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01 - 3.1 Sociobiology and Ethology

3.1 Sociobiology and Ethology

Contributions of the Sociocultural Sciences 3.1 Sociobiology and Ethology SOCIOBIOLOGY The term sociobiology was coined in 1975 by Edward Osborne Wilson, an American biologist whose book, which is called *Sociobiology*, emphasized the role of evolution in shaping behavior. Sociobiology is the study of human behavior based on the transmission and modification of genetically influenced behavioral traits. It explores the ultimate question of why specific behaviors or other phenotypes came to be. EVOLUTION Evolution is described as any change in the genetic makeup of a population. It is the foundational paradigm from which all of biology arises. It unites ethology, population biology, ecology, anthropology, game theory, and genetics. Charles Darwin (1809–1882) posited that natural selection operates via differential reproduction, in a competitive environment, whereby certain individuals are more successful than others. Given that differences among individuals are at least somewhat heritable, any comparative advantage will result in a gradual redistribution of traits in succeeding generations, such that favored characteristics will be represented in greater proportion over time. In Darwin's terminology, fitness meant reproductive success. Competition. Animals vie with one another for resources and territory, the area that is defended for the exclusive use of the animal and that ensures access to food and reproduction. The ability of one animal to defend a disputed territory or resource is called resource holding potential, and the greater this potential, the more successful the animal. Aggression. Aggression serves both to increase territory and to eliminate competitors. Defeated animals can emigrate, disperse, or remain in the social group as subordinate animals. A dominance hierarchy in which animals are associated with one another in subtle but well-defined ways is part of every social pattern. Reproduction. Because behavior is influenced by heredity, those behaviors that promote reproduction and survival of the species are among the most important. Men

tend to have a higher variance in reproductive success than do women, thus inclining men to be competitive with other men. Male–male competition can take various forms; for example, sperm can be thought of as competing for access to the ovum. Competition among women, although genuine, typically involves social undermining rather than overt violence. Sexual dimorphism, or different behavioral patterns for males and females, evolves to ensure the maintenance of resources and reproduction. Altruism. Altruism is defined by sociobiologists as a behavior that

reduces the personal reproductive success of the initiator while increasing that of the recipient. According to traditional Darwinian theory, altruism should not occur in nature because, by definition, selection acts against any trait whose effect is to decrease its representation in future generations; and yet, an array of altruistic behaviors occurs among free-living mammals as well as humans. In a sense, altruism is selfishness at the level of the gene rather than at the level of the individual animal. A classic case of altruism is the female worker classes of certain wasps, bees, and ants. These workers are sterile and do not reproduce but labor altruistically for the reproductive success of the queen. Another possible mechanism for the evolution of altruism is group selection. If groups containing altruists are more successful than those composed entirely of selfish members, the altruistic groups succeed at the expense of the selfish ones, and altruism evolves. But within each group, altruists are at a severe disadvantage relative to selfish members, however well the group as a whole does. Implications for Psychiatry. Evolutionary theory provides possible explanations for some disorders. Some may be manifestations of adaptive strategies. For example, cases of anorexia nervosa may be partially understood as a strategy ultimately caused to delay mate selection, reproduction, and maturation in situations where males are perceived as scarce. Persons who take risks may do so to obtain resources and gain social influence. An erotomanic delusion in a postmenopausal single woman may represent an attempt to compensate for the painful recognition of reproductive failure. Studies of Identical Twins Reared Apart: Nature versus Nurture Studies in sociobiology have stimulated one of the oldest debates in psychology. Does human behavior owe more to nature or to nurture? Curiously, humans readily accept the fact that genes determine most of the behaviors of nonhumans, but tend to attribute their own behavior almost exclusively to nurture. In fact, however, recent data unequivocally identify our genetic endowment as an equally important, if not more important, factor. The best "experiments of nature" permitting an assessment of the relative influences of nature and nurture are cases of genetically identical twins separated in infancy and raised in different social environments. If nurture is the most important determinant of behavior, they should behave differently. On the other hand, if nature dominates, each

will closely resemble the other, despite their never having met. Several hundred pairs of twins separated in infancy, raised in separate environments, and then reunited in adulthood have been rigorously analyzed. Nature has emerged as a key determinant of human behavior. Laura R and Catherine S were reunited at the age of 35. They were identical twins that had been adopted by two different families in Chicago. Growing up, neither twin was aware of the other's existence. As children each twin had a cat named Lucy, and both habitually cracked their knuckles. Laura and Catherine each began to have migraine headaches beginning at the age of 14. Both were elected valedictorian of their high school classes and majored in journalism in college. Each sister had married a man named John and had given birth to a daughter in wedlock. Both of their marriages fell apart within two years. Each twin maintained a successful rose garden and took morning spin classes at their local fitness center. Upon meeting, each twin discovered that the other had also named her daughter Erin and owned a German Sheppard named Rufus. They had similar voices, hand gestures, and mannerisms. Jack Y and Oskar S, identical twins born in Trinidad in 1933 and separated in infancy by their parents' divorce, were first reunited at age 46. Oskar was raised by his Catholic mother and grandmother in Nazi-occupied Sudetenland, Czechoslovakia. Jack was raised by his Orthodox Jewish father in Trinidad and spent time on an Israeli kibbutz. Each wore aviator glasses and a blue sport shirt with shoulder plackets, had a trim mustache, liked sweet liqueurs, stored rubber bands on his wrists, read books and magazines from back to front, dipped

battered toast in his coffee, flushed the toilet before and after using it, enjoyed sneezing loudly in crowded elevators to frighten other passengers, and routinely fell asleep at night while watching television. Each was impatient, squeamish about germs, and gregarious. Bessie and Jessie, identical twins separated at 8 months of age after their mother's death, were first reunited at age 18. Each had had a bout of tuberculosis, and they had similar voices, energy levels, administrative talents, and decision-making styles. Each had had her hair cut short in early adolescence. Jessie had a college-level education, whereas Bessie had had only 4 years of formal education; yet Bessie scored 156 on intelligence quotient testing and Jessie scored 153. Each read avidly, which may have compensated for Bessie's sparse education; she created an environment compatible with her inherited potential. Neuropsychological Testing Results

A dominant influence of genetics on behavior has been documented in several sets of identical twins on the Minnesota Multiphasic Personality Inventory (MMPI). Twins reared apart generally showed the same degree of genetic influence across the different scales as twins reared together. Two particularly fascinating identical twin pairs, despite being reared on different continents, in countries with different political systems and different languages, generated scores more closely correlated across 13 MMPI scales than the already tight correlation noted among all tested identical twin pairs, most of whom had shared similar rearing. Reared-apart twin studies report a high correlation ($r = 0.75$) for intelligence quotient (IQ) similarity. In contrast, the IQ correlation for reared-apart nonidentical twin siblings is 0.38, and for sibling pairs in general, is in the 0.45 to 0.50 range. Strikingly, IQ similarities are not influenced by similarities in access to dictionaries, telescopes, and original artwork; in parental education and socioeconomic status; or in characteristic parenting practices. These data overall suggest that tested intelligence is determined roughly two thirds by genes and one third by environment. Studies of reared-apart identical twins reveal a genetic influence on alcohol use, substance abuse, childhood antisocial behavior, adult antisocial behavior, risk aversion, and visuomotor skills, as well as on psychophysiological reactions to music, voices, sudden noises, and other stimulation, as revealed by brain wave patterns and skin conductance tests. Moreover, reared-apart identical twins show that genetic influence is pervasive, affecting virtually every measured behavioral trait. For example, many individual preferences previously assumed to be due to nurture (e.g., religious interests, social attitudes, vocational interests, job satisfaction, and work values) are strongly determined by nature. A selected glossary of some terms used in this section and other ethological terms is given in Table 3.1-1. Table 3.1-1 Selected Glossary of Ethological Terms

ETHOLOGY The systematic study of animal behavior is known as ethology. In 1973 the Nobel Prize in psychiatry and medicine was awarded to three ethologists, Karl von Frisch, Konrad Lorenz, and Nikolaas Tinbergen. Those awards highlighted the special relevance of ethology, not only for medicine, but also for psychiatry. Konrad Lorenz Born in Austria, Konrad Lorenz (1903–1989) is best known for his studies of imprinting. Imprinting implies that, during a certain short period of development, a young animal is highly sensitive to a certain stimulus that then, but not at other times, provokes a specific behavior pattern. Lorenz described newly hatched goslings that are programmed to follow a moving object and thereby become imprinted rapidly to follow it and, possibly, similar objects. Typically, the mother is the first moving object the gosling sees, but should it see something else first, the gosling follows it. For instance, a gosling imprinted by Lorenz followed him and refused to follow a goose (Fig. 3.1-1). Imprinting is an important concept for psychiatrists to understand in their effort to link early developmental experiences with later

behaviors. Lorenz also studied the behaviors that function as sign stimuli—that is, social releasers— in communications between individual animals of the same species. Many signals have the character of fixed motor patterns that appear automatically; the reaction of other members of the species to the signals is equally automatic.

FIGURE 3.1-1 In a famous experiment, Konrad Lorenz demonstrated that goslings responded to him as if he were the natural mother. (Reprinted from Hess EH. Imprinting: An effect of an early experience. *Science*. 1959;130:133, with permission.) Lorenz is also well known for his study of aggression. He wrote about the practical function of aggression, such as territorial defense by fish and birds. Aggression among members of the same species is common, but Lorenz pointed out that in normal conditions, it seldom leads to killing or even to serious injury. Although animals attack one another, a certain balance appears between tendencies to fight and flight, with the tendency to fight being strongest in the center of the territory and the tendency to flight strongest at a distance from the center. In many works, Lorenz tried to draw conclusions from his ethological studies of animals that could also be applied to human problems. The postulation of a primary need for aggression in humans, cultivated by the pressure for selection of the best territory, is a primary example. Such a need may have served a practical purpose at an early time, when humans lived in small groups that had to defend themselves from other groups. Competition with neighboring groups could become an important factor in selection. Lorenz pointed out, however, that this need has survived the advent of weapons that can be used not merely to kill individuals but to wipe out all humans. Nikolaas Tinbergen Born in the Netherlands, Nikolaas Tinbergen (1907–1988), a British zoologist, conducted a series of experiments to analyze

various aspects of animal behavior. He was also successful in quantifying behavior and in measuring the power or strength of various stimuli in eliciting specific behavior. Tinbergen described displacement activities, which have been studied mainly in birds. For example, in a conflict situation, when the needs for fight and for flight are of roughly equal strength, birds sometimes do neither. Rather, they display behavior that appears to be irrelevant to the situation (e.g., a herring gull defending its territory can start to pick grass). Displacement activities of this kind vary according to the situation and the species concerned. Humans can engage in displacement activities when under stress. Lorenz and Tinbergen described innate releasing mechanisms, animals' responses triggered by releasers, which are specific environmental stimuli. Releasers (including shapes, colors, and sounds) evoke sexual, aggressive, or other responses. For example, big eyes in human infants evoke more caretaking behavior than do small eyes. In his later work, Tinbergen, along with his wife, studied early childhood autistic disorder. They began by observing the behavior of autistic and normal children when they meet strangers, analogous to the techniques used in observing animal behavior. In particular, they observed in animals the conflict that arises between fear and the need for contact and noted that the conflict can lead to behavior similar to that of autistic children. They hypothesized that, in certain predisposed children, fear can greatly predominate and can also be provoked by stimuli that normally have a positive social value for most children. This innovative approach to studying infantile autistic disorder opened up new avenues of inquiry. Although their conclusions about preventive measures and treatment must be considered tentative, their method shows another way in which ethology and clinical psychiatry can relate to each other. Karl von Frisch Born in Austria, Karl von Frisch (1886–1982) conducted studies on changes of color in fish and demonstrated that fish could learn to distinguish among several colors and that their sense of color was fairly congruent with that of humans. He later went

on to study the color vision and behavior of bees and is most widely known for his analysis of how bees communicate with one another—that is, their language, or what is known as their dances. His description of the exceedingly complex behavior of bees prompted an investigation of communication systems in other animal species, including humans. Characteristics of Human Communication Communication is traditionally seen as an interaction in which a minimum of two participants—a sender and a receiver—share the same goal: the exchange of accurate information. Although shared interest in accurate communication remains valid in some domains of animal signaling—notably such well-documented cases as the “dance of the bees,” whereby foragers inform other workers about the location of food sources—a more selfish and, in the case of social interaction, more accurate model of animal communication has largely replaced this concept. Sociobiological analyses of communication emphasize that because individuals are genetically distinct, their evolutionary interests are similarly distinct, although admittedly with significant fitness overlap, especially among kin, reciprocators, parents and offspring, and mated pairs. Senders are motivated to convey information that induces the receivers to behave in a manner that enhances the senders’ fitness. Receivers, similarly, are interested in responding to communication only insofar as such response enhances their own fitness. One important way to enhance reliability is to

make the signal costly; for example, an animal could honestly indicate its physical fitness, freedom from parasites and other pathogens, and possibly its genetic quality as well by growing elaborate and metabolically expensive secondary sexual characteristics such as the oversized tail of a peacock. Human beings, similarly, can signal their wealth by conspicuous consumption. This approach, known as the handicap principle, suggests that effective communication may require that the signaler engage in especially costly behavior to ensure success. SUBHUMAN PRIMATE DEVELOPMENT An area of animal research that has relevance to human behavior and psychopathology is the longitudinal study of nonhuman primates. Monkeys have been observed from birth to maturity, not only in their natural habitats and laboratory facsimiles but also in laboratory settings that involve various degrees of social deprivation early in life. Social deprivation has been produced through two predominant conditions: social isolation and separation. Socially isolated monkeys are raised in varying degrees of isolation and are not permitted to develop normal attachment bonds. Monkeys separated from their primary caretakers thereby experience disruption of an already developed bond. Social isolation techniques illustrate the effects of an infant’s early social environment on subsequent development (Figs. 3.1-2 and 3.1-3), and separation techniques illustrate the effects of loss of a significant attachment figure. The name most associated with isolation and separation studies is Harry Harlow. A summary of Harlow’s work is presented in Table 3.1-2.

FIGURE 3.1-2 Social isolate after removal of isolation screen. FIGURE 3.1-3 Choo-choo phenomenon in peer-only-reared infant rhesus monkeys. Table 3.1-2 Social Deprivation in Nonhuman Primates

In a series of experiments, Harlow separated rhesus monkeys from their mothers during their first weeks of life. During this time, the monkey infant depends on its mother for nourishment and protection, as well as for physical warmth and emotional security—contact comfort, as Harlow first termed it in 1958. Harlow substituted a surrogate mother made from wire or cloth for the real mother. The infants preferred the cloth-covered surrogate mother, which provided contact comfort, to the wire-covered surrogate, which provided food but no contact comfort (Fig. 3.1-4).

FIGURE 3.1-4 Monkey infant with mother (left) and with cloth-covered surrogate (right). Treatment of Abnormal Behavior Stephen Suomi demonstrated that monkey isolates can be rehabilitated if they are exposed to monkeys that promote physical contact without threatening the isolates with aggression or overly complex play interactions. These monkeys were called therapist monkeys. To fill such a therapeutic role, Suomi chose young normal monkeys that would play gently with the isolates and approach and cling to them. Within 2 weeks, the isolates were reciprocating the social contact, and their incidence of abnormal self-directed behaviors began to decline significantly. By the end of the 6-month therapy period, the isolates were actively initiating play bouts with both the therapists and each other, and most of their self-directed behaviors had disappeared. The isolates were observed closely for the next 2 years, and their improved behavioral repertoires did not regress over time. The results of this and subsequent monkey-therapist studies underscored the potential reversibility of early cognitive and social deficits at the human level. The studies also served as a model for developing therapeutic treatments for socially retarded and withdrawn children. Several investigators have argued that social separation manipulations with nonhuman primates provide a compelling basis for animal models of depression and anxiety. Some monkeys react to separations with behavioral and physiological symptoms similar to those seen in depressed human patients; both electroconvulsive

therapy (ECT) and tricyclic drugs are effective in reversing the symptoms in monkeys. Not all separations produce depressive reactions in monkeys, just as separation does not always precipitate depression in humans, young and old. Individual Differences Recent research has revealed that some rhesus monkey infants consistently display fearfulness and anxiety in situations in which similarly reared peers show normal exploratory behavior and play. These situations generally involve exposure to a novel object or situation. Once the object or situation has become familiar, any behavioral differences between the anxiety-prone, or timid, infants and their outgoing peers disappear, but the individual differences appear to be stable during development. Infant monkeys at 3 to 6 months of age that are at high risk for fearful or anxious reactions tend to remain at high risk for such reactions, at least until adolescence. Long-term follow-up study of these monkeys has revealed some behavioral differences between fearful and nonfearful female monkeys when they become adults and have their first infants. Fearful female monkeys who grow up in socially benign and stable environments typically become fine mothers, but fearful female monkeys who have reacted with depression to frequent social separations during childhood are at high risk for maternal dysfunction; more than 80 percent of these mothers either neglect or abuse their first offspring. Yet nonfearful female monkeys that encounter the same number of social separations but do not react to any of these separations with depression turn out to be good mothers. EXPERIMENTAL DISORDERS Stress Syndromes Several researchers, including Ivan Petrovich Pavlov in Russia and W. Horsley Gantt and Howard Scott Liddell in the United States, studied the effects of stressful environments on animals, such as dogs and sheep. Pavlov produced a phenomenon in dogs, which he labeled experimental neurosis, by the use of a conditioning technique that led to symptoms of extreme and persistent agitation. The technique involved teaching dogs to discriminate between a circle and an ellipse and then progressively diminishing the difference between the two. Gantt used the term behavior disorders to describe the reactions he elicited from dogs forced into similar conflictual learning situations. Liddell described the stress response he obtained in sheep, goats, and dogs as experimental neurasthenia, which was produced in some cases by merely doubling the number of daily test trials in an unscheduled manner. Learned Helplessness The learned helplessness model of depression, developed by Martin

Seligman, is a good example of an experimental disorder. Dogs were exposed to electric shocks from which they could not escape. The dogs eventually gave up and made no attempt to escape new shocks. The apparent giving up generalized to other situations, and eventually the dogs always appeared to be helpless and apathetic. Because the cognitive, motivational, and

affective deficits displayed by the dogs resembled symptoms common to human depressive disorders, learned helplessness, although controversial, was proposed as an animal model of human depression. In connection with learned helplessness and the expectation of inescapable punishment, research on subjects has revealed brain release of endogenous opiates, destructive effects on the immune system, and elevation of the pain threshold. A social application of this concept involves schoolchildren who have learned that they fail in school no matter what they do; they view themselves as helpless losers, and this self-concept causes them to stop trying. Teaching them to persist may reverse the process, with excellent results in self-respect and school performance. Unpredictable Stress Rats subjected to chronic unpredictable stress (crowding, shocks, irregular feeding, and interrupted sleep time) show decreases in movement and exploratory behavior; this finding illustrates the roles of unpredictability and lack of environmental control in producing stress. These behavioral changes can be reversed by antidepressant medication. Animals under experimental stress (Fig. 3.1-5) become tense, restless, hyperirritable, or inhibited in certain conflict situations.

FIGURE 3.1-5 The monkey on the left, known as the executive monkey, controls whether both will receive an electric shock. The decision-making task produces a state of chronic tension. Note the more relaxed attitude of the monkey on the right. (From U.S. Army

photographs, with permission.) Dominance Animals in a dominant position in a hierarchy have certain advantages (e.g., in mating and feeding). Being more dominant than peers is associated with elation, and a fall in position in the hierarchy is associated with depression. When persons lose jobs, are replaced in organizations, or otherwise have their dominance or hierarchical status changed, they can experience depression. Temperament Temperament mediated by genetics plays a role in behavior. For example, one group of pointer dogs was bred for fearfulness and a lack of friendliness toward persons, and another group was bred for the opposite characteristics. The phobic dogs were extremely timid and fearful and showed decreased exploratory capacity, increased startle response, and cardiac arrhythmias. Benzodiazepines diminished these fearful, anxious responses. Amphetamines and cocaine aggravated the responses of genetically nervous dogs to a greater extent than they did the responses of the stable dogs. Brain Stimulation Pleasurable sensations have been produced in both humans and animals through selfstimulation of certain brain areas, such as the medial forebrain bundle, the septal area, and the lateral hypothalamus. Rats have engaged in repeated self-stimulation (2,000 stimulations per hour) to gain rewards. Catecholamine production increases with selfstimulation of the brain area, and drugs that decrease catecholamines decrease the process. The centers for sexual pleasure and opioid reception are closely related anatomically. Heroin addicts report that the so-called rush after intravenous injection of heroin is akin to an intense sexual orgasm. Pharmacological Syndromes With the emergence of biological psychiatry, many researchers have used pharmacological means to produce syndrome analogs in animal subjects. Two classic examples are the reserpine (Serpasil) model of depression and the amphetamine psychosis model of paranoid schizophrenia. In the depression studies, animals given the norepinephrine-depleting drug reserpine exhibited

behavioral abnormalities analogous to those of major depressive disorder in humans. The behavioral abnormalities produced were generally reversed by antidepressant drugs. These studies tended to corroborate the theory that depression in humans is, in part, the result of diminished levels of norepinephrine. Similarly, animals given amphetamines acted in a stereotypical, inappropriately aggressive, and apparently frightened manner that resembled paranoid psychotic symptoms in humans. Both of these models are considered too simplistic in their concepts of cause, but they remain as early paradigms for this type of research.

Studies have also been done on the effects of catecholamine-depleting drugs on monkeys during separation and reunion periods. These studies showed that catecholamine depletion and social separation can interact in a highly synergistic fashion and can yield depressive symptoms in subjects for whom mere separation or low-dose treatment by itself does not suffice to produce depression. Reserpine has produced severe depression in humans and, as a result, is rarely used as either an antihypertensive (its original indication) or an antipsychotic. Similarly, amphetamine and its congeners (including cocaine) can induce psychotic behavior in persons who use it in overdose or over long periods of time.

SENSORY DEPRIVATION

The history of sensory deprivation and its potentially deleterious effects evolved from instances of aberrant mental behavior in explorers, shipwrecked sailors, and prisoners in solitary confinement. Toward the end of World War II, startling confessions, induced by brainwashing prisoners of war, caused a rise of interest in this psychological phenomenon brought about by the deliberate diminution of sensory input. To test the hypothesis that an important element in brainwashing is prolonged exposure to sensory isolation, D. O. Hebb and his coworkers brought solitary confinement into the laboratory and demonstrated that volunteer subjects—under conditions of visual, auditory, and tactile deprivation for periods of up to 7 days—reacted with increased suggestibility. Some subjects also showed characteristic symptoms of the sensory deprivation state: anxiety, tension, inability to concentrate or organize thoughts, increased suggestibility, body illusions, somatic complaints, intense subjective emotional distress, and vivid sensory imagery—usually visual and sometimes reaching the proportions of hallucinations with a delusory quality.

Psychological Theories

Anticipating psychological explanation, Sigmund Freud wrote: “It is interesting to speculate what could happen to ego function if the excitations or stimuli from the external world were either drastically diminished or repetitive. Would there be an alteration in the unconscious mental processes and an effect upon the conceptualization of time?” Indeed, under conditions of sensory deprivation, the abrogation of such ego functions as perceptual contact with reality and logical thinking brings about confusion, irrationality, fantasy formation, hallucinatory activity, and wish-dominated mental reactions. In the sensory-deprivation situation, the subject becomes dependent on the experimenter and must trust the experimenter for the satisfaction of such basic needs as feeding, toileting, and physical safety. A patient undergoing psychoanalysis may be in a kind of sensory deprivation room (e.g., a soundproof room with dim lights and a couch) in which primary-process mental activity is encouraged through free association.

Cognitive

Cognitive theories stress that the organism is an information-processing

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machine, whose purpose is optimal adaptation to the perceived environment. Lacking sufficient information, the machine cannot form a cognitive map against which current experience is matched. Disorganization and maladaptation then result. To monitor their own behavior and to attain optimal responsiveness, persons must receive continuous feedback; otherwise, they are forced to project outward idiosyncratic themes that have little relation to reality. This situation is similar to that of many psychotic patients.

Physiological Theories The maintenance of optimal conscious awareness and accurate reality testing depends on a necessary state of alertness. This alert state, in turn, depends on a constant stream of changing stimuli from the external world, mediated through the ascending reticular activating system in the brainstem. In the absence or impairment of such a stream, as occurs in sensory deprivation, alertness drops away, direct contact with the outside world diminishes, and impulses from the inner body and the central nervous system may gain prominence. For example, idioretinal phenomena, inner ear noise, and somatic illusions may take on a hallucinatory character.

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3.2 Transcultural Psychiatry

Culture is defined as a set of meanings, norms, beliefs, values, and behavior patterns shared by a group of people. These values include social relationships, language, nonverbal expression of thoughts and emotions, moral and religious beliefs, rituals, technology, and economic beliefs and practices, among other items. Culture has six essential components: (1) Culture is learned; (2) culture can be passed on from one generation to the next; (3) culture

involves a set of meanings in which words, behaviors,

events, and symbols have meanings agreed upon by the cultural group; (4) culture acts as a template to shape and orient future behaviors and perspectives within and between generations, and to take account of novel situations encountered by the group; (5) culture exists in a constant state of change; and (6) culture includes patterns of both subjective and objective components of human behavior. In addition, culture shapes which and how psychiatric symptoms are expressed; culture influences the meanings that are given to symptoms; and culture affects the interaction between the patient and the health care system, as well as between the patient and the physician and other clinicians with whom the patient and family interact. Race is a concept, the scientific validity of which is now considered highly questionable, by which human beings are grouped primarily by physiognomy. Its effect on individuals and groups, however, is considerable, due to its reference to physical, biological, and genetic underpinnings, and because of the intensely emotional meanings and responses it generates. Ethnicity refers to the subjective sense of belonging to a group of people with a common national or regional origin and shared beliefs, values, and practices, including religion. It is part of every person's identity and self-image.

CULTURAL FORMULATION Culture plays a role in all aspects of mental health and mental illness; therefore, a cultural assessment should be a component of every complete psychiatric assessment. The outline for cultural formulation found in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) is intended to give clinicians a framework for assessing the role of culture in psychiatric illness. Its purposes are (1) to enhance the application of diagnostic criteria in multicultural environments; (2) cultural conceptualizations of distress; (3) psychosocial stressors and cultural features of vulnerability and resilience; (4) to enable the clinician to systematically describe the patient's cultural and social reference groups and their relevance to clinical care; and (5) to identify the effect that cultural differences may have on the relationship between the patient and family and the treating clinician, as well as how such cultural differences affect the course and the outcome of treatment provided. The outline for cultural formulation consists of five areas of assessment: (1) cultural identity of the individual; (2) cultural explanations of the individual's illness; (3) cultural factors related to psychosocial environment and levels of functioning; (4) cultural elements of the relationship between the individual and the clinician; and (5) overall cultural assessment for diagnosis and care.

Cultural Identity of the Individual Cultural identity refers to the characteristics shared by a person's cultural group. Identity allows for a self-definition. Factors that comprise an individual's cultural identity include race, ethnicity, country of origin, language use, religious beliefs, socioeconomic status, migration history, experience of acculturation, and the degree of affiliation with the individual's group of origin. Cultural identity emerges throughout the individual's

life and in social context. It is not a fixed trait of an individual or of the group of which the individual is part. An individual may have several cultural reference groups. The clinician should encourage the patient to describe the component aspects of their cultural identity. Evaluating the cultural identity of the patient allows identification of potential areas of strength and support that may enhance treatment effectiveness, as well as vulnerabilities that may interfere with the progress of treatment. Eliciting this data permits identification of unresolved cultural conflicts that may be addressed during treatment. These conflicts can be between the various aspects of the patient's identity and between traditional and mainstream cultural values and behavioral expectations affecting the individual. Knowledge of the patient's cultural identity allows the

clinician to avoid misconceptions based on inadequate background information or stereotypes related to race, ethnicity, and other aspects of cultural identity. In addition, it assists in building rapport because the clinician is attempting to understand the individual as a person and not just a representative of the cultural groups that have shaped the patient's identity.

Cultural Explanations of the Individual's Illness

The explanatory model of illness is the patient's understanding of and attempt to explain why he or she became ill. The explanatory model defines the culturally acceptable means of expression of the symptoms of the illness or idioms of distress, the particular way individuals within a specific cultural group report symptoms and their behavioral response to them that are heavily influenced by cultural values. The cultural explanations of illness may also help define the sick role or behavior the patient assumes. The explanatory model of illness includes the patient's beliefs about their prognosis and the treatment options they would consider. The patient's explanatory model may be only vaguely conceptualized or may be quite clearly defined, and it may include several conceptual perspectives that could be in conflict with one another. Formulation of a collaborative model that is acceptable to both the clinician and the patient is the sought-for end point, which would include an agreed upon set of symptoms to be treated and an outline of treatment procedures to be used. Difficulties may arise when there are conceptual differences in the explanatory model of illness between clinician, patient, family, and community. Conflicts between the patient's and the clinician's explanatory models may lead to diminished rapport or treatment noncompliance. Conflicts between the patient's and the family's explanatory models of illness may result in lack of support from the family and family discord. Conflicts between the patient's and the community's explanatory models could lead to social isolation and stigmatization of the patient. Examples of the more common explanatory models of illness include the moral model, the religious model, the magical or supernatural explanatory model, the medical model, and the psychosocial stress model. The moral model implies that the patient's illness is caused by a moral defect such as selfishness or moral weakness. The religious model suggests that the patient is being punished for a religious failing or transgression. The magical or

supernatural explanatory model may involve attributions of sorcery or witchcraft as being the cause of the symptoms. The medical model attributes the patient's illness primarily to a biological etiology. The psychosocial model infers that overwhelming psychosocial stressors cause or are primary contributors to the illness. Culture has both direct and indirect effects on help-seeking behavior. In many cultural groups an individual and his or her family may minimize symptoms due to stigma associated with seeking assistance for psychiatric disorders. Culture affects the patient's expectations of treatment, such as whether the clinician should assume an authoritarian, paternalistic, egalitarian, or nondirective demeanor in the treatment process.

Cultural Factors Related to Psychosocial Environment and Level of Functioning

An understanding of the patient's family dynamics and cultural values is integral to assessing the patient's psychosocial environment. The definition of what constitutes a family and the roles of individuals in the family differ across cultures. This includes an understanding of the patient's cultural group and its relationship to the mainstream culture or cultures. It includes the patient's life experience of racial and ethnic discrimination. For immigrants and refugees, it includes the individual's and family's perceptions of the openness of the host society toward people of their country and region of origin, their racial, ethnic, religious, and other attributes. The patient and family may identify strongly or weakly with communal sources of support familiar from their country or region of origin, or they may identify along the same gradient with communal sources of support in the host culture.

Cultural Elements of the Relationship Between the Individual and the Clinician

The cultural identity

of the clinician and of the mental health team has an impact on patient care. The culture of the mental health care professional influences diagnosis and treatment. Clinicians who have an understanding of their own cultural identity may be better prepared to anticipate the cultural dynamics that may arise in interactions with people of diverse cultural backgrounds. Unacknowledged differences between the clinician's and patient's cultural identity can result in assessment and treatment that is unintentionally biased and stressful for all. Clinicians need to examine their assumptions about other cultures in order to be optimally effective in serving the culturally diverse patient populations that are the norm in most contemporary medical facilities. Culture influences transference and counter-transference in the clinical relationship between people seeking psychiatric care and their treating clinicians. Transference relationships and dynamics are affected when the patient and clinician have different cultural background characteristics. A perceived social power differential between the patient and clinician could lead to overcompliance, to resistance in exploration of

family and social conflict situations, or to the clinician being conceptualized as a cultural role model or stereotype. Overall Cultural Assessment for Diagnosis and Care The treatment plan should include the use of culturally appropriate health care and social services. Interventions also may be focused on the family and social levels. In making a psychiatric diagnosis the clinician should take into account principles of cultural relativism and not fall prone to category fallacy. Many psychiatric disorders show cross-cultural variation. Objective evaluation of the multiple possible effects of culture on psychopathology can be a challenging task for the clinician. Diagnostic dilemmas may arise in dealing with patients of diverse cultural backgrounds. Some of these dilemmas may include problems in judging distortion from reality, problems in assessing unfamiliar behaviors, and problems in distinguishing pathological from normal cultural behavior. MIGRATION, ACCULTURATION, AND ACCULTURATIVE STRESS From the time of the first major surge of immigration to the United States in the 1870s, and for the next 100 years, the predominant national sentiment toward immigrants, as in most other host countries, was that they should acculturate to the normative behaviors and values of the majority or mainstream culture of the host population. Most immigrants had the same wish to assimilate, to become part of the melting pot. This process of acculturative change can be seen as unidirectional, as individuals who identified themselves as part of immigrant, indigenous, and other minority groups both rejected and progressively lost distinctive aspects of their cultural heritage in favor of becoming part of the mainstream majority culture of the host country. In countries that encouraged this outcome of acculturation, people were expected to progress from unacculturated, through the gradient of minimally, moderately, and fully acculturated. The intensity of acculturative stress experienced by immigrant and other minority groups, and the individuals comprising those groups, has been directly proportional to the openness of the host government and population. The central issue is to what extent are immigrants' and other minority groups' customs, values, and differences from the majority population of the host country accepted, encouraged, and welcomed as an enrichment of the host country, as opposed to being seen as alien and unwelcome. The acceptance position encourages the cultural integration of immigrants, whereas the rejection position encourages either cultural exclusion or cultural assimilation. In order to assess the outcome of acculturative stress, for groups and their component individuals, two determining factors need to be considered. The first is the extent to which the group and its members value and wish to preserve their cultural uniqueness, including the language, beliefs, values, and social behaviors that define the group. The second factor is the mirror-image issue of the extent to which the group and its members value

and wish to increase their contact and involvement with other groups, particularly the majority culture. This conceptual framework leads to four possible outcomes of

acculturative stress that are not conceptualized along the unidirectional gradient from unacculturated to completely acculturated. The four possible outcomes are rejection, integration, assimilation, and marginalization. Rejection is characterized by individuals' wishes, both conscious and intuitive, to maintain their cultural integrity, whether by actively resisting the incorporation of the values and social behavior patterns of another cultural group or groups with whom they have regular contact, or by disengaging themselves from contact with and the influence of those other cultural groups. Some religious cults are examples of rejection. Integration, as an outcome of acculturative stress, derives from the wish to both maintain a firm sense of one's cultural heritage and not abandon those values and behavioral characteristics that define the uniqueness of one's culture of origin. At the same time, such individuals are able to incorporate enough of the value system and norms of behavior of the other cultural group with which they interact closely, to feel and behave like members of that cultural group, principally the majority host culture. Accordingly, the defining feature of integration is psychological: It is the gradual process of formulation of a bicultural identity, a sense of self that intertwines the unique characteristics of two cultures. Assimilation is the psychological process of the conscious and unconscious giving up of the unique characteristics of one's culture of origin in favor of the more or less complete incorporation of the values and behavioral characteristics of another cultural group, usually, but not always, the majority culture. Examples include involuntary migration, when war and social upheaval necessitate such changes for purposes of survival. However, there are many other life circumstances, including racial, ethnic, and religious discrimination, that motivate people to overlook, suppress, or deny aspects of their cultural heritage in an attempt to have a seamless fit within another group. The price of such an effort, in terms of intrapsychic conflict, can be high. Marginalization is defined by the psychological characteristics of rejection or the progressive loss of valuation of one's cultural heritage, while at the same time rejecting, or being alienated from, the defining values and behavioral norms of another cultural group, usually that of the majority population. This is the psychological outcome of acculturative stress that is closest to the concept of identity diffusion.

PSYCHIATRIC ASSESSMENT OF IMMIGRANTS AND REFUGEES

Migration History

Mental illness among immigrants and refugees may have been present before migration, may have developed during the immigration process, such as during months or years living in refugee camps, or presented for the first time in the country of immigration. The immigration process and premigration trauma may precipitate the manifestation of underlying symptoms or result in exacerbation of a pre-existing disorder. Obtaining a thorough migration history will assist in understanding background and precipitating stressors and help guide development of an appropriate treatment plan.

The premigration history includes inquiry about the patient's social support network, social and psychological functioning, and significant premigration life events. Information about the country and region of origin, the family history in the country of origin—including an understanding of family members who may have decided not to immigrate—educational and work experiences in the country of origin, and prior socioeconomic status should be obtained. In addition, premigration political issues, trauma, war, and natural disaster faced by the patient and family in the country or region of origin should be explored. For those who had to escape persecution, warfare, or natural disaster, what were the means of escape and what type of trauma was suffered prior to and during

migration? Traumatic life events are not limited just to refugees. Immigration may result in losses of social networks, including family and friends; material losses, such as business, career, and property; and loss of the cultural milieu, including their familiar community and religious life. Premigration planning includes reasons for immigrating, duration and extent of planning, premigration aspirations, and beliefs about the host country. The type of migration experience, whether as voluntary immigrants or as unprepared refugees, can have profoundly different effects on migrants' mental health. The Mental Status Examination As with any patient, conducting a mental status examination is a central component of the psychiatric examination. However, its interpretation in culturally distinct groups and among immigrant populations requires caution, as it may be culturally biased. The patient's response is molded by his or her culture of origin, educational level, and type of acculturative adaptation. The components of the standardized mental status examination are the following: cooperation, appearance and behavior, speech, affect, thought process, thought content, cognition, insight, and judgment. Cultural differences are wide and varied in dress and grooming. Facial expressions and body movements used in the expression of affect may be more reflective of normal cultural manifestations than pathology. If the clinician is unfamiliar with the individual's culture and the patient's fluency in the language of the host country is limited, the clinician must use caution in interpreting disturbances of speech and thought process, perception, and affect. The presence of hallucinations, for example, can be easily misinterpreted, such as hearing encouraging or clarifying comments from deceased family members, normative experiences in many cultures. The clinician should not assume that the patient understands what the clinician is trying to communicate, and miscommunication involving use of interpreters is a common problem. The cognitive examination may be particularly tricky. Education and literacy have an important and biasing role. The patient may need adequate time to fully express himself or herself through repeating questions and restating questions in the effort to reduce miscommunication. Asking about the meaning of proverbs unfamiliar to the patient may be an inappropriate means of determining abstract thinking. An accurate mental status examination can be accomplished when one allows additional time for clarification of concepts.

IMMIGRATION ACCULTURATION AND MENTAL HEALTH Many countries have had difficulty coping with the surging numbers of migrants. This has led to greater restrictions on migrant numbers, partly in response to public sentiment that the social and cultural integrity of the nation has become threatened, even undermined, by waves of migrants from other countries and cultures. During the last 10 years, fears of terrorist violence and civil disruption have led many countries to adopt increasingly restrictive and sometimes punitive policies toward legal and illegal migrants, refugees, and asylum seekers. This trend has been observed in the United States, in some countries of the European Union, and in Australia.

RACIAL AND ETHNIC DIFFERENCES IN PSYCHIATRIC DISORDERS IN THE UNITED STATES A number of community-based epidemiological studies in the United States have examined the rates of disorders across specific ethnic groups. These studies have found a lower than expected prevalence of psychiatric disorders among disadvantaged racial and ethnic minority groups in the United States. African Americans were found to have lower rates of major depression in the Epidemiological Catchment Area study. The lifetime prevalence rates for major depression for whites was 5.1 percent; for Hispanics, 4.4 percent; and for African Americans, 3.1 percent. African Americans, however, had higher rates for all lifetime disorders combined. This finding of differential rates could be explained by adjusting for socioeconomic status. The National Comorbidity Study (NCS) found lower lifetime prevalence rates of mental illness among African Americans than whites, and in particular mood, anxiety, and

substance use disorders. The lifetime rates for mood disorders were 19.8 percent for whites, 17.9 percent for Hispanic Americans, and 13.7 percent for African Americans. The National Health and Nutrition Examination Survey-III also found lifetime rates of major depression to be significantly higher among whites, 9.6 percent, than African Americans, 6.8 percent, or Mexican Americans, 6.7 percent. Although African Americans had lower lifetime risk of mood disorders than whites, once diagnosed they were more likely to remain persistently ill. NCS rates for anxiety disorders were 29.1 percent among whites, 28.4 percent for Hispanic Americans, and 24.7 percent for African Americans. The rates for lifetime substance use disorders for the three groups, whites, Hispanic Americans, and African Americans, were 29.5, 22.9, and 13.1 percent, respectively. Hispanic Americans, and in particular Mexican Americans, were found to be at lower risk for substance use and anxiety disorders than whites. In an epidemiological study conducted in Florida, substantially lower rates were observed among African Americans for both depressive disorders and substance use disorders. The lower rate for substance use disorders was also found in the National Epidemiological Survey on Alcohol and Related Conditions, with whites having a prevalence rate of 1-year alcohol use disorders of 8.9 percent, Hispanic Americans, 8.9 percent, African Americans, 6.9 percent, Asian Americans, 4.5 percent, and Native Americans, 12.2 percent. This study also found lower lifetime rates for major depression among Hispanic Americans, 10.9 percent, compared to whites, 17.8 percent. In 2007, the National Survey of American Life compared rates of major depression between Caribbean blacks, African Americans, and whites. Although there were no significant differences in 1-year prevalence between the three groups, lifetime rates were highest among whites, 17.9 percent, followed by Caribbean blacks, 12.9 percent, and African Americans, 10.4 percent. The chronicity of major depressive disorder was higher for both African Americans and Caribbean blacks, approximately 56 percent, while much lower for whites, 38.6 percent. This study

was consistent with findings from the NCS that concluded that members of disadvantaged racial and ethnic groups in the United States do not have an increased risk for psychiatric disorders; however, once diagnosed, they do tend to have more persistent disorders. Although African Americans have a lower prevalence rate for mood, anxiety, and substance use disorders, this may not be the case for schizophrenia. The Child Health and Development Study found that African Americans were about threefold more likely than whites to be diagnosed with schizophrenia. The association may be partly explained by African American families having lower socioeconomic status, a significant risk factor for schizophrenia. A more detailed examination of differences across racial groups was included in the National Comorbidity Study Replication (NCS-R). Non-Hispanic African Americans and Hispanic Americans were at significantly lower risk than non-Hispanic whites for anxiety disorders and mood disorders. Non-Hispanic African Americans had lower rates of substance use disorders than non-Hispanic whites. More specifically, both minority groups were at lower risk for depression, generalized anxiety disorder, and social phobia. In addition, Hispanic Americans had lower risk for dysthymia, oppositional defiant disorder, and attention-deficit/hyperactivity disorder. Non-Hispanic African Americans had lower risk for panic disorder, substance use disorders, and early onset impulse-control disorders. The lower rates among Hispanic Americans and African Americans compared to non-Hispanic whites appear to be due to reduced lifetime risk of disorders, as opposed to persistence of chronic disorders. The researchers concluded that the pattern of racial-ethnic differences in risk for psychiatric disorders suggests the presence of protective factors that originate in childhood and have generalized effects, as the lower lifetime risk for both Hispanic Americans and African Americans begins prior to age 10 for

depression and anxiety disorders. The retention of ethnic identification and participation in communal, religious, and other activities have been suggested as protective factors that may decrease the lifetime risk for psychiatric disorders in close-knit ethnic minority communities. Cultural differences in response to psychiatric diagnostic survey items may be another possible explanation for these findings. However, disadvantaged ethnic groups usually overreport in studies measuring psychological distress, whereas these studies find lower rates. DISCRIMINATION, MENTAL HEALTH, AND SERVICE UTILIZATION Disparities in Mental Health Services Studies, including recent ones, have shown that racial and ethnic minorities in the United States receive more limited mental health services than whites. Analysis of medical expenditures in the United States has shown that the mental health care system provides comparatively less care to African Americans and Hispanic Americans than to whites, even after controlling for income, education, and availability of health insurance. African Americans have about a 10 percent probability of receiving any mental health expenditure, compared to 20 percent for whites. Hispanic Americans are

about 40 percent less likely than whites to receive any mental health expenditure. Total mental health expenditure for Hispanic Americans is about 60 percent less than for whites. In addition, studies conducted over the last 25 years have shown that regardless of disorder diagnosed, African American psychiatric patients are more likely than white patients to be treated as inpatients, hospitalized involuntarily, placed in seclusion or restraints without evidence of greater degree of violence, and treated with higher doses of antipsychotic medications. These differences are not due to the greater severity of the disorders between white and African American patients. One hypothesis for this discrepancy of treatment between African American and white patients is that whites are more likely to seek out mental health care voluntarily than African Americans, and African Americans are more likely to enter the mental health care system through more coercive and less voluntary referral systems. African Americans are also more likely than whites to use emergency room services, resulting in more crisis-oriented help seeking and service utilization. Once hospitalized in an institution with predominantly white staff, African American patients may receive differential care as a result of discrimination. That is, service personnel who are not familiar with the illness concepts and behavioral norms of nonwhite groups, tend to assess minorities as more severely ill and more dangerous than patients of their own racial or ethnic group; consequently, such patients tend more often than white patients to be hospitalized involuntarily, placed in seclusion or restraints, and treated with higher doses of antipsychotic medications. African American patients assessed in psychiatric emergency services are more likely to be diagnosed with schizophrenia and substance abuse than matched white patients. White patients are more often diagnosed with a mood disorder. The cultural distance between the clinician and the patient can affect the degree of psychopathology inferred and the diagnosis given. These differences in diagnosis by race have also been found when comparable research diagnostic instruments have been used for patient assessment. Semistructured diagnostic instruments based on explicit diagnostic criteria do not necessarily eliminate racial disparities in diagnostic outcomes. It appears that the process that clinicians use to link symptom observations to diagnostic constructs may differ, in particular for schizophrenia, between African American and white patients. The pattern of psychotic symptoms that predicts a clinician making a diagnosis of schizophrenia in African American and white patients is different. Among African American patients loose associations, inappropriate affect, auditory hallucinations, and vague speech increased the likelihood of a diagnosis of schizophrenia. Positive predictors for white patients were vague speech and loose

associations. In addition, auditory hallucinations are more frequently attributed to African American patients. African Americans are less likely to have had outpatient treatment and longer delays in seeking care, and they present more severely ill. The reason for hospitalization was also different between African Americans and whites. African American patients were more likely to be admitted for some form of behavioral disturbance, whereas white patients were more likely to be admitted for cognitive or affective disturbances. In

addition, African Americans were more likely to have police or emergency service involvement, despite no racial differences in violence, suicidality, or substance use when assessed. Furthermore, African American patients are more likely, even after controlling for health insurance status, to be referred to public rather than private in-patient psychiatric facilities, suggesting racial bias in psychiatric emergency room assessment and recommended treatment. African American patients diagnosed with major depression are less likely to receive antidepressant medications than whites, and less likely to be treated with electroconvulsive therapy. These findings cannot be explained by demographic or socioeconomic differences. One explanation may be that there are conscious or unconscious biases in psychiatrists' treatment decisions. Although both African Americans and Hispanic Americans were less likely to fill an antidepressant prescription when diagnosed with depression, once a prescription was filled, they were just as likely as whites to receive an adequate course of treatment. These findings indicate that initiating care for depression is the biggest hurdle in overcoming these disparities. African American patients have been found to be more likely to be treated with depot rather than oral neuroleptics compared to whites, after controlling for the type and severity of illness. When treated with antipsychotic drugs, African Americans are less likely to receive second-generation antipsychotics than whites, placing them at increased risk for tardive dyskinesia and dystonia. These differences in antipsychotic prescribing patterns may be due to physicians' concern over an increased risk of diabetes among African Americans compared with whites, or may be due to physicians perceiving their symptoms differently. Disparities in mental health care for African Americans and Hispanic Americans have also been noted in studies conducted with adolescents. A disparity in prescription drug use for mental illness also has been found among Hispanic Americans and Asian Indian Americans. From 1996 to 2000, Asian Indian Americans were found to use prescription drugs 23.6 percent less than whites, whereas the differences between whites and African Americans and between whites and Hispanic Americans were 8.3 and 6.1 percent, respectively. Disparities in mental health service use among Asian American immigrants may be linked to language-based discrimination, although racial bias cannot be excluded. A study of Chinese Americans found a higher level of use of informal services and help seeking from friends and relatives for emotional problems. Those Chinese Americans who reported experiencing languagebased discrimination had a more negative attitude toward formal mental health services. Data on racial and ethnic differences in mental health counseling and psychotherapy are similar to the psychopharmacological studies showing disparities for minorities. A study examining visits to primary care physicians based on the National Ambulatory Medical Care Survey from 1997 to 2000 found that primary care physicians provided similar or higher rates of general health counseling to African American than white patients. However, the rates of mental health counseling were significantly lower for African American patients. The lower rate of mental health counseling among African

Americans may be due to decreased reporting of depressive symptoms, inadequate communication between African American patients and their primary care physicians, and

decreased willingness to discuss mental health issues. On the other hand, another study utilizing the Medical Expenditure Panel Survey from 2000 found that African Americans were more likely than Hispanic Americans or whites to receive an adequate course of psychotherapy for depression. These findings suggest that initiating treatment is the biggest hurdle, and that once they are engaged in treatment, African Americans have high compliance with psychotherapy.

RESEARCH IN TRANSCULTURAL PSYCHIATRY

There are three perspectives, among other possible approaches, that offer great promise for future research in cultural psychiatry. The first would be based on identification of specific fields in general psychiatry that could be the subject of focused research from a cultural perspective. Topics of epidemiology and neurobiology could be assessed in this way. The former would address issues primarily in the public health arena, including stigmatization, racism, and the process of acculturation. A number of cultural variables should be considered in conducting cultural psychiatry research, including language, religion, traditions, beliefs, ethics, and gender orientation. The second would aim at the exploration of key concepts and/or instruments in culturally relevant clinical research. There are four key concepts: idioms of distress, social desirability, ethnographic data, and explanatory models. Idioms of distress are the specific ways in which different cultures or societies report ailments; behavioral responses to threatening or pathogenic factors; and the uniqueness in the style of description, nomenclature, and assessment of stress. Social desirability stems from the similarities or differences among cultures vis-à-vis the actual experiencing of stressful events. Members of some cultures may be more or less willing to suffer physical or emotional problems, thus showing different levels of vulnerability or resignation, resilience or acceptance. Issues of stigma in different cultural contexts contribute to this level of desirability or rejection. Third, ethnographic data should be included, together with strictly clinical data and laboratory analyses or tests, as well as narratives of life that enrich the descriptive aspects of the condition and expand on the surrounding sociocultural and interpersonal and environmental aspects of the experience. The fourth concept is explanatory models. Each culture explains pathology of any kind in its own distinctive way. The explanation includes not only the presumptive original cause, but also the impact of the adduced factors and the interpersonal exchanges and interactions that lead to the culturally accepted clinical diagnosis. A third approach attempts to combine the first two by examining different areas of research on the basis of the clinical dimensions of cultural psychiatry. This deals with conceptual, operational, and topical issues in the field now and in the future, including their biocultural connections.

Conceptual Issues in Cultural Psychiatry

One of the primary issues in research in cultural psychiatry is the conceptual differentiation between culture and environment. Although generally accepted as the conceptual opposite of genetic, environment represents a very broad, polymorphic concept. It is therefore important to establish that, while perhaps part of that environmental set, culture and cultural factors in health and disease are terms of a different, even unique, nature. To what extent does culture apply to the clinical realities of psychiatry? Culture plays a role in both normality and psychopathology. The role of culture in psychiatric diagnosis is an excellent example of this conceptual issue. Furthermore, culture has an impact on treatment approaches, based on both conventional medical and psychiatric knowledge, and on the explanatory models. Finally, cultural variables have a role in prognosis and outcome. A conceptual debate exists between those who advocate an evidence-based approach to research and practice, versus those who assign a value-based view to everything clinical, more so if influenced by cultural factors. The value-based approach invokes issues such as poverty, unemployment, internal and external migration, and natural and manmade

disasters. Evidence may be found to support both positions in scientific research.

Operational Issues in Cultural Psychiatry

The dichotomy of normality and abnormality in human behavior is a crucial operational issue. Culture plays a definitive role in shaping these approaches. This raises the notion of relativism, a strong conceptual pillar in cultural psychiatry. Normality is a relative idea; that is, it varies in different cultural contexts. Another operational issue is that of the choice of cultural variables. Each one has a specific weight and impact on the occurrence of symptoms, syndromes, or clinical entities in psychiatry. Some of them may be essential in the assessment of a clinical topic, namely, language, education, religion, and gender orientation. An additional operational factor is the description, assessment, and testing of the strengths and weaknesses of an individual patient. Aspects of an individual's behavior, attitudes, disposition, sociability, occupational skills, and other factors are culturally determined. Culture plays a significant role in the perception of severity of symptoms, the disruption of the individual's functionality, and quality of life. The assessment of severity is also the result of the meaning attributed to causal or pathogenic factors of psychopathology. Judgments about level of dysfunction and the quality of a patient's life involve elusive concepts such as happiness, well-being, and peace of mind. Research on cultural psychiatry issues needs to take into account representativeness of the study populations and generalizability of the findings. Methodological rigor needs to be applied to the collection of demographic data, delineation of and differentiation between ethnic groups or subgroups, and measurement of demographic variables, symptoms, diagnosis, and culturally specific constructs. Many tests and questionnaires used in clinical settings and research have been

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3.3 Culture-Bound Syndromes

developed on English-speaking Western subjects and may not be appropriate for use among ethnic minority patients or non-English-speaking individuals due to lack of cultural equivalence.

Translating items is insufficient to achieve linguistic equivalence, as the meaning and connotation changes and idioms of expression differ between languages. In addition, norms also may differ between ethnic groups, and tests need to be standardized with representative patients. The complexity of translating an instrument varies depending on how much the construct being measured differs between the two cultures. There are four different approaches to translation. An ethnocentric approach is one in which the researcher assumes that the concepts completely overlap in the two cultures. The instrument is used with individuals who differ from the population in which the instrument was originally developed and normed. The pragmatic approach assumes that there is some overlap between the two cultures and attempts are made to measure the overlapping aspects of the construct, emic aspects. An emic plus etic approach goes one step further and also attempts to measure culture-specific aspects of the construct. Lastly, sometimes translation is not possible when the concepts do not overlap at all within the two cultures.

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Sadock's Comprehensive Textbook of Psychiatry. 9th ed. Philadelphia: Lippincott Williams & Wilkins; 2009:734. Kortmann F. Transcultural psychiatry: From practice to theory. *Transcultural Psychiatry*. 2010;47(2):203. Ruiz P. A look at cultural psychiatry in the 21st century. *J Nerv Ment Dis*. 2011;199(8):553. Ton H, Lim RF. The assessment of culturally diverse individuals. In: Lim RF, ed. *Clinical Manual of Cultural Psychiatry*. Washington, DC: American Psychiatric Publishing; 2006:3-31. 3.3 Culture-Bound Syndromes

Cross-cultural mental health professionals have introduced a number of terms to refer to and describe culture-specific forms of expressing and diagnosing emotional distress. The term culture bound was used in the past to describe patterned behaviors of distress or illness whose phenomenology appeared distinct from psychiatric categories and were considered unique to particular cultural settings. The clear implication was that Western psychiatric categories were not culture bound, but rather universal, and that proper characterization would disclose a simple translation key for non-Western syndromes. The dichotomy between syndromes that are "culture free," emerging from EuroAmerican and European societies, and those that are "culture bound," emerging from everywhere else, is of course patently false. Culture suffuses all forms of psychological distress, the familiar as well as the unfamiliar. **CULTURE-BOUND SYNDROMES AND THEIR RELATIONSHIP TO PSYCHIATRIC DIAGNOSES** Only a few of the many cultural forms of expressing distress have received sustained research attention with integration of cultural and psychiatric research methods. This chapter focuses on some of those syndromes from diverse cultural regions, which have received the most intensive research and have been shown to be associated with psychiatric categories: Amok, ataques de nervios, possession syndrome, and shenjing shuairuo. Amok Amok is a dissociative episode that is characterized by a period of depression followed by an outburst of violent, aggressive, or homicidal behavior. Episodes tend to be caused by a perceived insult and are often accompanied by persecutory ideas, automation, amnesia, and exhaustion. Patients return to premorbid states following the episode. Amok seems to be prevalent only among males. The term originated in Malaysia, but similar behavior patterns can be found in Laos, Philippines, Polynesia (cafard or cathard), Papua New Guinea, and Puerto Rico (mal de pelea), and among the Navajo (iich'aa). Phenomenology. A prototypical episode is composed of the following elements:

1. Exposure to a stressful stimulus or subacute conflict, eliciting in the subject feelings of anger, loss, shame, and lowered self-esteem. The stressor usually appears minor in proportion to the resulting behavior (e.g., argument with a coworker, verbal insult), but may occasionally be severe (i.e., death of a loved one).
2. A period of social withdrawal and brooding over the precipitating conflict, often involving aimless wandering, and sometimes accompanied by visual perceptual alterations.
3. Transition, usually sudden, to frenzied and extremely violent homicidality, with or without a brief prodromal stage of preparation (e.g., subject may locate preferred

weapon or reach suddenly for whatever implement is available). 4. Indiscriminate selection of victims who may or may not symbolically represent the original actors in the conflict (e.g., subject attacks only Chinese people who are strangers to him, after a conflict with a Chinese coworker). Occasionally, the subject also attacks animals or objects in his path, or wounds himself, sometimes severely. The subject perseveres at these violent activities despite external attempts to bring him under control. 5. Verbalizations, when present, may be frenzied and guttural, or express internal

conflict (e.g., ask forgiveness of a relative before killing him) or split consciousness (e.g., subject admits to a positive relationship with the victim, but denies this for his “spear”). 6. Cessation may be spontaneous, but usually results from being overpowered or killed. It is typically abrupt and leads to change in consciousness, usually stupor or sleep. 7. Subsequent partial or total amnesia and report of “unconsciousness” or description of “darkened vision” (mata gelap) during the acute episode. 8. Perceptual disturbances or affective decompensations may occur for days or weeks after the acute attack. Psychosis or depression sometimes ensues. Epidemiology. Epidemiological rates of amok in Malaysia and Indonesia are unknown and may vary regionally and over time. From the available data, amok appears to follow an endemic pattern in Malayo-Indonesia with some epidemic increases, the reverse of which has been found for amok-like attacks in Laos. Amok is essentially unknown in women (only one case was found in the literature, and it was considered atypical in that no deaths occurred). It is thought to occur more frequently in men of Malay extraction, Muslim religion, low education, and rural origin, who are between the ages of 20 and 45 years. Precipitants. Precipitants of amok in Malaysia and Indonesia typically consisted of experiences eliciting in the subject marked feelings of loss, shame, anger, or lowered self-esteem. Although specific triggers were very diverse in nature and presentation, including sudden and gradual stressors, most consisted of interpersonal or social conflicts superficially appearing to generate only mild to moderate stress. These include arguments with coworkers, nonspecific family tensions, feelings of social humiliation, bouts of possessive jealousy, gambling debts, and job loss. Rarely, however, amok was precipitated by a severe stressor, such as the simultaneous death of the spouse and child of the subject. Additional Clinical Features. It is unclear whether amok episodes are associated with indirect suicidal intent on the part of the subject. Anecdotes and cultural views supporting a connection are available, but interviews with surviving subjects have tended to refute the association. Rates of relapse are unknown. It is considered very likely in the popular view, leading

currently in Malaysia to permanent psychiatric hospitalization of surviving subjects, and, in the past, to banishment or execution. Treatment. Afflicted individuals in 20th-century Malaysia have been exempted from legal or moral responsibility for acts committed while in a state of amok by means of a kind of “insanity defense,” which characterizes the attack as “unconscious” and beyond the subject’s control. They were subsequently hospitalized, sometimes permanently, and frequently received diagnoses of schizophrenia and were treated with antipsychotic medication. Alternatively, trials have sometimes resulted in criminal verdicts and prolonged imprisonment. Ataque de Nervios Ataque de nervios is an idiom of distress principally reported among Latinos from the Caribbean, but recognized among many Latin American and Latin Mediterranean groups. Commonly reported symptoms include uncontrollable shouting, attacks of crying, trembling, heat in the chest rising into the head, and verbal or physical aggression. Dissociative experiences, seizure-like or fainting episodes, and suicidal gestures are prominent in some attacks but absent in others. A general feature of an ataque de nervios is a sense of being out of control. Ataques de nervios frequently occur as a direct result of a stressful event relating to the family (e.g., news of a death of a close relative, a separation or divorce from a spouse, conflicts with a spouse or children, or witnessing an accident involving a family member). People may experience amnesia for what occurred during the ataque de nervios, but they otherwise return rapidly to their usual level of functioning. Ataque de nervios (attack of nerves, in Spanish) is a syndrome indigenous to various Latin American cultures, notably those of the Hispanic Caribbean (Puerto Rico, Cuba, and the Dominican Republic). It has received considerable attention in the psychiatric and anthropological

literature since the mid-1950s, mostly in Puerto Rican communities on the island and in populations within the United States. Phenomenology. An *ataque de nervios* can be described as prototypically composed of the following elements:

1. Exposure to a frequently sudden, stressful stimulus, typically eliciting feelings of fear, grief, or anger, and involving a person close to the subject, such as a spouse, child, family member, or friend. Severity of the trigger ranges from mild-moderate (i.e., marital argument, disclosure of migration plans) to extreme (i.e., physical or sexual abuse, acute bereavement).
2. Initiation of the episode is immediate upon exposure to the stimulus, or after a period of brooding or emotional "shock."
3. Once the acute attack begins, rapid evolution of an intense affective storm follows, characterized by a primary affect usually congruent with the stimulus (such as anger,

fear, grief) and a sense of loss of control (emotional expressions). 4. These are accompanied by all or some of the following: A. bodily sensations: Trembling, chest tightness, headache, difficulty breathing, heart palpitations, heat in the chest, paresthesias of diverse location, difficulty moving limbs, faintness, blurred vision, or dizziness (mareos). B. Behaviors (action dimension): Shouting, crying, swearing, moaning, breaking objects, striking out at others or at self, attempting to harm self with nearest implement, falling to the ground, shaking with convulsive movements, or lying "as if dead." 5. Cessation may be abrupt or gradual, but it is usually rapid, and often results from the ministrations of others, involving expressions of concern, prayers, or use of rubbing alcohol (alcoholado). There is return of ordinary consciousness and reported exhaustion. 6. The attack is frequently followed by partial or total amnesia for the events of the episode, and descriptions such as the following for the acute attack: Loss of consciousness, depersonalization, mind going blank, and/or general unawareness of surroundings (alterations in consciousness). However, some *ataques* appear to exhibit no alterations in consciousness. Epidemiology. Risk factors for *ataque de nervios* span a range of social and demographic characteristics. The strongest predictors of *ataque* are female gender, lower formal education, and disrupted marital status (i.e., divorced, widowed, or separated). *Ataque* sufferers also reported less satisfaction in their social interactions generally and specifically with their spouses. In addition, people who experienced an *ataque de nervios* were more likely to describe their health as only fair or poor, to seek help for an emotional problem, and to take medications for this purpose. Persons with *ataque* also reported deriving less satisfaction from leisure time activities and feeling overwhelmed more often. Precipitants. Prototypically, *ataque de nervios* was linked by sufferers to an acute precipitating event or to the summation of many life episodes of suffering brought to a head by a trigger that overwhelmed the person's coping ability. In 92 percent of cases, the *ataque* was directly provoked by a distressing situation, and 73 percent of the time it began within minutes or hours of the event. A majority of first *ataques* (81 percent) occurred in the presence of others, as opposed to when the sufferer was alone, and led to a the person receiving help (67 percent). Unlike the typical experience of persons with panic disorder, most patients reported feeling better (71 percent) or feeling relieved (81 percent) after their first *ataque*. The first episodes of *ataque de nervios* are closely tied to the interpersonal world of the sufferer and they result in an unburdening (*desahogarse*) of one's life problems, at least temporarily. Additional Clinical Features. The association between *ataque de nervios* and a

sense of loss of control and of being overwhelmed highlight the importance of the association between the cultural syndrome and other behaviors associated with acute emotional dysregulation. Most concerning among these is the strong relationship between ataques and suicidal ideation and attempts. Other related behaviors include loss of aggression control, expressed as attacks on people or property, and dissociative experiences, both of which are related to the acute ataque experience. Specific Cultural Factors. The complex relationship between ataque de nervios and psychiatric diagnosis may be clarified in reference to its broader popular nosology. In the Hispanic Caribbean and other areas of Latin America, ataque is part of a popular nosology of nervios (nerves), composed of other related categories. Experiences of adversity are linked in this nosology to ensuing "alterations" of the nervous system, which result in its impaired functioning, including the peripheral nerves. This quasianatomical damage is evidenced in emotional symptoms, including interpersonal susceptibility, anxiety, and irritability, as well as in physically mediated symptoms, such as trembling, palpitations, and decreased concentration. Treatment. No treatment studies of ataque de nervios have ever been conducted. Typical treatment involves, first, ensuring the safety of the person and those around him or her, given the association between ataque, suicidality, and uncontrolled aggressivity. "Talking the person down" is usually helpful, accompanied by expressions of support from relatives and other loved ones; the use of rubbing alcohol (alcoholado) to help calm the person is a culturally prescribed way of expressing this support. "Telling the story" of what led to the ataque usually constitutes the principal therapeutic approach in subsequent stages of treatment. Because one of the main functions of the attack is to communicate a feeling of being overwhelmed, indicating receipt of the message and the desire to offer support are usually perceived as therapeutic. The person should be allowed to set the pace of disclosure and to give enough details and circumstances to feel "unburdened" (desahogado[a]). In the case of single or occasional ataques in the absence of a psychiatric diagnosis, brief follow-up is usually sufficient. This may be discussed with the patient and the family as a way of ensuring a full return to the previous healthy state. For recurrent ataques, treatment depends on the associated psychopathology, the nature of the precipitants (including traumatic exposure), the degree of family conflict or support, the social context, the previous treatment experiences, and the patient's and family's expectations, among other factors. Psychotherapy is typically the mainstay of treatment, given the usual source of the overwhelmed behavior in the interpersonal milieu. Pharmacotherapy may also be useful in the treatment of ataque-related psychopathology; primary emphasis should be placed on treating the underlying disorder. Given the slow crescendo of many ataques, judicious use of short-acting benzodiazepines also has a role in helping abort an impending episode. However, this should not be the main form of treatment for recurrent ataques, since it only forestalls the principal function of the syndrome as a mode of

communication. Instead, psychotherapy and a social activism stance by the therapist that acknowledges the origins of adversity among low-income Latinos in socioeconomic disenfranchisement and ethnic/racial discrimination are usually required to address the interpersonal and sociocultural roots of ataque de nervios. Possession Syndrome Involuntary possession trance states are very common presentations of emotional distress around the world. Cognate experiences have been reported in extremely diverse cultural settings, including India, Sri Lanka, Hong Kong, China, Japan, Malaysia, Niger, Uganda, Southern Africa, Haiti, Puerto Rico, and Brazil, among others. Possession syndrome is an umbrella English-language term used to describe South Asian presentations of involuntary possession trance that encompasses multiple names in regional languages and dialects of India and Sri Lanka. These presentations are seen as a form of

illness by the person's cultural group because they are involuntary, they cause distress, and they do not occur as a normal part of a collective cultural or religious ritual or performance.

Phenomenology. It is important to distinguish at the outset between possession syndrome, as an instance of possession trance, and the broader category of possession. The latter refers to a general ideology describing the full range of direct spirit influences on human affairs including effects on physical, psychological, spiritual, social, and ecological realms. By contrast, as a subset of general possession experience, possession trance refers to specific alterations in consciousness, memory, behavior, and identity attributed to direct spirit influence. In addition to pathological possession trance states, South Asian cultures authorize multiple examples of normal possession and possession trance. When voluntary and normative, these states are typically seen as instances of religious devotion, mystical ecstasy, social commentary, asceticism, interpersonal relations, existential reflection, and the study of consciousness. This chapter discusses possession syndrome as a pathological entity with an established phenomenology, that is, as a special case in the general continuum of etiological ideas regarding possession illnesses. A prototypical episode is composed of the following elements:

1. Onset occurs typically due to subacute conflict or stress and shows considerable variation. It may be gradual and nonspecific (e.g., diverse somatic complaints, such as dizziness, headaches, abdominal discomfort, hot-cold flashes, listlessness, or difficulty breathing) or sudden and specific, in the form of an abrupt transition to an altered state of consciousness.
2. Behavior during the altered state consists of some or all of the following: A. Dramatic, semi-purposeful movements, such as head bobbing, bodily shaking, thrashing, gyrating, or falling to the ground, accompanied by guttural, incoherent verbalizations, such as mumbling, moaning, or shrieking. B. Aggressive or violent actions directed at self or at others, including spitting, striking, and impulsive suicidal or homicidal gestures. Verbalizations may be

coherent and consist of derogatory comments or threats of violence directed against significant others or against the subject (in the third person) and typically considered by observers to be uncharacteristic of the subject's usual behavior. C. Specific gestures, comments or requests denoting the appearance of a known possessing personality by (1) reference to standard attributes of culturally recognizable figures or (2) the name and degree of relation of deceased family members or acquaintances. 3. In all cases, this state is marked by the emergence of one or several secondary personalities distinct from that of the subject. Their specific identities, which may remain undisclosed for some time, adhere to cultural norms regulating permissible agents of possession, which vary by religion, region, and caste. Acceptable agents include spirits of deceased family members, in-law relations, or known village acquaintances who died under specific conditions of distress, and minor supernatural figures of the Hindu pantheon (rarely major deities) and the Islamic spiritual world. 4. Possession by the secondary personality(ies) is episodic, resulting in alternation between the usual personality of the subject and the altered state. The subject in his or her usual identity appears in a daze, exhausted, distressed, or confused about the situation and may report visual or auditory perceptual disturbances regarding the possessing agent, as well as "unconsciousness" and partial or total amnesia for the altered state. 5. Frequently, the specific identities of possessing personalities remain undisclosed for some time, requiring the active ministrations of family members and the intervention of specialized indigenous practitioners. The

process of disclosure is conceived as a struggle between the family members and the beneficent agents possessing the healer on the one side, and the troublesome possessing personalities on the other. It is characterized by remarkable reactivity on the part of the subject to environmental cues, including direct questioning, strategic neglect, and aggressive manipulation. 6. Outcome is variable. Total recovery is often reported at the cessation of a single acute episode, which may be of several weeks' duration. Alternatively, prolonged morbidity may result, or even, rarely, death. Data on the epidemiology, precipitants, and associated psychopathology of subjects with possession syndrome in South Asia is limited by methodological considerations. These include lack of representative community samples and nonsystematic definitions of the syndrome, which shows considerable regional variation. Epidemiology. Possession syndrome is more common in women, with a female-to-male ratio of approximately 3 to 1 in both community and psychiatric cohorts. Age of onset is usually between 15 and 35 years, but many cases reportedly begin in childhood. Attacks may persist well into middle age, and geriatric cases have also been reported. Precipitants. Precipitants of possession syndrome are varied but typically consist

of marked social or family conflicts, or stressful life transitions, of subacute duration, eliciting strong feelings of vulnerability in persons without firm emotional support. Examples encountered in the literature included marital conflict, abuse, and neglect, at times associated with alcoholism; arrival of a new bride to the home of her husband's family; delay in arranging marriage, or in consummating it; forced marriage; widowhood; postpartum status; loss of family social standing; death of a family member; difficulty finding employment and financial difficulties; alienation from family support; and subordination to other family members and in-laws. Specific Cultural Factors. Possession syndrome constitutes a normative cultural category throughout India and Sri Lanka. It may present initially in a variety of forms, linked by the attribution of spirit etiology. When it presents in a nonspecific fashion, indigenous diagnosis is confirmed by the appearance of the altered state during the therapeutic ritual. It is considered an affliction by its painful, involuntary nature and attributed to the intervention of specific spiritual agencies acting independently or at the behest of a witch. Certain castes and persons in transitional states (e.g., puerperium) are considered most vulnerable to spirit attack, especially when deprived of emotional and material support. Treatment. Specialized indigenous practitioners and ritual therapies are generally available and widely utilized, but psychiatric treatment is typically avoided. Indigenous treatments include neutralization of the conflict or stress via the communal rituals involved in exorcism, as well as the reformulation of the suffering into beneficent individual and communal practice via initiation into a spirit devotion cult, such as the Siri cult of South India, or education into the roles of oracle (diviner), exorcist, or, rarely, avatar (divine incarnation). Shenjing Shuairuo Shenjing shuairuo ("weakness of the nervous system" in Mandarin Chinese) is a translation and cultural adaptation of the term "neurasthenia," which was transmitted into China from the West and from Japan in the 1920s and 1930s. Revived in its modern form by the American neurologist George Beard since 1868, his formulation of neurasthenia (Greek for "lack of nerve strength") originally denoted a heterogeneous syndrome of lassitude, pain, poor concentration, headache, irritability, dizziness, insomnia, and over 50 other symptoms. It was considered at first an "American disease," resulting from the "pressures" of a rapidly modernizing society, but was later adopted by European diagnosticians. Its pathophysiology was thought to derive from a lowering of nervous system function on a physical rather than emotional basis, due to excessive demand on its use, especially among the educated and wealthier classes. In Soviet psychiatry, buttressed by Pavlovian research, it was a central component of mental health nosology, which became especially influential in

Chinese psychiatry after the communist revolution of 1949.

Although neurasthenia declined in importance in Western classification systems during the 20th century, Shenjing shuairuo underwent marked popular and professional development in mainland China, Taiwan, Hong Kong, in Chinese migrant communities, and in Japan, where a similar syndrome is labeled shinkei suiaku. From a peak in about 1980, when it may have constituted up to 80 percent of all “neurotic” diagnoses in Chinese societies, Shenjing shuairuo has undergone intense psychiatric and anthropological re-examination. Currently, it features prominently in the second edition revised Chinese Classification of Mental Disorders (CCMD-2-R), under the section on “other neuroses.” The CCMD-2-R diagnosis requires three symptoms out of five nonhierarchical symptom clusters, organized as weakness, emotional, excitement, and nervous symptoms, as well as a fifth category of sleep disturbances. Like other neurotic disorders in the Chinese manual, the condition must last at least 3 months, and should (1) lower the efficiency of work, study, or social function; (2) cause mental distress; or (3) precipitate treatment seeking. Phenomenology. Given the evolution of diagnostic practice regarding shenjing shuairuo in Chinese societies over the last decades, which may be labeled the professional approximation of the condition, or its “disease” aspect, phenomenological description in this chapter is based instead on clinical histories of self-identified sufferers, or the “illness” aspect of the syndrome. The following elements are prototypical:

1. Onset is usually gradual, sometimes spanning several years, and typically emerges out of a conflictive, frustrating, or worrying situation that involves work, family, and other social settings, or their combination. A sense of powerlessness in changing the precipitating situation appears central to most illness accounts of the syndrome.
2. Symptoms show substantial individual variation, but usually involve at least some of the following spontaneous complaints: Insomnia, affective dysphoria, headache, bodily pains and distortions (e.g., “swelling” of the head), dizziness, difficulty concentrating, tension and anxiety, worry, fatigue, weakness, gastrointestinal problems, and “troubled vexation” (,fan nao). This last emotion has been described as a form of irritability mixed with worry and distress over “conflicting thoughts and unfulfilled desires,” that may be partially concealed for the sake of preserving social harmony.
3. The sufferer frequently seeks the sick role, attributing his or her difficulties in meeting work, school, or other social expectations to the syndrome. Sources of treatment vary substantially across Chinese communities, depending on the availability of formal and traditional service sectors.
4. Course is variable and may respond closely to changing interpersonal and social circumstances. Amelioration of the precipitating stressor(s) typically brings about substantial improvement, although residual symptoms appear common.
5. Response to treatment may be strongly mediated by the illness role and its

relationship to the intractability of precipitating stressors. Precipitants. Empirical assessment of the precipitants of shenjing shuairuo has found high rates of work-related stressors, which were made more intractable by the centrally directed nature of mainland Chinese society. These included unwelcome work assignments, job postings that caused family separations, harsh criticism at work, excessive workloads, monotonous tasks, and feelings of inadequacy or incompatibility of skills and responsibilities. Students usually described less severe study-related precipitants, particularly

school failure or anxiety over the mismatch between personal or family aspirations and performance. Other interpersonal and family-related stressors included romantic disappointments, marital conflict, and the death of a spouse or other relative. Chinese etiological understandings of the syndrome commonly invert the Western view of “psychosomatic” presentations, whereby social-interpersonal precipitants cause psychological distress that is displaced onto bodily experience. Additional Clinical Features. Clinical course of the syndrome may depend on the associated psychiatric comorbidity and on the degree of persistence of the precipitating stressors. One longitudinal study found complete resolution of shenjing shuairuo symptoms and good social adjustment 20 years from the index diagnosis in 83 of 89 cases. Only one case was receiving continued treatment, and no subjects reported the onset of depressive disorder subsequent to the shenjing shuairuo diagnosis. Chinese psychiatrists have carried out numerous studies of neurophysiological and cognitive function in shenjing shuairuo patients since the 1950s. Most have reported abnormalities compared to normal controls, including in tests of polysomnography, electroencephalography, psychogalvanic reflexes, gastric function, and memory function. These findings need to be replicated with well-controlled samples using contemporary diagnostic instruments. Specific Cultural Factors. The evolving definitions of shenjing shuairuo have emerged from a tradition of syncretism in Chinese medicine between indigenous illness understandings and international contributions. Nineteenth-century Western notions of a weakened nervous system due to overuse (neurasthenia) found an ancient cognate expression in Chinese concepts of bodily meridians or channels (jing) binding vital organs in balanced networks along which forces (e.g., qi, vital energy, in yin and yang forms) could be disrupted from their normal harmonious flow. This gave rise to shenjing shuairuo, an illness whereby the jing that carry shen—spirit or vitality, the capacity of the mind to form ideas and the desire of the personality to live life—have become shuai (degenerate) and ruo (weak) following undue nervous excitement. Treatment. When accessing formal sectors of care, most patients used both Western-trained physicians and traditional Chinese doctors. Nonpsychiatric medical settings were preferred, including neurology and general medicine clinics, in concert with cultural understandings of the somatopsychic etiology of shenjing shuairuo, which

emphasize its physical mediation. The modality of treatment was usually traditional Chinese medicines, which were prescribed by both Western-trained and Chinese-style doctors. This conformed to the balanced status still ascribed to both types of training among Chinese physicians. Polypharmacy was common, combining sedatives, traditional herbs, antianxiety agents, vitamins, and other tonics. Despite active suppression of religious healing in China, almost a quarter of patients were also engaged in such treatment. REFERENCES Bhugra D, Popelyuk D, McMullen I. Paraphilias across cultures: Contexts and controversies. *J Sex Res.* 2010;47(2):242. Bhui K, Bhugra D, eds. *Culture and Mental Health.* London: Hodder Arnold; 2007. Bou Khalil R, Dahdah P, Richa S, Kahn DA. Lycanthropy as a culture-bound syndrome: A case report and review of the literature. *J Psychiatr Pract.* 2012;18(1):51. Crozier I. Making up koro: Multiplicity, psychiatry, culture, and penis-shrinking anxieties. *J Hist Med Allied Sci.* 2012;67(1):36. Donlan W, Lee J. Screening for depression among indigenous Mexican migrant farmworkers using the Patient Health Questionnaire-9. *Psychol Rep.* 2010;106(2):419. Guarnaccia PJ, Lewis-Fernández R, Pincay IM, Shrout P, Guo J, Torres M, Canino G, Alegria M. Ataque de nervios as a marker of social and psychiatric vulnerability: Results from the NLAAS. *Int J Soc Psychiatry.* 2010;56(3):298. Haque A. Mental health concepts in Southeast Asia: Diagnostic considerations and treatment implications. *Psychol Health Med.* 2010;15(2):127. Jeeff-Bahloul H. Teaching psychiatry residents about culture-bound syndromes: implementation of a modified team-based learning program. *Acad Psychiatry.*

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