend. The other group members listen patiently and respond empathically. Mrs. Washington reflects Karen's feeling with concern and sensitivity. What would social learning theorists predict about the behavior of others in the group in the next session?
- a. Group members will be encouraged to self-disclose after observing the positive way Karen's self-disclosure was received.
  - b. Group members will be discouraged from self-disclosing because they do not want to imitate Karen's example.
  - c. Karen's behavior will have no effect on other members of the group.
  - d. Group members will scapegoat Karen for her self-absorption.
13. Using Erikson's developmental theory as a framework, which of the following statements is an accurate representation of his ideas?
- a. An individual cannot progress to a later stage unless the earlier stage has been resolved successfully and completely.
  - b. Successful progression through the stages of development depends upon effective resolution of the Oedipal crisis.
  - c. Successful resolution of a psychosocial crisis at each stage depends upon having more positive than negative experiences in the area of major concern.
  - d. Highly intelligent individuals can skip specific stages and make progress at a faster rate than other people.
14. Which one of the following theorists emphasized continuity in development?
- a. Sigmund Freud
  - b. Albert Bandura
  - c. Erik Erikson
  - d. Jean Piaget
15. Models of development based on assumptions that change typically occurs in shifts between periods of relative stability and periods of disequilibrium are called
- a. incremental models.
  - b. stage models.
  - c. multidimensional model.
  - d. information-processing models.
16. Models of development based on the assumption that change occurs as a continuous process are called
- a. incremental models.
  - b. stage models.
  - c. multidimensional models.

- d. information-processing models.
17. In Bronfenbrenner's multidimensional model of development, what aspect of the environment has the most immediate influence on a child's development?
- a. Microsystem
  - b. Mesosystem
  - c. Exosystem
  - d. Macrosystem
18. According to life span developmental theory, which of the following individuals has the greatest need for resources supplied by their culture in order to maintain a high level of functioning?
- a. A young adult
  - b. A young child
  - c. A retired individual
  - d. An adolescent
19. Models of development based on the assumption that change occurs as a function of reciprocal influences, both from within the person and from the external environment are called
- a. incremental models.
  - b. stage models.
  - c. multidimensional models.
  - d. information-processing models.
20. In Bronfenbrenner's model, proximal processes refer to
- a. independent changes in mental processes.
  - b. favorable developmental conditions that are more likely to exist in one particular stage of development than in another.
  - c. reciprocal interactions between an organism and its immediate environment.
  - d. indirect influences on an organism.
21. What is the current assumption of modern multidimensional theories about the role of nature versus nurture in development?
- a. Environment influences development more than heredity.
  - b. Heredity influences development more than environment.
  - c. Heredity and environment are interdependent.
  - d. Heredity and environment independently influence development.
22. Juan, a 7-month-old infant, lives in a city where the availability of high quality child care is very limited. His mother is forced to leave Juan in the care of a young woman who also cares for five other infants and toddlers in her small apartment. According to Bronfenbrenner's theory, which of the following influences on Juan's development represents an example of a proximal process?
- a. The quality of care-giving Juan receives in day care
  - b. Juan's genetic inheritance
  - c. State legislation regarding licensing of day care providers
  - d. Juan's cultural and economic background

23. Juan, a 7-month-old infant, lives in a city where the availability of high quality child care is very limited. His mother is forced to leave Juan in the care of a young woman who also cares for five other infants and toddlers in her small apartment. Which of the following influences represents an example of a distal process?
- The sensitivity of Juan's caregiver
  - Governmental policies and subsidies for child care that apply in the city
  - The quality of care-giving provided by Juan's mother
  - The quality and characteristics of the apartment complex in which Juan and his mother reside
24. Seven-month-old Juan and his mother live in a small rented apartment in a large city. Affordable, high quality child care centers are very hard to find in her neighborhood. Which level of the environment, according to Bronfenbrenner's model, is limiting her access to high quality day care in her community?
- Macrosystem
  - Exosystem
  - Microsystem
  - Mesosystem
25. Contemporary developmentalists focus on which question concerning nature and nurture?
- Is nature the most important determinant of developmental change?
  - Is nurture the most important determinant of developmental change?
  - How do we explain the mechanisms by which nature and nurture interact to affect development?
  - Why is nurture most influential at certain developmental periods?
26. A kitten whose eyes are covered during the first months of its life loses the ability to see clearly in ways that would have been possible without the loss of early visual stimulation. This effect remains despite later attempts to remediate the loss. This is an example of which of the following?
- Behavior genetics
  - Critical period
  - Plasticity
  - Visual demand
27. According to neuroscientists, at what period of development are our brains static?
- Our brains are static during the infancy period of development.
  - Our brains aren't static during any period of development.
  - Our brains are static throughout adulthood.
  - Our brains are static during the aging period (approximately from age 50).
28. Much of the social science research that shaped developmental theories in the past has been done on a narrow sample of people. Which set of descriptors best identifies the narrow sampling?
- Western, diverse levels of education and diverse economic strata

- b. World-wide, culturally diverse, young, and poorly educated
  - c. World-wide, well-educated, wealthy, and industrialized
  - d. Western, educated, industrialized, rich, and democratic
29. Developmental scientists are interested in the role of culture in development. According to their findings, which of the following cultural groups is most likely to focus holistically on interrelationships rather than analytically?
- a. Cultural groups in the Western hemisphere
  - b. Cultural groups in Europe
  - c. Cultural groups in North America
  - d. Cultural groups in the Eastern hemisphere
30. A group of people characterized by shared traditions, attitudes, values, and beliefs handed down from one generation to another constitute \_\_\_\_\_.
- a. a socioeconomic group.
  - b. a racial group.
  - c. an ethnic group.
  - d. a cohort.
31. The measure of social status that combines aspects of education background, income, and occupation is called
- a. socioeconomic status.
  - b. social standing.
  - c. social class.
  - d. economic class.
32. Helping professions have established standards for good practice. Which helping professions emphasize the importance of learning about diverse cultures and applying culturally appropriate care?
- a. Psychology, nursing, and social work
  - b. Nursing and social work
  - c. Only social work
  - d. Psychology and social work
33. Developmental psychopathology is a relatively new field that integrates work from disciplines such as developmental, clinical, and abnormal psychology. In this field, which of the following approaches to life span development is emphasized?
- a. Stage theories of development
  - b. Behavioral theories of development
  - c. Multidimensional theories of development
  - d. The role of environment in development
34. Which of the following is most likely to view development in terms of stages rather than incremental changes?
- a. Learning theories in the behaviorist tradition
  - b. Piaget's cognitive development theory
  - c. Information processing theories

- d. Social learning theories
35. Helping professionals are encouraged to integrate their knowledge of theories and empirical data with their own beliefs, experiences, and assumptions. This model or concept is called
- a. theoretical application.
  - b. reflective practice.
  - c. technical application.
  - d. theory-driven hypothesis.
36. When does the human brain exhibit plasticity?
- a. During infancy and early childhood
  - b. Throughout life
  - c. Throughout adolescence
  - d. During adulthood
37. Most learning theories and information processing theories take a similar theoretical approach to development. How do they typically view development?
- a. As a series of stages
  - b. As a process based on heredity
  - c. As a process based on environmental change
  - d. As a continuous process
38. Which one of the following developmental theorists takes the most multidimensional approach, incorporating relationships among complex interacting causes for change (both external and internal) in biological, psychological, social and cultural dimensions?
- a. Urie Bronfenbrenner
  - b. Jean Piaget
  - c. B. F. Skinner
  - d. Erik Erikson
39. Keisha is a 35-year-old African-American woman who is depressed. Her presenting concerns include marital distress, the imminent possibility of losing her job, overeating, and chain-smoking. As you listen to her story, you begin to construct a picture of her developmental history. Which of these explanations would someone using a stage theory of development be most likely to offer for Keisha's problems?
- a. Keisha's difficulties most likely developed through the interaction of her family experiences and societal conditions like poverty and racism.
  - b. Keisha's problems are most likely related to insufficient emotional gratification during infancy when oral needs are paramount.
  - c. Keisha's problems are most likely related to lack of appropriate models of effective marital communication.
  - d. Keisha has experienced reward from her eating and smoking habits, and so she seeks these rewards in stressful situations.
40. Keisha is a 35-year-old African-American woman who is depressed. Her presenting concerns include marital distress, the imminent possibility of losing

her job, overeating, and chain-smoking. As you listen to her story, you begin to construct a picture of her developmental history. Which of these explanations would someone using an incrementalist developmental perspective be most likely to offer for how Keisha's problems have developed?

- a. Keisha's difficulties most likely developed through the interaction of her family experiences and societal conditions like poverty and racism.
- b. Keisha's problems are most likely related to insufficient emotional gratification during infancy when oral needs are paramount.
- c. Keisha's problems are most likely related to lack of appropriate models of effective marital communication.
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41. Keisha is a 35-year-old African-American woman who is depressed. Her presenting concerns include marital distress, the imminent possibility of losing her job, overeating, and chain-smoking. As you listen to her story, you begin to construct a picture of her developmental history. Which of these explanations would someone using a multidimensional perspective be most likely to offer for Keisha's problems difficulties?

- a. Keisha's difficulties most likely developed through the interaction of her family experiences and societal conditions like poverty and racism.
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- d. Keisha has experienced reward from her eating and smoking habits, and so she seeks these rewards in stressful situations.

42. In *lifespan developmental theories*, significant developmental changes are thought to be largely complete by

- a. the age of 18.
- b. the age of 30.
- c. the age of 50.
- d. death.

43. The idea that children's development is affected by biological factors, and that biological factors are also affected by the environment and experience, is part of

- a. developmental stage theories.
- b. incremental developmental theories.
- c. social learning theories.
- d. multidimensional systems theories.

44. An attempt to forestall the development of problems by promoting health and wellness in the general population is called

- a. tertiary prevention.
- b. secondary prevention.
- c. primary prevention.
- d. mediation.

45. Counselors apply multidimensional models most explicitly in their work with clients when they
- recognize the primary importance of genetic influences on behavior.
  - consider levels of influence on the individual and select interventions that are targeted to more than one level.
  - pay close attention to the stage of development that characterizes the client.
  - understand that client's developmental tasks must be met in each stage of development.
46. When clinicians assess a client's presenting problem(s) in order to plan for treatment, which of the following approaches to diagnosis reflects a developmental viewpoint?
- Consider those issues in a client's life which result from multifinality.
  - Count the number of symptoms currently manifested in order to reach a specific diagnosis.
  - Assess the person's level of symptomology on a checklist and assign a diagnosis only when a certain percentile has been reached.
  - Assess the nature of the problem by considering the person's unique history, interpersonal context, and challenges in the extrapersonal environment.
47. Gisela is a 6-year-old Peruvian girl who lives with her family on a farm in a rural village. She often helps her father take produce to a market to sell. She does not know how to read, but she understands the cost of items and can make change without errors. Sophie is a 6-year-old who lives in the US. She is in the 1<sup>st</sup> grade, is making great progress in learning to read and write, and is gaining skill in computer use. What is the best way to explain the development of these two children?
- The progression of cognitive development is not universal; it is different for children in different cultures.
  - The processes involved in cognitive development are similar across cultures, but the specific kinds of knowledge acquired may differ depending upon children's culture.
  - The content of children's knowledge is similar across cultures, but the processes involved in cognitive development differ depending upon children's culture.
  - Cognitive development is the same for all children, regardless of culture.
48. Guidelines for the application of developmental research in helping professions include
- keeping abreast of issues in the field and taking a multidimensional view of the influences on an individual.
  - always assessing the developmental stage of each client.
  - giving developmental theories an equal weight with your personal opinions.
  - recognizing that developmental stage limits therapeutic progress.

49. The scientific usage of the word *theory* is best described as
- a. a proposed explanation whose status is conjectural and untested.
  - b. a personal opinion that is part of one's worldview.
  - c. a tested and supported explanation that synthesizes a large body of information to account for known facts or phenomena.
  - d. an explanation of facts or phenomena that fits with an individual's best assessment of a situation.

Essay Questions (Chapter 1)

50. Compare and contrast stage, incremental, and multidimensional models of development. What specific contributions does each perspective make to our knowledge of development?
51. Create a case scenario using an example of a helping professional that describes the process of reflective practice.
52. Explain why having a working knowledge of development or a "developmental template" is useful to helping professionals.

Chapter 2  
**Genetics, Epigenetics, and the Brain: The Fundamentals of Behavioral Development**

Multiple Choice Questions

1. In a male zygote, what is the chromosome configuration?
  - a. 23 matched pairs
  - b. 23 matched pairs and one unmatched pair
  - c. 22 matched pairs and one unmatched pair
  - d. 46 matched chromosomes
2. When environmental factors influence how hereditary material functions, this set of processes (involved in controlling genetic expression) is called
  - a. epigenesis.
  - b. translation.
  - c. transcription.
  - d. mitosis.
3. Coded sections of DNA that help cells construct the proteins that influence physical and psychological characteristics are called
  - a. chromosomes.
  - b. genes.
  - c. histones.
  - d. zygotes.
4. Identical twins can have which of the following?
  - a. Diverse heredities
  - b. Dizygotic origin
  - c. Identical phenotypes
  - d. The same genotype
5. During which period of prenatal development do most of the body's structures and organ systems form?
  - a. Period of the fetus
  - b. Period of the zygote
  - c. Period of the embryo
  - d. Period of 4 weeks prior to full term
6. The genes at matching locations on a pair of chromosomes may be identical or slightly different forms of the same gene. If they are different, they are called
  - a. Phenotypes
  - b. Alleles
  - c. Receptors
  - d. Genotypes
7. Typical prenatal development depends on which of the following?
  - a. The genome to code in the absence of environmental inputs
  - b. The genome to code and the environment to provide inputs

- c. Properly timed gene expression without environmental inputs
  - d. Environmental inputs and deregulated genetic coding
8. Many inherited disorders result from defective alleles. Which of the following genetic combinations is most likely to result in a disorder such as sickle-cell anemia?
- a. Recessive, defective alleles from both parents
  - b. A defective, recessive allele from the mother
  - c. A defective, recessive allele from the father
  - d. One normal allele and one recessive allele from each parent
9. Down syndrome is a common disorder. Which of the following circumstances results in Down syndrome?
- a. Defective, recessive alleles
  - b. Defective, dominant alleles
  - c. Insufficient number of chromosomes
  - d. Extra chromosome
10. The damaging effects of teratogens are the result of
- a. genetic mutations.
  - b. coaction of genes and environment.
  - c. dominant, defective alleles.
  - d. coaction of genetic and chromosomal abnormalities.
11. A child who is born with a small head, widely spaced eyes, a flattened nasal bridge and is characterized by growth retardation, and cognitive deficits may be suffering from the effects of
- a. hemophilia.
  - b. sickle-cell anemia.
  - c. fetal alcohol syndrome.
  - d. Down syndrome.
12. How long can the consequences of prenatal malnutrition affect an individual?
- a. Until birth
  - b. Through infancy
  - c. Throughout life
  - d. Until nutrition is balanced
13. Neurons in the brain are fascinating structures with various parts, and some of the parts receive messages from other neurons. What do we call the branchlike projections that receive messages?
- a. Axons
  - b. Neurotransmitters
  - c. Synaptic gaps
  - d. Dendrites
14. What part of the brain is the largest, including the hypothalamus, thalamus, cerebrum, and limbic system structures?
- a. Midbrain

- b. Hindbrain
  - c. Forebrain
  - d. Cerebellum
15. After birth, neurons reproduce at a rapid rate. When does the brain stop producing new neurons?
    - a. The brain stops producing neurons during adolescence.
    - b. The brain stops producing neurons after infancy.
    - c. The brain produces neurons throughout the lifespan.
    - d. The brain stops producing neurons in early adulthood.
  16. What type of neural growth occurs as a direct result of exposure to more individualized kinds of environmental events?
    - a. Experience-dependent
    - b. Experience-expectant
    - c. Adult neural stem cell generation
    - d. Synaptogenesis after age 12
  17. Over the last century, researchers have held various views of stress and adaptation. Which of the following alters physiological functions temporarily as the body deals with an acute stressor?
    - a. Allostasis
    - b. Homeostasis
    - c. General adaptation syndrome
    - d. Set-point model
  18. When the amygdala jumpstarts stress-related networks peripheral to the central nervous system, what part of the body releases the chemicals such as adrenaline that produce energizing effects?
    - a. Parasympathetic nervous system
    - b. Central nervous system
    - c. Heart
    - d. Sympathetic nervous system
  19. Which of the following does the body release to help put an end to the stress response?
    - a. Epinephrine (adrenaline)
    - b. Cytokines
    - c. Cortisol
    - d. Dopamine
  20. Complete the following analogy: genotype is to phenotype as
    - a. gene is to chromosome
    - b. DNA is to RNA
    - c. code is to expression
    - d. night is to day
  21. Brown eye-color alleles are dominant over blue eye-color alleles, which are recessive. Jenna has brown eyes. Her husband, Bill, has blue eyes. Jenna and

- Bill are the biological parents of James, who has blue eyes. What eye-color gene alleles must Jenna have?
- Bb (one brown and one blue allele)
  - BB (two brown alleles)
  - bb (two blue alleles)
  - BBB (three brown alleles)
22. Brown eye-color alleles are dominant over blue eye-color alleles, which are recessive. Jenna has brown eyes. Her husband, Bill, has blue eyes. Jenna and Bill are the biological parents of James, who has blue eyes. Jenna would be described as \_\_\_\_\_ of the allele for blue eyes.
- having the phenotype
  - being a regulator
  - having the genotype
  - being a carrier
23. Recessive, defective gene alleles can cause hereditary disorders. It is estimated that most people carry \_\_\_\_\_ recessive, defective alleles in their genotypes.
- zero
  - three to five
  - hundreds of
  - thousands of
24. The epigenome is the full set of factors, from the cell to the outside world, that controls the expression of
- hereditary material.
  - recessive genes.
  - the zygote.
  - histones.
25. One epigenetic change that can affect the expression of a gene is methylation, which is
- the subtraction of an organic molecule from DNA
  - the addition of an organic molecule to DNA
  - the addition of RNA to DNA
  - the effect of hormones on DNA
26. In one animal study of the influence of genes on behavior, offspring of rats with genes for low stress reactivity were reared by unrelated mother rats with genes for high stress reactivity. This is an example of
- a survey study.
  - a cross-fostering study.
  - a longitudinal study.
  - a comparative study.
27. In one study, young rats exposed to stress vocalized their anxiety. Their mothers, alerted to this distress, responded with diligent caregiving behavior

- that altered the development of the hippocampus. Which of the following processes or principles does this example demonstrate?
- Dominant-recessive gene relationships
  - Active gene effects
  - The role of regulator genes in behavior genetics
  - Epigenesis
28. Which of the following statements is true about the effects of teratogens on the developing fetus?
- Any given teratogen usually has the same effect regardless of when in prenatal development exposure occurs.
  - The kind of damage done depends on the stage of development during exposure.
  - A teratogen will usually have the same effect regardless of how much exposure the fetus has to that teratogen.
  - Ancient Greeks believed in teratogens, but modern science has been unable to identify any.
29. When she was pregnant with Joey, Joey's mother had a poor diet because food was in short supply in her war-torn country. The war ended after Joey was born, and his middle-class mother was able to provide him with adequate nutritious food throughout his childhood. Which of the following outcomes is the most likely for Joey?
- Joey may show few, if any, long term negative effects from his prenatal deprivation.
  - Joey will probably experience serious long-term cognitive deficits.
  - Joey will probably experience serious long-term emotional deficits, but not cognitive problems.
  - Joey is at greater risk of serious ongoing health problems than youngsters who have adequate prenatal nutrition.
30. The hypothalamic-pituitary-adrenal axis (HPA axis) plays a significant role in
- the human response to stress.
  - X-linked recessive diseases.
  - determining the sex of a fetus.
  - determining eye color.
31. Which of the following is an accurate description of the long-term effects of chronic stress on the body?
- The ability of the immune system to fight infection and ward off disease is compromised.
  - There are no effects on the immune system, and only short term effects on the cardiovascular system.
  - There are no effects on the cardiovascular system, but long term effects on the skeletal muscles.
  - There are no lasting effects on the body – when the stress ends all physical systems return to normal.

32. Ms. Dawson recently gave birth to twins, a girl and a boy. Which of the following statements about them must be true?
- They share 100 per cent of their genes.
  - They are monozygotic.
  - They are dizygotic.
  - They originated from a single zygote.
33. There are 46 of these in the nuclei of human cells; they are composed of deoxyribonucleic acid.
- Teratogens
  - Zygotes
  - Chromosomes
  - Genes
34. Which of the following is the best example of neuroplasticity?
- Cells from the hippocampus are instrumental in encoding memories.
  - The 3-year-old's brain is approximately three-fourths of its adult size.
  - Fetal brains grow quickly, increasing in weight over the course of pregnancy.
  - Neurons that are transplanted from the auditory cortex to the visual cortex begin to perceive light.
35. Neurons communicate with each other
- by means of chemicals that are present in the spaces between them.
  - by means of dendrites touching other dendrites.
  - by means of electrical impulses that radiate out of the myelin sheath.
  - by means of connections with glial cells.
36. Myelination is the process which involves
- neurons migrating to the temporal lobes.
  - separating the left and right hemispheres of the cortex.
  - coating the axon with a fatty sheath that improves conduction of electrical impulses.
  - development of the nuclei of the brain.
37. Which of the following is true with respect to the impact of nurture on the fetus' developing brain?
- Fetal brain development is almost totally dependent upon the fetus' genetic inheritance because it has no environmental experience in the womb.
  - The development of the lower, primitive areas of the brain depend upon nature but the higher levels depend upon nurture.
  - Mothers can advance the fetus' intelligence significantly by speaking out loud in foreign languages during pregnancy.
  - The establishment of some synaptic connections in the fetal brain depends upon environmental input, like sound.
38. Most postnatal brain growth depends upon the proliferation of
- synapses.

- b. myelination.
  - c. neurotransmitters.
  - d. glial cells.
39. If you look at the karyotypes of person A and person B and discover that they look alike, what can you infer is the same about these two people?
- a. Their parents
  - b. Their sex
  - c. Their height
  - d. Their blood type
40. Sally, age 28, recently married John, age 45. They would like to have a child, but they are concerned that they may be at high risk to have a child with a chromosomal abnormality, like Down syndrome, because of John's age. What is their genetic counselor likely to tell them?
- a. They are at higher than average risk for some chromosomal disorders because of John's age, but not for Down syndrome.
  - b. They are at higher than average risk for chromosomal disorders of all sorts because of John's age.
  - c. There is no relationship between parents' age and chromosomal disorders in their offspring.
  - d. The risk of *any* chromosomal disorder in a child is only related to the mother's age, not to the father's age.
41. Symptoms of fetal alcohol syndrome (FAS) include
- a. addiction to alcohol.
  - b. blindness and shortened limbs.
  - c. flipper arms.
  - d. widely spaced eyes and flattened nose.
42. Children who suffer severe protein and calorie shortages at any age may experience stunted growth, a protuberant belly, and extreme apathy. This severe starvation syndrome is called
- a. lowest observable effect.
  - b. kwashiorkor.
  - c. Huntington's disease.
  - d. proximo-distal development.
43. Of the following, which is the most accurate example of coaction?
- a. Genes that are related to a specific disorder may be expressed phenotypically only in a certain kind of environment.
  - b. Genes for a disorder that are on the X-chromosome will only be expressed in females.
  - c. The environment and the genes have an equal influence on a disorder.
  - d. Genes will have a greater influence on the development of a disorder when the genes are dominant.
44. Robert and Nadine both have been laid off. The couple has inadequate access to food or health care. When they realize that Nadine is pregnant, they feel

desperate, and they talk to a social worker at a local clinic about their situation. The social worker is able to provide them with referrals to a food outlet, but she is unable to find a prenatal care clinic that provides free services in their neighborhood. Considering the effects of multiple risk factors, what is the most likely potential value of the social worker's efforts?

- a. Risk factors are reduced, so their unborn child is likely to be better off even with the limited help the social worker provided.
  - b. Their unborn child is not likely to be benefited by eliminating only one risk factor.
  - c. The unborn child might have been benefited if prenatal care were found, but improving prenatal nutrition does not reduce risks.
  - d. The health care and stress factors of the parents will only be important after the child is born.
45. Massage therapy for infants has been very successful in promoting weight gain and social interaction, and in decreasing distress in low birth weight infants. Based upon developmental research, what is the best explanation for this?
- a. Infants' bodies take in more nutrients when they are touched as they nurse.
  - b. Touch is the best developed sense at birth and therefore the most effective avenue for soothing and regulating the newborn.
  - c. When the infant is massaged, its attachment to the caregiver is strengthened.
  - d. Crying and other distress is reduced because the infant is paying attention to the person giving the massage.

### Essay Questions (Chapter 2)

46. Genes have their effects on the proteins and enzymes produced by the cell. Yet, there appear to be genetic influences on behavior. Take some example of a behavior or a behavioral disorder, and explain how genes operating at a cellular level could have any effect at the behavioral level.
47. Explain why it is important for a helping professional to be aware of the coaction of genes and environment. Be sure to include a definition and examples of coaction.
48. There are several principles that govern the effects of teratogens on the developing fetus. Describe these principles, giving examples.
49. What advice could you provide a pregnant teenager that might help her assure the good health of her baby?

## Chapter 1

### Organizing Themes in Development

#### Answers to Multiple Choice Questions

| Question Number | Answer | Answer Content                                                                                                                                                                             |
|-----------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1               | b      | Reflect on well-established theories; apply the theoretical knowledge to the individual's case; and then test out new ways of thinking about the problem if prior theory does not suffice. |
| 2               | c      | they are based on scientific research.                                                                                                                                                     |
| 3               | d      | Discontinuity                                                                                                                                                                              |
| 4               | a      | A counselor who recommends a strategy of academic skill building for a client who is experiencing academic problems.                                                                       |
| 5               | c      | qualitative                                                                                                                                                                                |
| 6               | c      | Superego                                                                                                                                                                                   |
| 7               | c      | Competence                                                                                                                                                                                 |
| 8               | b      | Concrete operational                                                                                                                                                                       |
| 9               | c      | Incremental change                                                                                                                                                                         |
| 10              | a      | Reinforcement                                                                                                                                                                              |
| 11              | d      | Karen will speak openly because she has previously received attention and support.                                                                                                         |
| 12              | a      | Group members will be encouraged to self-disclose after observing the positive way Karen's self-disclosure was received.                                                                   |
| 13              | c      | Successful resolution of a psychosocial crisis at each stage depends upon having more positive than negative experiences in the area of major concern.                                     |
| 14              | b      | Albert Bandura                                                                                                                                                                             |
| 15              | b      | stage models.                                                                                                                                                                              |
| 16              | a      | incremental models.                                                                                                                                                                        |
| 17              | a      | Microsystem                                                                                                                                                                                |
| 18              | c      | A retired individual                                                                                                                                                                       |
| 19              | c      | multidimensional models.                                                                                                                                                                   |
| 20              | c      | reciprocal interactions between an organism and its immediate environment.                                                                                                                 |
| 21              | c      | Heredity and environment are interdependent.                                                                                                                                               |
| 22              | a      | The quality of care-giving Juan receives in day care                                                                                                                                       |
| 23              | b      | Governmental policies and subsidies for child care that apply in the city                                                                                                                  |
| 24              | b      | Exosystem                                                                                                                                                                                  |
| 25              | c      | How do we explain the mechanisms by which nature and nurture interact to affect development?                                                                                               |
| 26              | b      | Critical period                                                                                                                                                                            |

|    |   |                                                                                                                                                                         |
|----|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 27 | b | Our brains aren't static during any period of development.                                                                                                              |
| 28 | d | Western, educated, industrialized, rich, and democratic                                                                                                                 |
| 29 | d | Cultural groups in the Eastern hemisphere                                                                                                                               |
| 30 | b | a racial group                                                                                                                                                          |
| 31 | a | socioeconomic status.                                                                                                                                                   |
| 32 | a | Psychology, nursing, and social work                                                                                                                                    |
| 33 | c | Multidimensional theories of development                                                                                                                                |
| 34 | b | Piaget's cognitive development theory                                                                                                                                   |
| 35 | b | reflective practice.                                                                                                                                                    |
| 36 | b | Throughout life                                                                                                                                                         |
| 37 | d | As a continuous process                                                                                                                                                 |
| 38 | a | Urie Bronfenbrenner                                                                                                                                                     |
| 39 | b | Keisha's problems are most likely related to insufficient emotional gratification during infancy when oral needs are paramount.                                         |
| 40 | c | Keisha's problems are most likely related to lack of appropriate models of effective marital communication.                                                             |
| 41 | a | Keisha's difficulties most likely developed through the interaction of her family experiences and societal conditions like poverty and racism.                          |
| 42 | d | death.                                                                                                                                                                  |
| 43 | d | multidimensional systems theories.                                                                                                                                      |
| 44 | c | primary prevention.                                                                                                                                                     |
| 45 | b | consider levels of influence on the individual and select interventions that are targeted to more than one level.                                                       |
| 46 | d | Assess the nature of the problem by considering the person's unique history, interpersonal context, and challenges in the extrapersonal environment.                    |
| 47 | b | The processes involved in cognitive development are similar across cultures, but the specific kinds of knowledge acquired may differ depending upon children's culture. |
| 48 | a | keeping abreast of issues in the field and taking a multidimensional view of the influences on an individual.                                                           |
| 49 | c | a tested and supported explanation that synthesizes a large body of information to account for known facts or phenomena.                                                |

### Suggested Answers for Essay Questions (Chapter 1)

**50.**

*Compare and contrast stage, incremental, and multidimensional models of development. What specific contributions does each perspective make to our knowledge of development?*

Stage, incremental, and multidimensional models of development are similar in that they attempt to explain a wide variety and breadth of behaviors. Stage theories, such as Piaget's theory of cognitive development, characterize development as a discontinuous process, whereas, incremental theories view change as a continuous process. Metaphorically, stage theories, conceptualize change as resembling a staircase. In contrast, incremental theories view change as more like a steadily rising slope. Stage theories are useful for addressing issues related to developmental readiness to learn. They also help us understand limitations associated with trying to accelerate an individual's capacity to learn and mature. Stage theories focus on qualitative differences in mental processes and behavior, compared to incremental theories that emphasize quantitative changes.

Incremental theories are based on the assumption that developmental change is not marked by major reorganizations that affect many behaviors at once, as in stage theories. Rather, change is gradual and steady and specific to particular mental activities or behaviors. Incremental theories also differ from stage theories in the kinds of processes they assume to underlie psychological change, such as the kinds of processes involved in learning. For example, social learning theory and most information processing theories are among the incremental models available to explain development and how knowledge is acquired.

In the multidimensional model, development is considered to be the result of many causal components that impact all domains of development from cognitive to social. According to this model there are different layers and levels of interacting causes for behavior change: physical, biological, social, psychological and cultural. Changes at one level cause and are influenced by what happens at other levels. Thus, the relationships among causes are reciprocal. Bronfenbrenner's bioecological model is a good example of a multidimensional model because it specifies how the following different levels of environment influence a person's development:

- Microsystem: immediate environment where proximal processes are played out. For example family, school, neighborhood.
- Mesosystem: full set of relationships among the microsystems. For example, parental involvement in school affects the child's education.
- Exosystem: includes settings that may not directly interact with the child but will influence the child indirectly. The teacher's family life influences the teacher and thereby influences the child.
- Macrosystem: the customs and character of the larger culture that help shape the microsystem. For example, cultural attitudes toward senior citizens would influence the structure of the family and interactions with grandparents.

## 51.

*Create a case scenario using an example of a helping professional that describes the process of reflective practice.*

An experienced counselor is working with a young adolescent who recently lost her best friend in a car accident. The counselor is an experienced grief counselor and knows what type of therapeutic techniques to guide the client through such a loss. The counselor has recently experienced the pain of losing a close family member. She is

very self-aware of her own feelings and when to self-disclose appropriate information to her client about her own grieving process. The counselor carefully self-monitors her own emotions related to death and dying and is able to appropriately share her life experiences with her client. The counselor has mastered reflective practice, which is a creative method of mastering the knowledge and skills base pertinent to one's profession, but goes beyond rote technical applications to generate new kinds of understanding and strategies of action. Her counseling approach involves problem-solving strategies that depend on a deep understanding in fundamental knowledge germane to the field. A common challenge for counselors is that they come to the process with a base of personal life experiences and views, which can influence their ability to be objective. The best way for counselors to avoid misapplication of their personal views is through self-monitoring – being aware of their personal theories and recognizing that they are only one of a set of possibilities.

A robust research-practice relationship offers benefits to both parties. Researchers need the input of clinicians to help identify important questions, to provide access to research participants, and to learn what works in the real world to alleviate suffering. Helping professionals understand that they can benefit from scientific advances by improving the quality and delivery of the care they provide.

## 52.

*Explain why having a working knowledge of development or a “developmental template” is useful to helping professionals.*

The value of developmental knowledge to helping professionals cannot be underestimated because it brings an important perspective to practice. This unique perspective includes some elements: a sensitivity to the fact that persons grow and change over time and that their capacities and concerns also shift over the life course; a recognition of the influence of culture and environment over time; an appreciation for scientific knowledge about development; and a commitment to applying this knowledge to improve the lives of people across the lifespan.

Use of research-based developmental knowledge as a kind of metatheory helps practitioners clarify complex mechanisms underlying human growth and change and sets the stage for effective prevention and intervention of problems. Developmentally-sensitive research can identify periods within the life span and intra-individual variables that present opportunities for maximal receptivity to certain interventions.

A developmental approach to mental health treatment also leads to personalized care because it emphasizes individual *and* cultural differences. Culturally competent practice is now considered the standard for performance across many helping professions.

## Chapter 2

### Genetics, Epigenetics, and the Brain: The Fundamentals of Behavioral Development

#### Answers to Multiple Choice Questions

| Question Number | Answer | Answer Content                                                                           |
|-----------------|--------|------------------------------------------------------------------------------------------|
| 1               | c      | 22 matched pairs and one unmatched pair                                                  |
| 2               | a      | epigenesis.                                                                              |
| 3               | b      | genes.                                                                                   |
| 4               | d      | The same genotype                                                                        |
| 5               | c      | Period of the embryo                                                                     |
| 6               | b      | Alleles                                                                                  |
| 7               | b      | The genome to code and the environment to provide inputs                                 |
| 8               | a      | Recessive, defective alleles from both parents                                           |
| 9               | d      | Extra chromosome                                                                         |
| 10              | b      | coaction of genes and environment.                                                       |
| 11              | c      | fetal alcohol syndrome.                                                                  |
| 12              | c      | Throughout life                                                                          |
| 13              | d      | Dendrites                                                                                |
| 14              | c      | Forebrain                                                                                |
| 15              | c      | The brain produces neurons throughout the lifespan.                                      |
| 16              | a      | Experience-dependent                                                                     |
| 17              | a      | Allostasis                                                                               |
| 18              | d      | Sympathetic nervous system                                                               |
| 19              | c      | Cortisol                                                                                 |
| 20              | c      | code is to expression                                                                    |
| 21              | a      | Bb (one brown and one blue allele)                                                       |
| 22              | d      | being a carrier                                                                          |
| 23              | b      | three to five                                                                            |
| 24              | a      | hereditary material.                                                                     |
| 25              | b      | the addition of an organic molecule to DNA                                               |
| 26              | b      | a cross-fostering study.                                                                 |
| 27              | d      | Epigenesis                                                                               |
| 28              | b      | The kind of damage done depends on the stage of development during exposure.             |
| 29              | a      | Joey may show few, if any, long term negative effects from his prenatal deprivation.     |
| 30              | a      | the human response to stress.                                                            |
| 31              | a      | The ability of the immune system to fight infection and ward off disease is compromised. |
| 32              | c      | They are dizygotic.                                                                      |

|    |   |                                                                                                                                   |
|----|---|-----------------------------------------------------------------------------------------------------------------------------------|
| 33 | c | Chromosomes                                                                                                                       |
| 34 | d | Neurons that are transplanted from the auditory cortex to the visual cortex begin to perceive light.                              |
| 35 | a | by means of chemicals that are present in the spaces between them.                                                                |
| 36 | c | coating the axon with a fatty sheath that improves conduction of electrical impulses.                                             |
| 37 | d | The establishment of some synaptic connections in the fetal brain depends upon environmental input, like sound.                   |
| 38 | a | synapses.                                                                                                                         |
| 39 | b | Their sex                                                                                                                         |
| 40 | b | They are at higher than average risk for chromosomal disorders of all sorts because of John's age.                                |
| 41 | d | widely spaced eyes and flattened nose.                                                                                            |
| 42 | b | kwashiorkor.                                                                                                                      |
| 43 | a | Genes that are related to a specific disorder may be expressed phenotypically only in a certain kind of environment.              |
| 44 | a | Risk factors are reduced, so their unborn child is likely to be better off even with the limited help the social worker provided. |
| 45 | b | Touch is the best developed sense at birth and therefore the most effective avenue for soothing and regulating the newborn.       |

### Suggested Answers to Essay Questions (Chapter 2)

#### **46.**

*Genes have their effects on the proteins and enzymes produced by the cell. Yet, there appear to be genetic influences on behavior. Take some example of a behavior or a behavioral disorder, and explain how genes operating at a cellular level could have any effect at the behavioral level.*

One thing we have learned from molecular genetics to date is that complex human behaviors or behavioral tendencies are not often likely to be traced to the impact of a single gene or pair of gene alleles. As noted in the text book, most influences on behavior seem to be polygenic. A number of genes, if they are defective, can influence the development of mental retardation. In many cases, the defective genes seem to result from the absence of cell parts. For example, let us consider the effect on a child's intellectual functioning. In the disorder called phenylketonuria (PKU), children are missing an important enzyme. Without the enzyme, an ingredient in food called phenylalanine cannot be metabolized. Unless the victim's diet is severely restricted, phenylalanine soon accumulates in the body and causes mental retardation. This example shows that a single missing cell product disrupts intellectual functioning. However, no single cell product is responsible for normal intelligence; rather, it is the result of the combined impact of a large number of genes and their products.

A different but related area of study to molecular genetics is behavior genetics. Behavioral genetics seeks to explain how much of a difference is due to genetic influences if a behavior or characteristic varies from one person to another. Behavior geneticists look for heredity explanations in such complex activities as television watching, work attitudes, shyness, cigarette smoking, and criminality. Caspi and his colleagues (2002) studied people with a range of variations in the “MAOA” gene. This gene provides the cell with a template for production of the MAOA enzyme, a protein that metabolizes a number of important brain chemicals called neurotransmitters, like serotonin and dopamine. (You’ll learn more about neurotransmitters later in this chapter.) Its effect is to inactivate these neurotransmitters, a normal process in neurological functioning. Apparently, while these neurotransmitters are critical to normal brain function, too much of them is a problem. Animals become extremely aggressive if the MAOA gene is deleted so that the enzyme cannot be produced. In humans, different alleles of the MAOA gene result in different amounts of MAOA enzyme production. Could alleles that cause low levels of production increase aggression and antisocial behavior in humans? Most research has suggested no such relationship.

47.

*Explain why it is important for a helping professional to be aware of the coaction of genes and environment. Be sure to include a definition and examples of coaction.*

Heredity and environment are engaged from the very beginning in an intricate dance, a process called **coaction**, so that neither one ever causes any outcome on its own. Gottlieb (e.g., 1992, 2003) emphasizes coaction in his **epigenetic model** of development, a multidimensional theory. He expands the concept of epigenesis, describing it as the emergence of structural and functional properties and competencies as a function of the *coaction* of hereditary and environmental factors, with these factors having *reciprocal effects*.

The principle of coaction operates at every level of the developmental drama—with genes and environment in constant communication. For some teratogens, such as nicotine, researchers have identified specific genes, and gene alleles, that can increase or decrease the effects of prenatal exposure. This is, of course, an illustration of coaction.

48.

*There are several principles that govern the effects of teratogens on the developing fetus. Describe these principles, giving examples.*

Environmental substances and agents that can harm the developing fetus are called teratogens. risk factors are more likely to cause problems the more numerous they are. The developing organism can often correct for the impact of one risk factor, but the greater the number the less likely such a correction can be made. The negative effects of teratogens can be amplified when the fetus or infant is exposed to more than one.

Often, pregnant women who drink also smoke. They are also more likely to be poor, so that it is fairly common that their babies have been exposed to multiple risks.

Teratogenic damage depends on when in development exposure occurs. In the first few months, the structure of major organ systems is formed. Brain structures could show unusual and/or insufficient development if a fetus is exposed to a teratogen like alcohol in the first trimester. If the exposure occurs in the last trimester, obvious structural anomalies are not as likely, but brain and other organ functions are still in jeopardy, so that processes such as learning and behavior regulation, vision and hearing are still vulnerable.

When food sources are short on protein or essential vitamins and minerals during prenatal and early postnatal development, an infant's physical, socioemotional, and intellectual development can be compromised, and epigenetic alterations seem to be at the root of these developmental problems. For example, researchers provided nutritional supplements to pregnant women whose socioeconomic circumstances indicated that they were likely to experience inadequate diets. At age 1, the babies whose mothers received a protein supplement during pregnancy performed better on measures of play behavior and perceptual habituation (which is correlated with later intelligence) than those whose mothers received a high-calorie liquid or no supplement at all.

Not all fetuses are equally susceptible to a teratogen's effects. Both the mother's and the baby's genes play a role in sensitivity or resistance to a teratogen. For example, FASD is slightly more prevalent among boys than girls.

Larger amounts of a teratogenic agent and longer periods of exposure generally have greater effects than smaller doses and shorter periods. Alcohol's effects are dose dependent. Mothers who drink more days per week increase their babies' chances of FAS. Mothers' binge drinking seems to be especially harmful, although no "safe" dose has been found for alcohol.

#### **49.**

*What advice could you provide a pregnant teenager that might help her assure the good health of her baby?*

Pregnant women need to monitor their stress levels. Maternal stress increases the risk of a wide range of negative outcomes, from miscarriage to low birth weight to postnatal neural and behavioral dysregulation, such as learning problems and increased anxiety levels.

Pregnant women need to understand the dangers associated with the ingestion of certain drugs and alcohol particularly during the early stages of pregnancy. Teratogens impact fetal development by modifying intra-cellular and intercellular activity in the placenta and in the fetus. Teratogens may sometimes actually cause mutations in coded DNA (Bishop, Witt, & Sloane, 1997). But more often they seem to operate by making epigenetic modifications to DNA and thereby altering gene expression. For example, changes in methylation patterns (both methylation of some

genes and de-methylation of others) have been found in FASD children for clusters of genes that are important for neuro-development and behavior.

Pregnant women need to understand the importance of good nutrition during pregnancy. When food sources are short on protein or essential vitamins and minerals during prenatal and early postnatal development, an infant's physical, socioemotional, and intellectual development can be compromised.

