Biological Bases of Behavior:

3C—Genetics, Evolutionary Psychology, and Behavior

CHAPTER OVERVIEW

Members of the human family share common behavioral tendencies but are also strikingly diverse. To what extent are we shaped by our heredity and to what degree by our life history? The conclusions—that nature is crucially important and that nurture is crucially important—are central to today’s psychology.

Genes provide the blueprints that design both our universal human attributes and our individual traits. Behavior geneticists explore individual differences. By using twin, adoption, and temperament studies, they assess the heritability of various traits and disorders. Their research indicates that both nature and nurture influence our life courses. We are products of interactions between our genetic predispositions and our surrounding environments. Molecular geneticists search for genes that put people at risk for genetically influenced disorders, which has potential benefits as well as risks.

Evolutionary psychologists focus on what makes us alike as humans. They study how natural selection favored behavioral tendencies that contributed to the survival and spread of our genes. For example, in explaining gender differences in sexual behavior, they argue that women most often send their genes into the future by pairing wisely, men by pairing widely. Critics maintain that evolutionary psychologists make too many hindsight explanations and underestimate the role of culture.

The biopsychosocial approach to development recognizes that we are products of both nature and nurture, of genes and environment. We are also architects of our future. The stream of causation runs through our present choices.

**INSTRUCTIONS: With a partner, answer all of the following questions. You may use your textbook.**

1. Identify the types of questions that interest behavior geneticists, and describe the elements of heredity: chromosome, DNA, genes, and genome.

2. Describe how twin and adoption studies help us differentiate hereditary and environmental influences on human behavior.

3. Explain what is meant by heritability, and give examples of the interaction of gene and environment on specific traits.

4. Identify the potential uses of molecular genetics research.

5. Describe the area of psychology that interests evolutionary psychologists, and point out some possible effects of natural selection in the development of human characteristics.

6. Identify some gender differences in sexuality and mating preferences, and describe evolutionary explanations for those differences.

7. Summarize the criticisms of evolutionary explanations of human behaviors, and describe the evolutionary psychologists’ responses to those criticisms.

8. Discuss some of the ways heredity and environment interact to both “control” who we are and allow us to become who we want to be.

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