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The Handbook of Health Behavior Change

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Contents

Culture and Health-Related Behavior

3

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Culture, defined as *what is learned, shared, transmitted intergenerationally, and reflected in a group's values, beliefs, norms, behaviors, communication, and social roles,* can affect health-related behaviors both directly and indirectly (Kreuter & Haughton, 2006). In clinical settings, health care providers are responsible for delivering evidence-based care that meets their patients' needs for maintaining health, preventing and managing chronic disease, and decreasing human suffering. Given the increasing diversity of the American population, clinical trials must provide evidence of efficacy and effectiveness of health-enhancing interventions in diverse samples and populations. Evaluating the generalizability of research findings across diverse groups (Office of Minority Health & U.S. Department of Health and Human Services, 2007) is an important stepping stone to decrease health disparities.

Current literature on culture and health, and particularly health behaviors, is very limited. However, interest in culture is growing due to numerous findings that ethnic minority patients are less likely to receive, or have differential outcomes from, preventive, diagnostic, medical, or surgical interventions, even after adjusting for severity of illness, access to care, and poverty (Ang, Ibrahim, Burant, Siminoff, & Kwoh, 2002; Escarce, Epstein, Colby, & Schwartz, 1993; Ford & Cooper, 1995; Hannan et al., 1999; Keppel, 2007; Lee, Gehlbach, Hosmer, Reti, & Baker, 1997; Shi, 1999; Smedley, Stith, & Nelson, 2003; Suarez-Almazor et al., 2005). An understanding of an individual's or a group's cultural context is essential for targeting health behavior change and decreasing health disparities, an important public health issue. Although there has been a movement in many disciplines to increase cultural competence, many researchers and clinicians still do not assess or understand culture appropriately.

In this chapter, we approach the topic of culture from an empirical and a theoretical perspective and discuss the importance of conducting theory-based research to enhance our understanding of cultural influences on behavior. The first section of this chapter is a review of commonly used culture-related concepts and definitions. The second section presents empirical evidence of the influence of culture on screening and preventive behaviors, illness and symptom perception, and disease management behaviors. The third section summarizes some of the most frequently cited theoretical models of behavior, which can be useful in accounting for the effect of culture on behavior. Last, we conclude with implications of culture for health care and for clinical and population research.

Culture-Related Definitions

Cultural Influence

Cultural influence refers to the degree to which the values, beliefs, norms, and traditions common to a particular group affect or sway the behavior of the individual members of the group. Culture can influence behavior through its influence on values and beliefs and traditional roles and social customs and its impact on what people see as acceptable, appropriate, and desirable behavior. These values, beliefs, and roles ultimately guide how someone acts (Haviland, 1999).

Cultural Change

There is a certain degree of permanency in cultures. However, cultures are not static. Changes in culture can occur to various degrees and at varying rates. Aspects of a culture may change and affect other aspects of that culture; for example, changes in politics often affect economics. Likewise, the learning of a new language (an important cultural symbol) by a group can bring on the adoption of other behaviors (e.g., greater engagement in the health care system) among members of that group. Cultural changes such as changes in beliefs and behaviors also can occur as a result of "lived experiences," that is, experiences that people (or groups of people) go through as they live their lives (Garro, 2000). At

the individual level, these can include but are not limited to acquisition of education or migration to a new country, county, or region. Recent examples at the group level include disasters that affect regions (Hurricane Katrina's effect on the Gulf Coast or the effect of 911 on New York City and the United States).

Society and Subcultures

Society is defined as a group of people who have a common homeland, are dependent on one another for survival, and share a common culture often referred to as "mainstream" culture (Haviland, 1999). However, no member of a society experiences the same exact culture; culture shared by members of a society is not uniform, and multiple subcultures coexist within a single society. An example of one aspect of the mainstream American culture (or society) that affects Americans from all subcultures is the high number of fast-food chains. Many researchers believe that the high accessibility of calorie-dense food has contributed enormously to the obesity epidemic.

Individuals can belong to many different cultures and subcultures (Haviland, 1999). A subculture is defined as a group within a society that functions by its own distinctive standards of behavior, while at the same time sharing some standards in common with the general culture (Haviland, 1999). For example, although members of a society may share a common homeland and language (e.g., English in the United States), multiple subcultures exist and are represented by age (e.g., senior citizen), gender, religion, sexuality, occupation, social class, and regional (e.g., northeast) groups, among other factors. Although race and ethnicity are often considered proxies for culture, they exhibit great subgroup variation. For example, regional and socioeconomic differences between groups may be more important in determining behavior and some health disparities than racial or ethnic differences (Coughlin et al., 2006; Foster, 2006; McGory, Zingmond, Sekeris, Bastani, & Ko, 2006; Parikh-Patel, Bates, & Campleman, 2006); likewise, significant differences among Hispanic groups exist, organized by country of origin (birthplace) and socioeconomic status (Caban & Walker, 2006).

Culture Transmission

Transmission of culture is the process by which specific aspects of a culture (i.e., language, beliefs, rituals, appropriate behavior) are passed down from one generation to the next. Multiple factors affect the transmission of culture, including the family, peers, schools, work groups, geography, politics, and societal forces such as the media. Transmission of a culture begins soon after a child is born, through enculturation and socialization (Berry, Poortinga, Segall, & Dasen, 1992). Early in a child's life, the most important role models and transmitters of culture are the child's parents and siblings, who shape the child's behavior. As the child ages and begins to spend more time outside the home, other influences become important. These include rewards experienced for adherence to cultural standards in the form of "social acceptance," which can become especially important during adolescence. Transmission of culture also occurs via the media. This has a powerful effect shaping the views and attitudes of individuals in and across societies in the world (Wilson, Gutierrez, & Chao, 2003).

Acculturation

Transmission of a new culture can also occur later in life (as an adult) and after one has already become rooted in a different culture. This usually results when an individual changes geographic location and has to adapt to new cultural sanctions. Acculturation is the degree to which cultural elements of a mainstream culture are adopted by another group (e.g., a migrant group). Individuals may have varying levels of acculturation to a mainstream culture. Degree of acculturation has been measured by a combination of factors, including language spoken at home, years in the United States, citizenship status, and place of birth, as well as along various psychosocial measurements. The impact of acculturation on health has been studied particularly among Hispanics and Asian Americans, and an association between level of acculturation and health and health behaviors has been shown (Borrayo & Guarnaccia, 2000; Elder et al., 1991; Goel et al., 2003; Gonzalez, Haan, & Hinton, 2001; Lara, Gamboa, Kahramanian, Morales, & Bautista, 2005). It is likely that, as the United States continues to increase in diversity, acculturation will be an important variable to examine in health care settings and research.

Ethnocentrism

Transmission of culture from one generation to the next depends, to some extent, on how individuals feel about their culture. Ethnocentrism is the belief that one's own culture is superior to all others. This belief is adaptive for transmission of a culture or preserving key aspects of a particular culture. However, ethnocentrism can also become a barrier when one needs to understand or gain information about another culture. This is relevant to developing health promotion or disease management interventions that meet the needs of individuals of a particular culture. In order to gain an unbiased view of someone else's culture and thus understand individuals in their own cultural terms, researchers and health care providers must be able to see their own cultural biases and suspend judgment on culture-related practices of targeted individuals or groups. This process is referred to as cultural relativism (Haviland, 1999).

Cultural Competence

Cultural competence is having the capacity to function effectively as an individual or an organization within the context of the cultural beliefs, behaviors, and needs presented by a particular group or community (U.S. Department of Health and Human Services & Office of Minority Health, 2001). It requires (1) awareness of one's own cultural values and biases, (2) knowledge of others' views and perspectives, and (3) the skills to design and effectively deliver culturally appropriate interventions (Harris-Davis & Haughton, 2000).

Cultural Sensitivity

Cultural sensitivity refers to the extent to which ethnic and cultural aspects of a target population, as well as relevant historical, political, environmental, and social forces, are incorporated in the design, delivery, and evaluation of targeted

interventions, materials, and programs (Resnicow, Baranowski, Ahluwalia, & Braithwaite, 1999). There are two types of cultural sensitivity: surface structure and deep structure. Surface-structure strategies involve matching behavioral interventions to characteristics of a target population. For example, an intervention for promoting physical activity among African American women based on surface structure may include materials that show pictures of African American women walking or lifting weights, with no attention to values and beliefs of the population of interest. Deep-structure strategies, on the other hand, target beliefs and values and incorporate messages to the population of interest that are in line with their beliefs and values as a culture (Resnicow et al., 1999). For instance, some within the African American community believe that the government is somehow facilitating the spread of HIV among members of their community (Bogart & Thorburn, 2005). Thus, a deep-structure culturally sensitive intervention would need to directly address this belief.

Empirical Evidence of Cultural Influences on Health-Related Behaviors

In this section, we review empirical evidence suggesting that elements of culture influence health behaviors and, ultimately, can have an impact on health disparities. There is much evidence to suggest that, even when the effects of socioeconomic status (SES) factors are accounted for, numerous racial and ethnic differences still exist in health outcomes and behaviors (Smedley et al., 2003). We review this evidence as it pertains to definitions of disease and disorders and to a variety of health-related behaviors, including use of health screenings, disease prevention and disease management, and treatment behaviors.

Culture and Health Screening Behavior

Health screenings are an important component of preventive care, yet adherence to health screening guidelines is suboptimal among certain groups and contribute to health disparities (Ata et al., 2006; Boltri, Okosun, Davis-Smith, & Vogel, 2005; Finney, Tumiel-Berhalter, Fox, & Jaen, 2006; Neal, Magwood, Jenkins, & Hossler, 2006).

An example of how cultural beliefs influence screening behaviors can be observed among Asian Americans. Asian Americans are the only racial group in the United States to experience cancer as the leading cause of death (Centers for Disease Control, 2004b; Fried, Prager, MacKay, & Xia, 2003). Rates of both breast and cervical cancer screening are very low among this population (Kagawa-Singer & Pourat, 2000). In fact, the proportion of Asian American women who receive mammograms and who adhere to cancer screening guidelines is the lowest among any of the racial or ethnic groups (MacLean, 2004). The cancer burden that affects this group might be significantly reduced by increasing earlier detection. Attitudes and beliefs of Asian American women have been found to be related to cancer screening rates. For instance, cultural traditions such as Buddhism, Taoism, and Confucianism, which focus on acceptance of the natural order of life (Allinson, 1989; Graham, 1990), lead Asians to view disease and illness as a part of the life cycle and as something out of their

control, which is likely to influence engagement in screening behaviors (Kwok & Sullivan, 2006). In the Chinese culture, for instance, people often explain life events, including health and illness, in terms of luck, fortune, or fate (Allinson, 1989). These culturally influenced perceptions are likely to influence Asian individuals' perceptions of health screenings.

Culture and Preventive Behavior

The current medical literature provides ample evidence that several prevalent and costly diseases can be prevented, or their onset delayed, through interventions (e.g., lifestyle, medications) that decrease disease risk factors (Davidson & Toth, 2004; Ferdinand, 2005; Khan et al., 2006; Knowler et al., 2002; Turnbull, 2003). Thus, behavioral adherence to preventive interventions may be key to prolonging health and quality of life.

Empirical evidence of the influence of culture on prevention can be observed in the area of HIV prevention. In the United States, the African American community is disproportionally affected by HIV/AIDS, with a higher incidence of new AIDS cases and a death rate from AIDS seven times that of Whites (Centers for Disease Control and Prevention, 2001, 2002). This is despite the significant advances that have been made in the treatment of HIV/AIDS, in particular the availability of Highly Active Anti-Retroviral Treatment (HAART). Cultural factors may partially explain these disparities. Evidence exists that several minority groups (i.e., African Americans and Hispanics) (Bogart & Bird, 2003; Bogart & Thorburn, 2005; Herek & Capitanio, 1994; Klonoff & Landrine, 1999; Ross, Essien, & Torres, 2006) hold common conspiracy beliefs about HIV, including the belief that HIV is created by the government and planted in Black communities, that a cure is being withheld from the poor, that people who take new medications are guinea pigs for the government, that a lot of information about AIDS is being withheld from the public, and that medicines that are used to treat HIV actually cause AIDS (Bogart & Bird, 2003; Bogart & Thorburn, 2005; Herek & Capitanio, 1994; Herek & Glunt, 1991; Klonoff & Landrine, 1999). These conspiracy beliefs have been associated with negative attitudes toward condoms and inconsistent condom use in African American populations, thus minimizing the effect of HIV prevention interventions.

Although the examples described here illustrate ways in which culture can negatively impact adherence to prescribed health behaviors, there also is evidence of positive cultural influences on preventive behaviors. Evidence exists that Hispanics have lower rates of smoking than most other racial and ethnic groups with the exception of Asian Americans (Centers for Disease Control and Prevention, 2005a). Among Hispanics who do currently smoke, reports suggest that they smoke fewer cigarettes per day (Haynes, Harvey, Montes, Nickens, & Cohen, 1990; Marcus & Crane, 1985; Perez-Stable, Marin, & Marin, 1994), have lower average serum cotinine levels, and have lower nicotine addiction (Palinkas et al., 1993; Perez-Stable, Marin, Marin, & Benowitz, 1992; Winkleby, Schooler, Kraemer, Lin, & Fortmann, 1995). The Hispanic culture may in part explain differential prevalence rates of smoking. For example, Hispanics were more likely to cite family and interpersonal relationships as important reasons to quit smoking, suggesting that the interdependence (traditionally emphasized over independence) and the importance of the family

(*familialismo*) that are characteristic of the Hispanic culture may, at least partly, explain the fact that Hispanics have lower smoking rates than do Whites. Likewise, lack of family approval has been shown to keep many young Hispanics from initiating smoking (Foraker, Patten, Lopez, Croghan, & Thomas, 2005). The wish to avoid or minimize interpersonal conflict (*simpatia*), another traditional trait of Hispanic cultures, may be another motivator in a Hispanic person's decisions not to start smoking (Perez-Stable, Marin, & Posner, 1998).

Culture, Illness Perception, and Disease Management

Individuals from different cultures may have different experiences or interpretations of bodily symptoms, what constitutes a disease, and what interventions and treatments are acceptable (Betancourt, 2006; Surbone, 2006; Waite, 2006; Ward, 2007). Interventions to treat or manage diseases, especially chronic diseases, require that a patient follow a set of behavioral prescriptions, including taking the appropriate medications in the prescribed dosage and schedule, undergoing diagnostic tests, adhering to lifestyle changes, and scheduling and attending medical visits, among other behaviors. In this section, we summarize empirical evidence that support the impact of cultural factors on illness perception and diagnosis, treatment-seeking behaviors, treatment choice, and adherence.

Perceptual differences potentially affect what individuals from different cultures do and what interventions they are willing to adhere to in the face of specific bodily symptoms or health conditions. These differences pose difficulty for health care providers who may not be aware of diverse cultural definitions of illness. Culture-bound syndromes are a clear example of this issue. The Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association (DSM-IV) defined these as "recurrent, locality-specific patterns of aberrant behavior and troubling experience that may or may not be linked to a particular DSM-IV diagnostic category" (American Psychiatric Association, 1994, p. 844). Many of these patterns are indigenously considered to be "illnesses," or at least afflictions, and most have local names. One example of a culture-bound syndrome is susto, which is present in Latin American or Hispanic populations. Susto is usually associated with a broad array of symptoms, including nervousness, anorexia, insomnia, listlessness, despondency, involuntary muscle tics, and diarrhea. The causes of susto are thought to be fright that results in a loss of soul from the body and can result from natural or supernatural events. For instance, susto may occur after one is in a near-accident or an actual accident or after one has witnessed a supernatural phenomenon such as a ghost. The symptoms associated with susto are often misinterpreted by health care providers, and the most frequent diagnosis that is given in the United States for these symptoms is tuberculosis (Rubel, O'Nell, & Collado-Ardon, 1984).

Symptom reporting and coping among various cultural groups may affect providers' response to patients and the interventions and treatments prescribed. For example, a review of cross-cultural studies (Calvillo & Flaskerud, 1991) concluded that White Americans of northern European origin react to pain stoically and withdraw if pain intensifies. This response to pain has become the cultural norm in the United States and is the behavior that providers expect and value.

Treatment preferences for common medical conditions also are influenced by the patient's culture. An example of this is the considerable influence of ethnicity on whether one chooses knee replacement as the treatment for knee osteoarthritis. Joint replacements, the number one most common procedure among hospital discharges in the United States, are elective procedures that provide substantial benefits in pain relief and quality of life (Callahan, Drake, Heck, & Dittus, 1995). However, despite these benefits, Hispanic and African Americans patients are half as likely as Whites to undergo surgery, even after controlling for income and access to care (Ibrahim, Siminoff, Burant, & Kwoh, 2002a, 2002b). African American patients in particular are the least likely to consider surgery, despite reporting more severe symptoms, even when significant physician counseling has been provided (Ibrahim et al., 2002a, 2002b). Willingness to undergo surgery is related to beliefs about the efficacy of the procedure, expectations of postsurgical pain and functional difficulties, and whether one knows individuals in one's close social environment who has undergone the procedure (Ibrahim et al., 2002a, 2002b; Suarez-Almazor et al., 2005). Also, perception of prayer as helpful in coping with arthritis has been associated with willingness to undergo surgery among African Americans (Ang et al., 2002).

Another example of the impact of culture on disease management is the use of pharmacotherapy for depression in Hispanic and African American populations. Depression is a highly prevalent condition, affecting 20% of Americans at some point in their lives (Gotlib & Hammen, 2002), and the burden of depression is especially high among the poor and minorities (Cooper et al., 2003; Falcon & Tucker, 2000; Lagomasino et al., 2005; Miller et al., 2004; Miranda & Cooper, 2004). Although African Americans and Hispanics may be less likely to receive appropriate treatment for depression than Whites (Miranda & Cooper, 2004; Simpson, Krishnan, Kunik, & Ruiz, 2007), even when primary-care providers recommend depression treatment, African American and Hispanic patients are much less likely to accept antidepressant treatment than their White counterparts (Miranda & Cooper, 2004) and are less likely to adhere to antidepressant therapy once they begin treatment (Diaz, Woods, & Rosenheck, 2005).

Hispanics consider antidepressant medication a less acceptable treatment than do Whites (whose rates of antidepressant use tripled between 1988–1994 and 1999–2000) (Centers for Disease Control, 2004a). As explained by Kleinman's model (Kleinman, Eisenberg, & Good, 1978), the physician and the patient are operating under two different explanations of the symptoms. Health care providers of Western medicine who prescribe antidepressant medications for treatment of depressive symptoms operate under the belief system that depression is a disease. Patients, on the other hand, may be operating under a different set of beliefs regarding the reason for their symptoms. For example, findings from qualitative research suggest that both cultural beliefs, including spiritual and religious attitudes, and stigma may explain the lack of acceptability of, and low adherence to, treatment with antidepressant medication in these populations (Cooper-Patrick et al., 1997). These cultural differences are likely to lead to noncompliance, strained patient-provider relations, and untreated symptoms. Kleinman's model is one way to view and explain the disparities in mental health treatment, especially in the case of taking antidepressant medications, among individuals with different cultural views on medicine (Kleinman et al., 1978).

Theoretical Frameworks That Account for Cultural Influences on Behavior

As stated earlier, empirical evidence suggests an important role of culture on the health behavior of individuals. In this section, we review theoretical frameworks that help explain the specific mechanisms by which culture influences behavior. This review is limited to commonly cited theories in the fields of preventive and behavioral medicine. Traditionally, theories have emphasized intra-individual factors as they affect health behaviors. Several well-known theories emphasize the role of cognition on human behavior: the *Folk Model* (otherwise known as Cultural Model) (Shore, 1996), *Prototype Theory* (Rosch, Mervis, Gray, Johnson, & Bayes-Braem, 1976), and the *Health Belief Model* (Becker, 1974; Janz & Becker, 1984). Others, such as *Social Cognitive* (Bandura, 1986) and *Operant* (Skinner, 1953, 1969, 1983) theories, emphasize an interaction between the individual and the environment. Recently, there has been greater recognition of the need to expand current theoretical frameworks and models to include the immediate and more distant environments in our understanding of human behavior (Matson-Koffman, Brownstein, Neiner, & Greaney, 2005). An example of this is the *Ecological Model* (Stokols, 1992, 1996). These theories and models are briefly reviewed in this section.

The Folk Model

The Folk Model proposes that behavior is influenced by "cultural models," thought of as loose, interpretative frameworks or cognitive categories used by people to understand the world and human behavior. These are taught through other members of a group, both overtly and unconsciously. These models are not fixed but malleable through the individual's personal experiences, which can either reinforce existing models or challenge these models (Shore, 1996). The Folk Model (Holy & Stuchlik, 1981; Shore, 1996) can be useful in explaining phenomena such as the low rates of mammogram screening among Asian Americans described earlier. It may be that specific beliefs associated with the Asian culture, including the belief that illness and disease are part of the life cycle over which they have little control, affect their health prevention behavior. Chinese people often explain health and illness in terms of luck, fortune, or fate (Allinson, 1989), and these beliefs result from generations of learning (the Folk Model) from other members of the culture, either overtly through verbal statements regarding health or health behaviors or through watching how people deal with illness, treatment, diagnoses, and the health care system. The Folk Model can also explain individual differences in behavior among Asian women. Personal experiences (i.e., interactions with a coworker who was diagnosed with early-stage breast cancer through mammography) can modify these folk models and thus influence that individual's behavior.

Prototype Theory

Prototype Theory proposes that, given the complexity of the stimuli in our world, individuals develop categorization systems in order to understand the

environment and to deal with the overwhelming stimuli in it (Rosch et al., 1976). Individuals then base their judgments and decisions regarding a behavior, person, or object on the similarity between its features and the prototype (Cantor & Mischel, 1979). The types of prototypes that one has are likely to differ depending on one's culture. For instance, an individual's prototype of a high-socioeconomic-status (SES) middle-aged White female is likely to differ depending on (1) who the individual is and what that individual has learned through his own culture about high-SES White females, and (2) what the individual's personal experience has been like with high-SES White females. A young African American male from a low-SES background is likely to have a different prototype of high-SES White females than a woman from this "prototypical group." This prototype model has been used to explain stereotypes (Hilton & von Hippel, 1996). A stereotype is a generalization about a group of people in which identical characteristics are assigned to virtually all members of the group, regardless of actual variations among group members (i.e., characteristics of a culture are overgeneralized to all individuals of that culture). Overgeneralization of a negative characteristic is known as prejudice (Berry et al., 1992). Another type of prototype consists of "exemplary" examples for different categories (Lakoff, 1982). For instance, in discussing exercise with a patient, exemplary examples that may come to a clinician's mind at first are jogging or weight lifting. Examples of exercise that may not come to mind at first are yoga, Pilates, or marital arts. Prototype theory can be useful in understanding biases that affect perceptions and behaviors of patients and providers alike.

The Health Belief Model

The Health Belief Model (HBM) (Becker, 1974; Janz & Becker, 1984) is discussed in depth in chapter 2. Briefly, it provides a cognitive theoretical framework for understanding mediators of health-related behavior. The HBM is a value-expectancy theory that emphasizes that behaviors are mediated by thoughts and "expectations" regarding the behavior. Specifically, the model suggests that an individual's health behavior is affected by that person's desire to avoid illness or to get well (value) and the individual's belief that a specific health action available to him or her will prevent or improve illness (expectation). Accordingly, people will take action to prevent, screen for, or control their disease-health conditions if they believe that they are susceptible to disease (perceived susceptibility), that the disease will have serious consequences (perceived severity), that there are benefits to engaging in the behavior (perceived benefits), and that there are few barriers that prevent this behavior (perceived barriers). Thus, an individual will weigh her perceived susceptibility and the severity of the disease against the benefits and barriers to making the necessary changes. More recently, the concept of self-efficacy, or one's confidence in one's ability to take action, has been included in the model (Rosenstock, Strecher, & Becker, 1988). This model can be useful in our understanding of the influence of culturally based beliefs on health-related behaviors described earlier.

Social Cognitive Theory (SCT)

Social Cognitive Theory is one of the most commonly used theoretical frameworks in behavioral science (Bandura, 1986). SCT is discussed in depth in

chapter 2. It posits that human behavior is the result of a triadic, dynamic, and reciprocal interaction among personal factors, behavior, and the environment, mediated by cognitive processes. The constructs of self-efficacy (belief in one's capacity to successfully perform a particular behavior) and outcome expectations (anticipated result of performing a specific behavior) are used to explain initiation of behavior as well as the persistence of the behavior over time and in the face of challenges (Bandura, 1997). An individual's standards (learned from experiences with the environment) and social sanctions have a role in behavioral self-regulation. Behavior that is consistent with the prevailing social norms is approved and rewarded by members of the society, whereas behaviors that violate these norms are punished. Individuals behave in ways that bring self-satisfaction and refrain from behaving in ways that are inconsistent with their own set of standards (Bandura, 1997). This model has had great applicability in understanding of individual behavior and has potential for use in understanding of culturally based group behavior. For instance, the low rates of breast cancer screening among Asians and African Americans (described earlier) can be explained by weak outcome expectations regarding screening mammograms. Likewise, cultural beliefs leading to lack of trust in the health care system among African Americans can affect the beliefs that they will adhere to a prescribed medication regimen (self-efficacy) and that taking a prescribed medication (e.g., antihypertensives) will reduce their risk of stroke (outcome expectation). Also, an important feature of Social Cognitive Theory, and relevant to the study of culture and cultural transmission and acculturation, is the role of modeling. Observation of others' behavior and the consequences of those behaviors plays a role in the transfer of culture among individuals by communicating which behaviors will be rewarded and which will be punished and in what contexts (Iversen & Lattal, 1991).

Operant Theory

Operant Theory, another well-known psychological paradigm for understanding behavior, is relevant to culture and has been applied to acculturation (Landrine & Klonoff, 2004). It proposes that behavioral antecedents and consequences regulate behavior (Glenn, Ellis, & Greenspoon, 1992; Skinner, 1969, 1983). The same general principles of discriminative stimuli, reinforcers, and punishers used to explain individual behavior in accordance with Operant Theory are applied to understand the behavior of groups and entire cultures. Antecedents (also referred to as discriminative stimuli) are features of the context or environment that signal whether and what contingencies will follow a behavior, whereas consequences are events that occur contingent upon the behavior of interest and that either increase (through reinforcement) or decrease (through punishment) the probability that that behavior will reoccur (Skinner, 1953, 1969, 1983). Culture determines what events become antecedents or discriminative stimulus for the occurrence of a particular behavior. For example, it is hypothesized that antecedent factors play a role in increased drinking among acculturated Hispanic women. A combination of social acceptance (in the United States) of relatively high amounts of alcohol consumption by women and a variety of environmental cues for drinking (including media that target women) lead to higher rates of drinking among highly acculturated Hispanic women, even when they differ on country of origin (Puerto Rican, Cuban, and Mexican)

than among Hispanic women who are less assimilated (Black & Markides, 1993; Lara et al., 2005; Marks, Garcia, & Solis, 1990). With regard to consequences or contingencies, the culturally dominant values of the individual culture affect, at least partly, the reinforcing or punishing value of a contingency. Contingencies that explain how behavior at the population level is shaped (relevant to cultural transmission) are known as meta-contingencies or cultural contingencies (Skinner, 1969).

Ecological Models

Ecological models focus on the interactions of people with their physical and sociocultural environments and the impact that these transactions have on the individual's behavior (see chapter 5 for an in-depth discussion of this model). The Social Ecological Model of health behavior include the impact of culture on behavior (Stokols, 1992, 1996). This model makes four assumptions: (1) health is influenced by multiple aspects of physical and social environments, (2) environments are multidimensional, (3) human-environment interactions can be described at varying levels of organization, and (4) there is feedback across the different levels of environments and aggregates of individuals. These multilevel models can be used to understand phenomena such as neighborhood effects on behavior, where variables such as media ads that target specific groups can be studied as they affect the health behavior of those groups. Health behavior interventions based on the ecological model target the multiple levels (i.e., interpersonal, sociocultural, and environmental) of influences on health behavior.

Other Considerations and Concluding Remarks

In this chapter we have provided an overview of frequently used culture-related terminology; reviewed empirical evidence of cultural characteristics of ethnic and racial groups in the United States that may have an impact on health behaviors; and reviewed frequently used theoretical frameworks that account for the impact of culture on health behavior and adherence. Up to this point, we have discussed primarily the influence of culture on the individual behavior from the patients' perspective. However, the culture of the provider in the context of developing and delivering interventions to culturally diverse populations is also of great importance.

Increasing cultural competence and developing culturally sensitive interventions among health care providers have the potential to improve health outcomes of ethnically and culturally diverse individuals (Brach & Fraser, 2000). Culturally based beliefs, attitudes, and behaviors of health care providers are likely to influence and be influenced by cultural diversity, as well. Empirical evidence exists that providers' cultural biases have the potential to adversely affect patients. For instance, there is a greater delay in providing HIV treatment to African Americans and Hispanics than to Whites (Turner et al., 2000). Patients who are racially concordant with their physician are more likely to receive HIV treatment than are African American patients whose provider is White (King, Wong, Shapiro, Landon, & Cunningham, 2004). Stereotypical perceptions of patient adherence may account for this differential treatment; providers' beliefs

regarding poor adherence to Highly Active Anti-retroviral Treatment (HAART) among African Americans and other populations may influence their provision of prescriptions of HIV medications to these populations (Bogart, Catz, Kelly, & Benotsch, 2001; Bogart, Kelly, Catz, & Sosman, 2000; Wong et al., 2004). Thus, at a minimum, it is important to know the limits of one's cultural competencies and abilities and how personally held prototypes of certain groups impact our own behavior (Harris-Davis & Haughton, 2000).

It makes intuitive sense that awareness of ethnocentric tendencies and cultural differences may enhance the effectiveness of interventions in culturally diverse populations. However, although much has been written about the importance of cultural sensitivity in the design and implementation of health-promoting interventions, less is known about efficacious strategies to enhance cultural competency and sensitivity among clinicians and researchers working with diverse cultural groups (Beagan, 2003; Godkin & Savageau, 2001). As reviewed earlier, strategies to increase the cultural sensitivity of interventions have been proposed. However, the efficacy of these strategies has not been scientifically studied.

We remind the reader at this juncture of the multitude of cultures and subcultures that coexist in many societies, especially in the United States population. We chose to review ethnic- and race-specific cultural differences that affect health as there is overwhelming evidence that minority Americans have greater prevalence and poorer health outcomes than do White Americans from preventable and treatable conditions, including cardiovascular disease and stroke (Centers for Disease Control and Prevention, 2005b), type 2 diabetes mellitus (Cowie et al., 2006; Lanting, Joung, Mackenbach, Lamberts, & Bootsma, 2005; Mainous et al., 2006), asthma (Centers for Disease Control, 2004a; Gold & Wright, 2005; Smith, Hatcher-Ross, Wertheimer, & Kahn, 2005), HIV/AIDS (Cargill & Stone, 2005; "Racial/ethnic disparities in diagnoses of HIV/AIDS—33 states, 2001–2004," 2006) and obesity (Ogden et al., 2006; Zhang & Wang, 2004). However, significant heterogeneity exists among ethnic and racial groups, and failure to recognize and appreciate the differences within ethnic groups can lead to inappropriate conclusions. For example, when analyses of racial and ethnic data are conducted, "White" is commonly used as the referent (majority) to which all other minority groups are compared (Kumanyika & Morssink, 2006), despite the fact that there is much diversity in the ancestry and biological characteristics of the White group (Bhopal & Donaldson, 1998), as well as in their cultural traditions, belief systems, and behaviors, including health behaviors. Similar issues also exist with the ethnic label "Hispanic" or "Latino," given the great diversity among individuals classified as Hispanic or Latino. Likewise, overt and subtle cultural differences exist among many other groups in society, including groups formed according to age, gender, sexual orientation, profession, and many other classifications. Often, our need to categorize information may minimize important differences among individuals within a particular category.

As the United States continues to become increasingly diverse, a greater emphasis on addressing the health care needs of diverse populations will be critical. This will require awareness of diversity issues and a comprehensive theoretical and empirical understanding of how specific cultural factors within diverse groups influence health behaviors and, ultimately, how to utilize limited

health care resources to improve the health of our culturally diverse population. Much of our understanding of culture and its influences on behavior is atheoretical and retrospective. Future research should include the use of well-studied program planning, implementation, and evaluation models. Among these are the PRECEDE-PROCEED framework (Gielen & McDonald, 2002), which was developed in order to enable program planners and their communities to work together (Green & Kreuter, 1999) and is able to account for cultural influences that impact on program success. The PEN-3 Model (Airhihenbuwa, 1995) also can be considered, as this model is unique in its emphasis on the role of culture on health behavior. New models may be needed that facilitate our understanding of culture. It also will be important to explore models from other disciplines (such as sociology and anthropology) to address the varied culturally based needs of target groups. Although economic concerns favor capitalizing on similarities among cultures, it is unclear that a single universal model to approach cultural influences will have the impact desired.

Cultural awareness, competence, and sensitivity are likely to facilitate the influence of health care providers and researchers alike. Understanding culture will enhance patient-provider communication and potentially the effectiveness of the provider in facilitating behavior change in the patient. For researchers, cultural understanding is likely to enhance the ability to develop interventions compatible with the cultural needs and traditions of diverse populations and to test those interventions with culturally diverse groups. For example, understanding the function of behaviors of interest within a culture (such as social function of specific food-related patterns) can facilitate the understanding of factors that maintain those behaviors; capitalizing on elements of cultures that support adherence to desirable health behaviors (such as the importance of the family) can work in favor of cultural compatibility of interventions; and studying cultural factors relevant to specific groups can assist in the choice of variables, methodologies, and measurements (Rosal, Carbone, & Goins, 2003). Finally, researchers' cultural competence will be crucial to recruiting representative culturally diverse individuals into research studies and retaining these individuals until study completion so that conclusive statements can be made about the generalizability of the interventions.

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