**5 The nature, nurture, and evolution of behaviour**

Behavioural genetics

Studying genetic and environmental influences

* Heredity is the tendency of offspring to resemble their parents in various ways. Genes, composed of functional strands of DNA, are units of heredity. DNA contains the unique ‘code’ for creating each living organism.
* Phenotypes are potentially observable traits or characteristics of an organism. The human genome is the set of hereditary instructions that programs amino acids and proteins to build a human organism.
* Genes create proteins by transmitting genetic information through RNA; replicating; and interacting with other genes by ‘switching them on and off’.

Gene-environment interaction

* Behaviour genetics is the scientific study of how genes and environments influence individual differences in traits and behaviour. Behaviour geneticists use studies of twins reared together, twins reared apart, and adopted children to try to estimate the proportion of individual differences on various traits in a given sample of individuals that can be attributable to genetic heredity and the proportion that is due to environmental influences.
* A gene-environment correlation occurs when a person’s environment is a reflection of, or is somehow correlated with, that person’s genotype. There are two types of gene-environment correlations discussed in the chapter: an active gene-environment correlation and a reactive gene-environment correlation. A gene- environment interaction occurs when different individuals respond differently to the same environmental experience because of differences in their genotypes.

Evolutionary psychology

* Evolution is both fact and theory. The fact of organic and geological evolution is accepted by virtually all scientists working in the life sciences. However, theories about how evolution occurs are often debated. Evolutionary psychology is less a field in itself than an approach to virtually any field in psychology.
* Adaptations are accumulated characteristics of an organism that have resulted from natural selection as solutions to specific ‘problems’ over evolutionary time, and that allow the organism to be well adapted to its environment. Because these adaptations are shared by virtually all members of our species to varying degrees, evolutionary psychologists believe that humans are a single species with a single human nature.
* Because psychological adaptation occurred among human ancestors over evolutionary time in environments in certain respects very different from modern environments, some adaptations are no longer ‘adaptive’. This is known as environmental mismatch.
* Evolutionary psychologists propose that in most respects men and women have faced the same evolutionary pressures over the millennia, and should be expected to have the same psychological adaptations as a result. However, in the areas of sexuality, reproduction, and physical aggression men and women have faced vastly different pressures, and therefore sex differences in adaptations in these areas of life should be expected.

The influence of culture and society

* Psychologists studying the influence of society and culture on psychology take the sociocultural perspective, which is strongly associated with the field of cultural psychology. Cultural psychologists emphasize that different cultures are characterized by different behaviours and subjective experiences.
* Culture pervades virtually every aspect of thought and behaviour, and it proliferates over generations. Geert Hofstede has established specific dimensions of behaviour along which cultures typically differ, including: individualism vs collectivism, power distance, masculinity-femininity, and uncertainty avoidance. Although cultures differ in their ideas about morality, morality itself is a human universal.
* Cultural research suggests that some characteristics believed to be universal may actually be primarily characteristics of Western peoples. These include self- enhancement, vulnerability to the fundamental attribution error (FAE), and subscribing to the idea that friendship has no negative consequences.
* Social role theory proposes that people behave in highly variable ways according to differences in the type of social organization in which they live.

Theories differ in level of analysis when they address different aspects or levels of the same question, without necessarily disagreeing with one another outright. Evolutionary and social role theories of sex differences may be viewed as different levels of analysis.