

Chapter 2

Evolution and Human Nature

SUMMARY

1. The scientific study of psychological individuality begins with a consideration of human nature, which has been forged over millions of years through human evolution. Evolution is the ultimate context for understanding the person because it provides the most systematic and encompassing scientific framework to account for how the human organism was designed and what all human beings have in common. An evolutionary approach to personality helps to specify the distal and ultimate determinants of human behavior in the overall, which may be combined with an understanding of the more proximal and immediate determinants of any particular person's behavior in order to provide a full account of psychological individuality.

2. Over the course of evolution, organisms are designed through natural selection to engage in behaviors that ultimately make for the replication of the genes that determine their design. An organism's inclusive fitness refers to its overall or total ability to promote the replication of its own genes from one generation to the next. Inclusive fitness is enhanced through any mechanisms or systems that make it more likely than otherwise that the person's genes, or those genes that he or she shares with biological relatives, will be passed down successfully to the next generation through progeny.

3. Human beings have evolved over a 2–4 million-year span as hunters and gatherers living in small, migratory groups. During the long period of time during which human beings inhabited this environment of evolutionary adaptedness (EEA), they came to occupy a cognitive niche in the general evolutionary landscape. The greatest adaptive advantages for humans came mainly from their powers of computation—that is, from the power of the human mind. Endowed with considerable cognitive advantages relative to other animals, human beings used tools, developed cooperative partnerships, and eventually created complex societies to adapt to the challenges of the EEA. The human mind evolved to adapt to many different evolutionary challenges, resulting in the mind's evolution toward a loose confederation of subsystems or modules, each designed to solve an evolutionarily significant problem.

4. Over the course of evolution, human beings have faced challenges relating to survival and reproduction. Reproductive challenges include finding and keeping a sexual mate and caring for the progeny that result from sexual reproduction. Evolutionary theory can be invoked to provide distal explanations for the significant sex differences that are typically observed in the realms of human mating and reproduction. In the overall, human males may have evolved to adopt mating strategies and goals that maximize the quantity of offspring they produce, pushing them in the direction of promiscuity. By contrast, human females may have evolved to adopt mating strategies and goals that maximize the quality of offspring, given that females must invest a great deal more energy and time in gestation, lactation, and eventually infant care in order to assure that the relatively few progeny they may produce will live long enough to

reproduce themselves. As a result, evolutionary theory would predict that females should be relatively choosier when it comes to mating and less inclined toward multiple sexual partners.

5. As described in Hogan's socioanalytic theory of personality, human beings have evolved to live in groups wherein the prime social goals are getting along and getting ahead. Through role playing, impression management, and effective participation in the elaborate social rituals that define cultural life, human beings seek acceptance and status in groups. Heightened acceptance and status enhance inclusive fitness.

6. Human beings are, by nature, a moderately aggressive species. Evolutionary theory provides distal explanations for the tendency of human beings to engage in many forms of aggression, including the deadliest and most organized form of aggression—human warfare. But evolutionary theory, like other explanations that invoke more proximate causes for aggression (e.g., culture, learning), cannot provide a justification for human aggressiveness; nor can it be used to articulate a moral perspective about aggression.

7. Human beings are also, by nature, an exquisitely altruistic species. Altruism and aggression are natural outgrowths of the basic feature of human life in the EEA: Humans evolved to live in groups. Human groups are hierarchical, and hierarchy is at least an indirect result of differential effectiveness in aggressive and dominant behaviors on the part of group members. Dominance hierarchies provide the stability necessary for cooperative and altruistic behavior to occur. Human beings have evolved mental systems to develop emotional attachments, empathy, internalized social rules, concepts of giving and trading, peacemaking, negotiation, community concern, and other prosocial tendencies, most shared in one form or another with other primates but developed in more complex ways in the case of humans. These evolved adaptations aim to keep aggression in check and to undergird social cooperation, which itself enhances the inclusive fitness of those who cooperate. Undergirding altruistic behavior in human beings are the mechanisms of kin selection and reciprocal altruism, both of which enhance the individual's inclusive fitness.

8. One of the most notable features of human nature is caregiver–infant attachment. Attachment theory, articulated by John Bowlby and Mary Ainsworth, suggests that the bond of love that develops between caregiver and infant is a complex, instinctually grounded behavioral system that has functioned throughout human evolution to assure mother–infant proximity and thereby to protect the infant from predators and other dangers. As the attachment relationship develops in the first few years of life, the infant builds up a set of expectations concerning human relationships, which come to comprise an internalized working model.

9. Utilizing the Strange Situation procedure, researchers have identified four different types of attachment bonds in infants: secure (B-babies), avoidant (A-babies), resistant (C-babies), and disorganized (D-babies). Secure attachment is the most common form observed; the other three are variations on insecure attachment. The consequences of secure attachment include positive indices of independence, mastery,

and peer popularity in preschool and elementary school.

10. Longitudinal research has also begun to show how individual differences in attachment security in infancy may pave the way for a sequence of developments resulting in corresponding patterns of romantic relationships in young adulthood. As part of an evolved blueprint for human nature, virtually all human beings become attached to their caregivers in the first year of life. Yet differences in security of attachment bonds do seem to matter in the long run – one example of how individual differences may be observed against the common backdrop of human nature.

MULTIPLE-CHOICE QUESTIONS

1. Most scientists assume that for most of our evolutionary history human beings lived as
 - a. Farmers
 - b. Hunters and gatherers
 - c. Fishermen
 - d. Traders

2. The hormone oxytocin is released in the brain during which of the following?
 - a. Appeasement gestures by subordinate wolves
 - b. Sexual activity and pair bonding in prairie voles
 - c. Aggressive displays by many different kinds of mammals
 - d. Newborn chick vocalizations in the presence of arousing stimuli

3. Preschool children who were securely attached at age 1 show all of the following characteristics **except**
 - a. Higher levels of intelligence
 - b. Higher levels of popularity
 - c. Higher levels of dominance
 - d. Better social competence

4. A relatively unrestricted orientation toward sociosexuality might be adaptive for women under which of the following environmental conditions?
 - a. Resources, including available men, are severely limited
 - b. Cultural norms encourage promiscuity
 - c. Family bonds are tight and close
 - d. Group cohesion is compromised by threats from outside

5. Over the course of human evolution
 - a. Replicating systems compete for limited resources
 - b. Living things are not predisposed to multiply
 - c. Genetic errors lead to maladaptive behavior
 - d. Selfish genes produce selfish organisms

6. The ability of a person to maximize his or her reproductive success is
 - a. Inclusive fitness
 - b. Attachment
 - c. Reciprocal altruism
 - d. Survival of the fittest

7. The fact that over time organisms possessing advantageous characteristics tend to live longer and produce more offspring than organisms without these characteristics is an example of
 - a. Natural selection
 - b. Imprinting
 - c. Kin selection
 - d. Attachment

8. In trying to explain why all cultures have concepts of God, developmental psychologists have suggested that the tendency to invoke intentional animate causation for natural events may stem from the emergence of what psychological module around age 4?
 - a. Concrete operational thought
 - b. Cheating detectors
 - c. Theory of mind
 - d. Dominance hierarchy

9. The overall goal of adaptation in the EEA is
 - a. Reproductive success of self and/or genetic relatives
 - b. Cultural diversity
 - c. Environmental stability
 - d. Functional specialization

10. The "cognitive niche" has allowed humans to adapt to the EEA mainly through
 - a. Strength and aggression
 - b. Intelligence and experience
 - c. Speed and efficiency
 - d. Facilitation and cooperation

11. The proximal reason for human sexuality is
 - a. To replicate genes
 - b. That it feels pleasurable
 - c. To increase sociality
 - d. That it is part of the cognitive niche

12. Research provides some evidence to suggest that women with a relatively unrestricted orientation toward sociosexuality tend to

- a. Produce more sons
 - b. Produce fewer sons
 - c. Produce more daughters
 - d. Produce fewer daughters
13. Kin selection increases inclusive fitness because it
- a. Promotes one's own survival
 - b. Benefits biological relatives who have similar genes
 - c. Builds group solidarity and defense of the group against attack
 - d. Makes it more likely that one will be helped in return
14. Evolutionary psychology posits that a person is only a gene's way of making another gene. This statement means
- a. That persons create genes that they pass to the next generation
 - b. That personality traits are genetically determined
 - c. That persons are vehicles for the transmission of genes
 - d. All of the above
15. Inclusive fitness is enhanced by all of the following **except**
- a. Traits that enhance "getting along" and "getting ahead"
 - b. Greater reproductive ability
 - c. Promotion of biological relatives
 - d. Higher levels of dominance
16. In arguing that a particular behavior pattern in humans is coded in the genes and is therefore part of human nature, a person studying evolutionary psychology might use all of the following evidence **except** the fact that the behavior pattern
- a. Appears in all human societies
 - b. Is displayed by chimpanzees
 - c. Appears to be adaptive within the environment of evolutionary adaptedness
 - d. Is stable in persons from childhood onward
17. According to Hogan's socioanalytic theory of personality, the fundamental motives in human life are
- a. Seeking status and acceptance
 - b. Eros and Thanatos
 - c. The urges to master and to surrender
 - d. Individuation and fulfillment
18. Which of the following images best captures Hogan's characterization of the person in society?
- a. Storyteller
 - b. Game player

- c. Adventurer
 - d. Warrior
19. According to Hogan's socioanalytic theory of personality, the best-adapted persons in a given society are those who
- a. Are skilled in impression management and ritualized self-presentation
 - b. Find self-fulfillment through creative activities and commitments
 - c. Most aggressively assert themselves at the expense of others
 - d. Surrender their own well-being for the good of the social order
20. According to Hogan's socioanalytic theory of personality, a person's character structure is formed through
- a. The child's patterns of self-presentation to parents
 - b. The methods of reward and punishment employed by parents in child training
 - c. Accepting and rejecting parental values concerning goodness, truth, and religion
 - d. Resolving conflicts between different childhood roles
21. Which of the following is **not** a distinction between character structure (CS) and role structure (RS) according to Hogan's socioanalytic theory?
- a. CS is unconscious; RS is conscious
 - b. CS stems from childhood; RS from adulthood
 - c. CS involves a relatively small audience; RS involves a larger audience
 - d. CS concerns spontaneous behavior; RS concerns social rituals
22. Human beings share all of the following features of morality with their nearest primate neighbors except
- a. Special treatment of the disabled
 - b. Concepts of giving, trading, and revenge
 - c. Peacemaking and avoidance of conflicts
 - d. Tender feelings for members of other species
23. Why is reciprocal altruism adaptive for the altruist?
- a. Genes of relatives are passed down to the next generation
 - b. Helping others may eventually lead to being helped, which promotes survival and reproductive success.
 - c. Group harmony is enhanced, which enhances inclusive fitness for all members of the group.
 - d. Reciprocal altruism is *not* adaptive, but it occasionally occurs under periods of upheaval and stress.
24. Which of the following statements about the scientific approach to understanding human nature is true?

- a. Human nature must be construed in terms of first principles of logic
 - b. Traits that comprise human nature are learned in environments
 - c. Evolution provides the ultimate context for understanding human nature
 - d. The concept of human nature makes no scientific sense
25. Dawkins's concept of "the selfish gene" suggests
- a. That humans have evolved to put the self ahead of other concerns
 - b. That human beings consciously try to pass their genes down to the next generation
 - c. That human beings are designed to promote the survival and success of others
 - d. That human beings are designed to do things that make for the replication of the genes that designed them
26. Recent research has shown that secure attachment in infancy may be indirectly associated with the quality of romantic relationships in young adulthood. Secure attachment predicted peer competence in preschool, which itself predicted what variable at age 16? This age-16 variable predicted young-adult romance.
- a. Quality of friendships at age 16
 - b. Age-16 extracurricular activities in school
 - c. Ratings of mental health at age 16
 - d. High scores on the trait of agreeableness at age 16
27. Which of the following statements about human evolution is false?
- a. Human nature was forged during the Pleistocene Epoch
 - b. In the EEA, human beings lived in small, nomadic groups
 - c. The human species emerged in Africa, about 2-4 million years ago
 - d. Human beings evolved to adapt to the demands of agriculture
28. Which of the following concepts might be used to explain why a person might devote his or her life to helping the sick and poor?
- a. Kin selection
 - b. Social motivation
 - c. Imprinting
 - d. Reciprocal altruism
29. Which of the following statements about mother–infant attachment is true?
- a. The first few hours after birth are a critical period in the development of attachment
 - b. The central component of the attachment system is sucking
 - c. By the end of the first year of life an infant may be attached to many different people—as many as 20–30
 - d. Attachment appears to follow the same developmental course in all

human societies

30. What is the overall behavioral goal of the attachment system according to Bowlby?

- a. Mother—infant proximity
- b. Sharing of information between mother and baby
- c. Physical stimulation of the infant
- d. High levels of smiling and eye contact

31. What is the evolutionary function of attachment according to Bowlby?

- a. Cognitive development in the infant
- b. Protection of the infant from predators
- c. Proper nutritional balance
- d. Group solidarity through intimate bonds

32. Which of the following statements best describes how evolutionary personality psychologists such as David Buss depict human motivation?

- a. Behavior is strongly shaped by environmental factors such as learning and conditioning
- b. Most human behavior is motivated by a general mechanism of tension reduction
- c. Behavior is motivated by a large number of specific mechanisms that have evolved for solving particular problems in adaptation
- d. Two general classes of human motives may be identified: (1) power and dominance instincts and (2) love and caregiving instincts

33. Archaeological evidence suggests that early humans were

- a. Vegetarians
- b. Monogamous
- c. Nomadic
- d. Peaceful

34. Research on what factors cause upset and anger in dating couples suggests that all of the following statements are true **except**

- a. More than do men, women report becoming upset about sexually aggressive behavior in their partners
- b. More than do women, men report becoming upset about sexually withholding behaviors in their partners
- c. More than do women, men report becoming upset about their partners' excessive preoccupation with their own appearance
- d. More than do men, women report becoming upset about their partners' condescending attitudes toward them

35. What is sociosexuality?

- a. The extent to which a person is "choosy" when it comes to engaging in sexual relations with another person

- b. The fact that sexual experiences are strongly shaped by social and cultural norms
 - c. The tendency for sexual partners to insist that their own sexual feelings are beyond their own control
 - d. The way in which a person encourages another to become involved in a relationship that may ultimately result in sexual relations
36. Which of the following statements about research findings on human mating is **not** true?
- a. Men try to attract women by boasting about their accomplishments
 - b. Women try to attract men by displaying their beauty
 - c. Both men and women seek to attract mates by displaying sympathy and humor
 - d. Woman are more likely than men to attract mates through creativity displays
37. In the book *Darwin's Cathedral*, David Sloan Wilson argues that human beings have evolved to be religious because religious practice and beliefs
- a. Tend to enhance physical health, which promotes reproduction
 - b. Build group solidarity, which enhances reproduction of group members
 - c. Provide compelling answers to tough questions, which provides security
 - d. Reinforce male dominance, which makes for group cohesion
38. The securely attached infant
- a. Is not easily upset when separated from mother
 - b. Greets mother's return in an angry fashion
 - c. Uses mother as a base from which to explore
 - d. Follows mother closely during free play time
39. Which of the following variables, assessed in the first half of the first year of life, is a good predictor of later quality of attachment?
- a. Warmth and friendliness of the mother
 - b. Mother's sensitivity to infant cues
 - c. Number of hours mother spends with infant
 - d. Mother's enjoyment of mother—infant play
40. In terms of the evolution of human nature, righteous indignation and the desire to gain retribution for being wronged may stem from
- a. Aggressive impulses overwhelming altruistic tendencies
 - b. A breakdown of natural inclinations toward forgiveness and fair play
 - c. A combination of aggressive and altruistic tendencies working together
 - d. The human tendency to act in irrational ways

ESSAY QUESTIONS

41. Why do scientists argue that human nature is a product of the evolution of the species? What psychological aspects of human nature have been identified?
42. What are the main points of Hogan's theory of personality?
43. In what sense is mother–infant attachment part of "human nature?" Describe Bowlby's theory of attachment.
44. Human beings are a moderately aggressive species. Explain.
45. Some theorists suggest that altruism and prosocial behavior have a biological/evolutionary base, both in animals and in human beings. Describe these views.
46. What gender differences have been documented in most cultures with respect to mating strategies? How might we explain these differences in terms of evolutionary theory?
47. What has research identified as the antecedents (predictors) and the consequences (outcomes) of secure attachment in infants?

DISCUSSION TOPICS

1. Evolutionary theory provides an explanation for some observed gender differences in mating strategies. What alternative explanations can be developed emphasizing culture and learning? Can the two different kinds of explanations—evolutionary and cultural—be reconciled?
2. Bowlby's theory of attachment suggests that the attachment bond develops slowly during the first few years of life. If attachment is so important to the survival of the infant, then why does the bond take so long to develop? How might sociobiologists explain the fact that infants are not attached (and from an evolutionary standpoint, should not be attached) at birth?
3. A major idea in evolutionary psychology today is that the mind is modular—that is, the mind has evolved to solve many different and specific adaptive problems rather than general problems of living. In other words, the mind is not an all-purpose computational system but rather a collection of different programs, loosely organized at best. Does this idea make sense to people? What alternatives might be imagined?
4. Evolutionary psychology is a controversial area of scholarship for many reasons, some political. What legitimate concerns may be raised in considering the value of evolutionary views in contemporary American society?
5. What do students think of the evolutionary-psychological explanations offered in

Feature 2.A for the universality of religious beliefs and practices?

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Multiple Choice Answer Key

Chapter 2

1. b
2. b
3. a
4. a
5. a
6. a
7. a
8. c
9. a
10. b
11. b
12. a
13. b
14. c
15. d
16. d
17. a
18. b
19. a
20. a
21. d
22. d
23. b
24. c
25. d
26. a
27. d
28. d
29. d
30. a
31. b
32. c
33. c
34. a
35. a
36. d
37. b
38. c
39. b
40. c