imprinting. Lorenz demonstrated that exposure to an appropriately maternal object during a critical period would activate the “following” instinct of newborn goslings: he successfully had a group of goslings follow him after he “impersonated” their absent mother.

Other examples of critical periods include the initial four months of life during which puppies must be exposed to humans in order to make good pets and the early months in which birds must be exposed to the characteristic song of their species in order to learn it. Critical periods vary in length: the period for identifying one’s mother may last only a few hours, while the period for learning to identify a mate may take several months.

The specifically human phenomenon of language development also appears to be subject to a critical period. So-called “wild” or “feral” children deprived of human society for an extended period show that they have been unable to catch up on language due to lack of exposure early in life.

The term “critical period” is also used to describe physiological as well as behavioral phenomena. For example, the embryonic stage in humans is a critical period for certain types of growth (such as the appearance of the heart, eyes, ears, hands, and feet) which must occur for prenatal development to proceed normally.

Further Reading

Cross-cultural psychology

A subfield of psychology concerned with observing human behavior in contrasting cultures.

Studies in this discipline attempt to expand the compass of psychological research beyond the few highly industrialized nations on which it has traditionally focused. While definitions of what constitutes a culture vary widely, most experts concur that “culture" involves patterns of behavior, symbols, and values. The prominent anthropologist Clifford Geertz has described culture as “... a historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetuate, and develop their knowledge about and attitudes toward life.”

While cross-cultural psychology and anthropology often overlap, both disciplines tend to focus on different aspects of a culture. For example, many issues of interest to psychologists are not addressed by anthropologists, who have their own concerns traditionally, including such topics as kinship, land distribution, and ritual. When anthropologists do concentrate on areas of psychology, they focus on activities whereby data can be collected through direct observation, such as the age of children at weaning or child rearing practices. However, there is no significant body of anthropological data on many of the more abstract questions commonly addressed by psychologists, such as cultural conceptions of intelligence.

Cross-cultural research can yield important information on many topics of interest to psychologists. In one of the best known studies, researchers found evidence that human perceptual processes develop differently depending on what types of shapes and angles people are exposed to daily in their environment. People living in countries such as the United States with many buildings containing 90-degree angles are susceptible to different optical illusions than those in rural African villages, where such buildings are not the norm. Cross-cultural studies have also discovered that the symptoms of most psychological disorders vary from one culture to another, and has led to a reconsideration of what constitutes normal human sexuality. For example, homosexuality, long considered pathological behavior in the United States, is approved of in other cultures and is even encouraged in some as a normal sexual outlet before marriage.

Collection of cross-cultural data can also shed new light on standard psychological theories. In the 1920s, the anthropologist Bronislaw Malinowski observed that young boys living in the Trobriand islands exhibited the type of hostility that Sigmund Freud had described in his formulation of the Oedipus complex, only it was directed not at their fathers but at a maternal uncle who was assigned the role of family disciplinarian. This observation posed a challenge to Freud’s oedipal theory by raising the possibility that boys’ tense relations with their fathers at a certain period in their lives may be a reaction to discipline rather than a manifestation of sexual jealousy. The questions raised by Malinowski’s observation demonstrate a particularly valuable type of contribution that cross-cultural research can make to psychology. Psychological research often confounds, or merges, two variables in a situation in this case, the boy’s anger toward his father and the father’s sexual role in relation to the mother. A cross-cultural perspective can untangle such confounded variables when it finds them occurring separately in other cultures—e.g., the disciplinarian (the uncle), and the mother’s lover (the father), as two separate persons.

Cross-cultural psychology may also be practiced within a given society by studying the contrasts between its dominant culture and subcultures. A subculture—de-
fined as a group of people whose experiences differ from those of the majority culture—may be constituted in different ways. Often, it is an ethnic, racial, or religious group. Any group that develops its own customs, norms, and jargon may be considered a subculture, however, including such deviant groups as drug or gang subcultures. A prominent area of intersection between psychological inquiry and subcultures within the United States has been the issue of cultural bias in testing. Today, testing experts assert that there is no evidence for bias across race or social class in “standardized” intelligence and achievement tests. However, children whose primary language is not English should be tested in their primary language.

Further Reading

Cross-sectional study
Research that collects data simultaneously from people of different ages, in contrast to a longitudinal study, which follows one group of subjects over a period of time.

A cross-sectional study is a research method where data are collected at the same time from people in different age categories. It contrasts with the method, known as longitudinal study, where the same group of subjects is studied over time. One weakness, or confounding variable, of the cross-sectional study is that its subjects, in addition to being different ages, are also born in different years, and their behavior may thus be influenced by differences in education, cultural influences, and medical treatment. In the longitudinal study, data can be obtained from subjects of different ages born within the same period of time. However, a confounding variable in longitudinal studies is the degree to which each person’s environmental influences will vary from those of others over the period of time covered by the experiment.

Cults
Highly organized groups led by a dynamic leader who exercises strong control.

A cult is a structured group, most of whose members demonstrate unquestioned loyalty to a dynamic leader. The cult leader governs most, if not all, aspects of the lives of his or her followers, often insisting that they break all ties with the world outside of the cult. Such groups are usually thought of in terms of religion, although other types of cults can and do exist.

The proliferation of religious cults in the United States is considered by many experts as symptomatic of the general social discordance that has plagued postwar Western society. Cults offer the allure of an ordered world that is easily understood. Clear rules of behavior are enforced and nagging questions about meaning and purpose are dispelled by the leader, who defines members’ lives in service to the cult’s interest. It is probably most useful to examine the phenomenon of cults without dwelling on the sensationalistic practices of the flamboyant, the infamous, and the suicidal. When a psychologist examines a cult and its dynamics, what is actually observed is the mental condition of the member; in other words, what is it about the individual that allows them to willingly relinquish themselves to such rigid and dogmatic ways of thinking and living?

To understand this process, consider that many social organizations other than what we traditionally think of as cults require strict adherence to a set of beliefs and, in turn, provide a sense of meaning and purpose to their followers. Behavior that is not normally considered as being cult-like can be seen as having some of the main characteristics of cults. The rigid social contract of the military, for instance, is considered by many psychologists as being cult-like. Other social organizations that have had a profound impact on the lives of its followers include self-help groups, such as Alcoholics Anonymous, where selflessness and devotion to the group are highly valued and rewarded. Certain types of political groups and terrorist organizations are still other examples of “cults” that defy the common definition of the term. Dr. Arthur Deikman, clinical professor of psychiatry at the University of California at San Francisco, is one of many psychologists who has observed cultic behavior in many areas of society other than in extremist religious groups. In the introduction to his 1990 book, The Wrong Way Home: Uncovering the Patterns of Cult Behavior in American Society, Deikman asserted that “behavior similar to that which takes place in extreme cults takes place in all of us,” and suggested that “the longing for parents persists into adulthood and results in cult behavior that pervades normal society.”

Because cultic behavior underlies more than extremist religious sects, many psychologists refer to these groups as charismatic groups. Marc Galanter, professor of psychiatry at New York University, defines the characteristics of charismatic groups in his study Cults: Faith, Healing, and Coercion (1989). According to Galanter,