Cross-Check

As you learned in the Prologue, reviewing and overlearning of material are important to the learning process. After you have written the definitions of the key terms in this chapter, you should complete the crossword puzzle to ensure that you can reverse the process—recognize the term, given the definition.

ACROSS

5. Segments of DNA capable of synthesizing proteins.
6. Parents whose personalities bear little relevance to their children’s personalities.
7. Complex molecule containing the genetic information that makes up the chromosomes.
9. Set of expected behaviors for those who occupy a particular social position.
10. An understood rule for expected and accepted behavior.
11. The biological and social characteristics by which people define male and female.
12. The enduring behaviors, ideas, attitudes, and traditions shared by a large group of people.
13. Environmental influences on behavior.
14. According to the evolutionary perspective, women are drawn to healthy-looking men who are also ________.
15. Behavior geneticists often compare the traits of adopted children to those of their ________ parents.
16. Source of all genetic diversity.
18. Threadlike structure made up largely of DNA molecules.

DOWN

1. The study of the relative power and limits of genetic and environmental influences on behavior.
2. Subfield of psychology that uses principles of natural selection to explore human traits and behaviors.
3. When the effect of one factor depends on another factor.
4. Any nongenetic influence.
5. A lens through which children organize their understanding of being male or female.
8. One’s personal sense of being female or male.
17. Another word for heredity.

ANSWERS

Chapter Review

Introduction
1. personalities; interests; cultural; family
2. biological heritage; brain; language; social
3. nature; nurture

Behavior Genetics: Predicting Individual Differences
1. behavior geneticists
2. nongenetic
3. chromosomes; 46; 23; DNA
4. genes
5. genome
6. twin; adoption
7. identical; fraternal
8. more
9. being treated alike; could not
10. environment
11. do not; does; higher
12. temperament; does
13. difficult; irritable; intense; unpredictable; easy; cheerful; relaxed; predictable; more
14. heritability; do not necessarily imply
15. regulating; blueprints; react
16. psychological; genetic; environmental
17. interaction; genetic; environment
18. genes; responses; fraternal; identical
19. molecular genetics

Evolutionary Psychology: Understanding Human Nature
1. evolutionary psychologists
2. much alike
3. natural selection
4. mutations; diversity
5. looser; learn; adapt; environments; fitness; survive; reproduce; fats; store
6. gender; biological; social
7. more; more; gender
8. evolutionary; genes; are
9. youthful; mature; dominant; bold; affluent
10. backward; hindsight
11. social; inequality
12. alike; different; predictions

Parents and Peers
1. prenatal
2. thicker

Research has shown that human and animal infants given extra sensory stimulation develop faster neurologically. Throughout life, sensory stimulation activates and strengthens particular neural connections, while other connections weaken with disuse. In this way, our experiences shape the very structure of the neural pathways that process those experiences.
3. neural; degenerate; pruning; puberty

4. Freudian psychiatry; psychology
5. political attitudes; personal manners; religious beliefs
6. personality; 10
7. peers; selection

Cultural Influences
1. culture
2. innovation; language; labor
3. norms
4. personal space

Most North Americans, the British, and Scandinavians prefer more personal space than do Latin Americans, Arabs, and the French. Cultural differences in expressiveness and the pace of life often create misunderstandings. For example, people with northern European roots may perceive people from Mediterranean cultures as warm and charming but inefficient, while Mediterraneans may see the northern Europeans as efficient but emotionally cold.
5. faster; gene pool
6. individualism; independence (or control); achievement; North America; Western Europe; Australia; New Zealand
7. collectivism; interdependence; tradition; harmony; Korea; Japan; China
8. individualist; loneliness; homicide; stress
9. independence; emotional closeness
10. family self
11. smaller

Gender Development
1. 46; 45
2. fat; muscle; shorter; depression; anxiety; eating disorders
3. suicide; alcohol dependence; autism; colorblindness; attention-deficit hyperactivity disorder; antisocial personality disorder
4. physical; verbal; intended
5. hunting; fighting; warring
6. physical; verbal
7. dominant; forceful; independent; directive (or autocratic); democratic
8. deferential; nurturant; affiliative
9. throughout the world
10. connections
11. play; smaller; competitive
12. interdependent; explore relationships; communicate solutions
13. support; stress
14. adolescence; adulthood; decreased
15. sex; X; Y; testosterone; seventh
16. hormones; frontal; verbal; parietal; space
17. gender roles
18. are not; cultures; time; nomadic; agricultural
19. gender identity; gender typing
20. social learning; do
21. gender schemas; cognition

Reflections on Nature and Nurture
1. less; converging
2. nature; nurture; open; biopsychosocial
3. Occam’s razor

Progress Test 1

Multiple-Choice Questions

1. c. is the answer. (p. 145)
   a., b., & c. Whereas evolutionary psychologists attempt to explain universal human tendencies, these researchers investigate genetic differences among individuals.
2. c. is the answer. Research has not shown a strong parental influence on personality, temperament, or emotional reactivity. (p. 139)
3. d. is the answer. (p. 156)
4. b. is the answer. (p. 136)
   a. & c. Although an identical twin is at increased risk, the relationship is far from perfect. Mental disorders, like all psychological traits, are influenced by both nature and nurture.
   d. This is not at all implied by the evidence from twin studies.
5. d. is the answer. (p. 137)
   a., b., & c. In order to pinpoint the influence of one of the two factors (genes and environment), it is necessary to hold one of the factors constant.
6. b. is the answer. (p. 143)
7. d. is the answer. Such gender differences characterize both heterosexual and homosexual people. (p. 146)
8. b. is the answer. Women can incubate only one infant at a time. (p. 147)
   c. & d. The text does not suggest that there is a gender difference in the strength of the sex drive.
9. b. is the answer. (pp. 147–148)
   a. According to this perspective, women prefer mates with the potential for long-term nurturing investment in their joint offspring.
   c. While men are drawn to women whose waists are roughly a third narrower than their hips, the text does not suggest that women equate musculature with fertility.
   d. Excitement was not mentioned as a criterion for mating.

10. b. is the answer. (p. 135)
    c. & d. There are no such things as “placental” or “nonplacental” twins. All twins have a placenta during prenatal development.
11. a. is the answer. (p. 139)
12. d. is the answer. (p. 144)
    a. Survival ability is only one aspect of fitness.
    b. & c. Neither of these is related to fitness.
13. a. is the answer. (p. 154)
14. c. is the answer. (p. 140)
    a., b., & d. The reactions of these infants are the opposite of what these choices describe.
15. c. is the answer. (p. 151)
16. a. is the answer. (p. 146)
    b. This definition is incomplete.
    c. This defines gender identity.
    d. This defines gender typing.
17. b. is the answer. (p. 162)
    a. In this case, a female would develop.
    c. & d. The egg can contribute only an X chromosome. Thus, the sex of the child is determined by which chromosome the sperm contributes.
18. d. is the answer. (pp. 142–143)
19. d. is the answer. (p. 162)
    a. Although testosterone is the principal male hormone, it is present in both females and males.
    b. This is determined by the sex chromosomes.
    c. In the absence of testosterone, female sex organs will develop.
20. d. is the answer. (p. 150)

Matching Items

1. h (p. 162) 5. j (p. 134) 9. c (p. 165)
2. f (p. 154) 6. b (p. 135) 10. i (p. 165)
3. e (p. 135) 7. k (p. 162) 11. g (p. 134)
4. a (p. 134) 8. d (p. 164)

Progress Test 2

Multiple-Choice Questions

1. c. is the answer. (p. 134)
   b. & d. Each cell of the human body contains hundreds of genes.
2. b. is the answer. (p. 134)
   a. Hormones are chemical messengers produced by the endocrine glands.
c. & d. Genes are segments of DNA, which are the makeup of chromosomes.

3. c. is the answer. (p. 135)  
   a. This defines DNA.  
   b. This defines a gene.  
   d. The genes provide the code for synthesizing proteins.

4. c. is the answer. (p. 135)  
   a. is the answer. (p. 144)  

6. b. is the answer. (p. 146)  
   a. Testosterone levels have not been linked to the frequency of casual sex.  
   c. & d. Males are far more accepting of casual sex than are females.

7. d. is the answer. (pp. 148–149)  
   b. is the answer. (pp. 137–138)  
   a., c., & d. Despite being raised in different environments, long-separated identical twins often have much in common, including likes, dislikes, and life-styles. This indicates the significant heritability of many traits.

9. b. is the answer. (p. 139)  
   a., c., & d. The personalities of adopted children do not much resemble those of their adoptive parents (therefore, not a.) or other children reared in the same home (therefore, not c. or d.).

10. c. is the answer. (p. 152)  
    a. & d. Temperament, which refers to a person’s emotional reactivity, is determined primarily by genes.  
    b. Genes limit parents’ influence on their children’s personalities.

11. a. is the answer. (p. 134)  
    b. Neurotransmitters are the chemicals involved in synaptic transmission in the nervous system.  
    d. Enzymes are chemicals that facilitate various chemical reactions throughout the body but are not involved in heredity.

12. d. is the answer. (p. 142)  
    a. A norm is a culturally determined set of expected behaviors for a particular role, such as a gender role.  
    b. & c. When two factors are correlated, it means either that increases in one factor are accompanied by increases in the other (positive correlation) or that increases in one factor are accompanied by decreases in the other (negative correlation).

16. a. is the answer. (pp. 148–149)  
   b. In such cultures, gender differences in mate preferences tend to be much smaller.  
   c. Although flexibility in gender roles was not discussed per se, it is likely that greater flexibility would equate with greater equality in gender roles.  
   d. All cultures develop norms.

17. a. is the answer. This is an example of a trait that contributes to survival of the human species and the perpetuation of one’s genes. (p. 145)  
   b., c., & d. These traits and issues would likely be of greater interest to a behavior geneticist, since they concern the influence of specific genes on behavior.

18. c. is the answer. (p. 165)  
   b. & d. There is no evidence that being raised in a “gender neutral” home confuses children or fosters a backlash of excessive gender typing.

19. d. is the answer. Some later described themselves as female, and some as male. (p. 163)

20. c. is the answer. (p. 150)  
    a. Although early experiences are a factor in the development of attachment (discussed in Chapter 5), educational stimulation is probably less important than warmth and nurturance.  
    b. Because temperament appears to be a strongly genetic trait, it is unlikely that early educational experiences would affect its nature.

True–False Items

1. F (p. 147)  
2. F (p. 140)  
3. F (p. 139)  
4. F (p. 141)

5. T (p. 142)  
6. F (p. 152)  
7. T (p. 144)  
8. F (p. 156)

9. T (p. 151)  
10. T (p. 154)

Psychology Applied

Multiple-Choice Questions

1. a. is the answer. (p. 134)  
   b. DNA is a molecule.  
   c. & d. Genes are segments of DNA, and the genome is the complete instructions for making an organism.

2. b. is the answer. (p. 154)

3. b. is the answer. (p. 134)  
   a. Evolutionary psychologists study the evolution of behavior using the principles of natural selection.  
   c. Molecular geneticists search for the specific genes that influence behaviors. In his example,
the researcher is merely comparing twins.
d. Who knows?

4. c. is the answer. (p. 152)
a. Although heredity does influence certain traits, such as outgoingness and emotional instability, it is the interaction of heredity and experience that ultimately molds personality.
b. There is no single “most important factor” in personality. Moreover, for the same reason two sisters or brothers often have dissimilar personalities, a sister and brother may be very much alike.
d. Karen and John’s case is not at all unusual.

5. d. is the answer. (pp. 149–150)
a. & b. Premature birth and fetal alcohol syndrome (discussed in Chapter 5) usually do not have this effect on the developing brain.
c. If the question had stated, “I have a heavier and thicker cortex,” this answer would be correct.

6. b. is the answer. Although parental values differ from one time and place to another, studies reveal that Western parents today want their children to think for themselves, while Asian and African parents place greater value on emotional closeness. (p. 157)
d. Both of these values are more typical of Asian than Western cultures.

7. d. is the answer. To separate the influences of heredity and experience on behavior, one of the two must be held constant. (p. 138)
a., b., & c. These situations would not allow one to separate the contributions of heredity and environment.

8. b. is the answer. (p. 135)
a. Because they are genetically the same, identical twins are always of the same sex.
c. & d. Fraternal twins develop from two fertilized eggs.

9. d. is the answer. (pp. 145–146)

10. b. is the answer. (p. 164)

11. c. is the answer. (p. 161)

12. b. is the answer. Actually, only 5 percent are differences among population groups. (p. 145)

13. a. is the answer. (p. 149)
b. & c. In fact, these are typical criticisms of evolutionary psychology.

14. c. is the answer. (p. 136)

15. b. is the answer. (p. 142)
a. An interaction requires at least two variables; in this example there is only one (competition).
c. This is an example of a negative correlation.
d. This is an example of a positive correlation.

16. d. is the answer. (p. 144)

17. d. is the answer. (p. 146)
a., b., & c. These are typical male attitudes and behaviors.

18. d. is the answer. Following social learning theory, Brandon is using verbal punishment to discourage what he believes to be an inappropriate gender-linked behavior in his son. (p. 165)
a. Freudian theory does not deal with gender-typed behaviors.
b. & c. No such theories were discussed.

19. a. is the answer. (p. 165)
b. Norms are cultural standards of behavior unrelated to the person’s gender.
c. & d. Genes and behavior genetics apply to inherited characteristics. Here, we are talking about learned behavior.

20. a. is the answer. (p. 140)
b., c., & d. Temperament is one of the most stable personality traits.

Essay Question
Evolutionary psychologists would not be surprised by the tension between Lakia and Jerome and would see it as a reflection of women’s more relational and men’s more recreational approach to sex. Since eggs are expensive, compared with sperm, women prefer mates with the potential for long-term investment in their joint offspring. According to this perspective, this may be why Lakia is not in a hurry to become sexually intimate with Jerome. Men, on the other hand, are selected for “pairing widely” but not necessarily wisely in order to maximize the spreading of their genes. This is especially true of men like Jerome, who have traditional masculine attitudes.

Key Terms
Writing Definitions

1. Behavior genetics is the study of the relative power and limits of genetic and environmental influences on behavior. (p. 134)

2. In behavior genetics, environment refers to every nongenetic, or external, influence on our traits and behaviors. (p. 134)

3. Chromosomes are threadlike structures made of DNA molecules that contain the genes. In conception, the 23 chromosomes in the egg are paired with the 23 chromosomes in the sperm. (p. 134)

4. DNA (deoxyribonucleic acid) is a complex molecule containing the genetic information that
5. **Genes** are the biochemical units of heredity that make up the chromosomes; they are segments of the DNA molecules capable of synthesizing a protein. (p. 134)

6. A **genome** is the complete genetic instructions for making an organism. (p. 135)

7. **Identical twins** develop from a single fertilized egg that splits in two and therefore are genetically identical. (p. 135)

8. **Fraternal twins** develop from two separate eggs fertilized by different sperm and therefore are no more genetically similar than ordinary siblings. (p. 135)

9. **Temperament** refers to a person’s characteristic emotional reactivity and intensity. (p. 139)

10. **Heritability** refers to the proportion of variation among individuals that can be attributed to genes. (p. 140)

11. An **interaction** occurs when the effects of one factor (such as environment) depend on another factor (such as heredity). (p. 142)

   *Example:* Because the way people react to us (an environmental factor) depends on our genetically influenced temperament (a genetic factor), there is an interaction between environment and heredity.

12. **Molecular genetics** is the study of the molecular structure and function of specific genes. (p. 142)

13. **Evolutionary psychology** is the study of the evolution of behavior and the mind, using principles of natural selection. (p. 143)

14. **Natural selection** is the evolutionary principle that traits that lead to increased reproduction and survival are the most likely to be passed on to succeeding generations. (p. 143)

15. **Mutations** are random errors in gene replication that are the source of genetic diversity within a species. (p. 144)

16. **Gender** refers to the biological and social characteristics by which people define male and female. (p. 146)

17. A **culture** is the enduring behaviors, ideas, attitudes, values, and traditions shared by a group of people and transmitted from one generation to the next. (p. 153)

18. **Norms** are understood rules for accepted and expected behavior. (p. 154)

19. **Personal space** refers to the buffer zone that people like to maintain around their bodies. (p. 154)

20. **Individualism** is giving priority to personal goals over group goals and defining one’s identity in terms of personal attributes rather than group identification. (p. 155)

21. **Collectivism** is giving priority to the goals of one’s group and defining one’s identity accordingly. (p. 155)

22. **Aggression** is physical or verbal behavior intended to hurt someone. (p. 160)

23. The **X chromosome** is the sex chromosome found in both men and women. Females inherit an X chromosome from each parent. (p. 162)

24. The **Y chromosome** is the sex chromosome found only in men. Males inherit an X chromosome from their mothers and a Y chromosome from their fathers. (p. 162)

25. **Testosterone** is the principal male sex hormone. During prenatal development, testosterone stimulates the development of the external male sex organs. (p. 162)

26. A **role** is a cluster of prescribed behaviors expected of those who occupy a particular social position. (p. 164)

27. A **gender role** is a set of expected behaviors for males and females. (p. 164)

28. **Gender identity** is one’s sense of being male or female. (p. 165)

29. **Gender typing** is the acquisition of a traditional feminine or masculine role. (p. 165)

30. According to **social learning theory**, people learn social behavior (such as gender roles) by observing and imitating and by being rewarded or punished. (p. 165)

**Cross-Check**

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<tr>
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<tbody>
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<td>5. genes</td>
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