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The Psychology of Health

Physical Health and the Role of Culture and Behavior

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In 2000, the U.S. Department of Health and Human Services set two overarching goals to achieve within the decade: to improve the quality and longevity of healthy life and to eliminate health disparities (U.S. Department of Health and Human Services [USDHHS], 2000). In fact, health disparities among ethnic groups in the United States have been recognized as one of the most important obstacles to better health in general and among ethnic minority and economically disadvantaged groups in particular (Smedley, Stith, & Nelson, 2003). Latino Americans (Latinos)[1] are the fastest-growing ethnic group in the United States (U.S. Census Bureau, 2006). They are overrepresented at low SES levels, have less access to health care, and encounter linguistic and culturally based barriers within the health-care system (Reimann, Talavera, Salmon, Nunez, & Velasquez, 2004). In order to advance Latino health psychology, a number of issues relevant to this population must be addressed. In particular, issues pertaining to health disparities must be considered, including risk factors that may contribute to health inequities, and protective factors that may result in health advantages. Psychological research on Latino health in general and health disparities in particular is rather complex. For instance, to understand the health status of the Latino and Anglo American (Anglo)[2] populations, one must consider such factors as the role of culture and related psychological processes as they may impact health behavior.

In addition, intragroup diversity associated with national origin, immigration status, and acculturation are also important to consider. Moreover, the U.S. health-care system is generally based on Anglo American cultural assumptions (Roosa, Dumka, Gonzales, & Knight, 2002), and programs directed at Latino communities are often guided by stereotypical views of Latinos. Hence, addressing the role of culture in Latino health behavior as well as in the delivery of health services may significantly enhance the effectiveness of health care and interventions with this population.

Consistent with this view, this chapter begins with a discussion of issues relevant to the study of health among Latino Americans in the United States, highlighting the intragroup diversity of

this and other U.S. ethnic groups. Then, a comparative analysis of disparities in various health outcomes among Latinos and Anglos is undertaken. The following section describes some of the culture-based protective factors and risk factors that may contribute to the noted health disparities among Latinos. To this end, research is reviewed that moves beyond the comparative analysis of ethnic-group differences and aims to investigate plausible explanations for the noted health disparities. Last, the study of culture and related psychological factors is highlighted in order to further understanding of health behavior and the delivery of health-care services in a culturally diverse society. A conceptual model explaining the structure of relations among culture, health behavior, and related psychological factors is presented, and methodological approaches consistent with this model are discussed. Health research and intervention approaches are discussed from a cultural and psychological perspective aimed at reducing health disparities and promoting Latino health and well-being.

Issues in the Study of Latino Health Psychology

Intragroup Diversity of the Latino Population

According to the 2007 U.S. Census Bureau population estimate, there are approximately 45.5 million Latinos living in the United States, representing 15% of the total population. Based on data from 2004, Mexican Americans represented the largest Latino subpopulation (66%), followed by Central and South Americans (13%), Puerto Ricans (9.4%), and Cubans (3.9%); the remaining 7.5% included individuals of other Latino origin (U.S. Census Bureau, 2007). Moreover, 34.3% of Latinos in 2004 were under the age of 18, as compared with only 22.3% of non-Latino Whites.

Until recently, the complexity of phenomena relevant to the study of Latino health has been overlooked. For instance, investigators have typically classified Latinos from various backgrounds as one group (e.g., Latinos or Hispanics) and compared outcomes to Anglo Americans. However, this ignores the diversity of the Latino population and the influence of such factors as country of origin and immigration status on health behavior and outcome (see Betancourt & Fuentes, 2001). The Latino population comprises many diverse groups in terms of their national origin, region of the United States, education, and income, all of which may cause variations in culture (see Betancourt & Lopez, 1993). Such cultural variations are often ignored in health psychology research and intervention. In fact, demographic information can be misleading when within-group diversity is not considered.

Such realities as the regional migration patterns of Latinos in the United States have resulted in the formation of communities in which one dominant group is overrepresented. For instance, Mexican American immigrants have a strong presence in Southern California and Texas, Cuban American immigrants represent the dominant Latino group in the Miami area, New Jersey and New York have strong contingents of Dominican and Puerto Rican immigrants, and so on. The concentration of a Latino group within a region creates the impression of homogeneity, which often leads one to incorrectly attribute to all Latinos the cultural and behavioral characteristics of the "average" individual from the corresponding dominant Latino group. For instance, cultural aspects characteristic of Mexican Americans in Texas may be perceived as common to all Latinos in that region or in the country. This perspective does not take into consideration the differences observed among individuals from Puerto Rico, Cuba, and Central and South America.

Recent data highlight the diversity of Latinos in the United States and the nature of culture-based protective factors and risk factors associated with one or another Latino subgroup. For instance, Zsembik and Fennell (2005) reported variations in health outcomes among various Latino populations using data from the 1997–2001 National Health Interview Survey (NHIS). Their research revealed that Mexican Americans had health advantages, Puerto Ricans experienced health disadvantages, and Cubans and Dominicans experienced a mix of both health advantages and disadvantages. Moreover, the social determinants of health were also found to vary with country of origin. For instance, among Mexican Americans, higher SES and greater acculturation were associated with poorer health, whereas among Latinos from the

Caribbean, lower SES and lower acculturation were associated with worse health outcomes. Similar subgroup trends emerged based on mortality rates, using data from the NHIS 1986 through 1995, indicating that Mexican Americans had the lowest mortality rates and Puerto Ricans the highest (Hummer, Rogers, Amir, Forbes, & Frisbie, 2000).

Immigration Status, Acculturation, and Culture

The Latino population of the United States is different from other nondominant ethnic groups in that the influx of new immigrants is greater and steadier, resulting in a population with various levels of acculturation. Consequently, while new Latino American immigrants settle in various regions of the country, those already established in the United States acculturate to the mainstream Anglo culture. With this acculturative change, their beliefs, values, norms, expectations, and practices relative to health also change, along with their views of the health-care system and health professionals. In addition, the variety of experiences and forms of acculturation associated with different regional and socioeconomic realities within which they are hosted significantly enhances the intragroup diversity of Latinos.

The intragroup diversity associated with the continuous influx of immigrants, their countries of origin, and the localities that host them is extremely important for an understanding of the complexities faced in health research and the development of interventions with Latinos in the United States. For instance, recent Latino American immigrants show better health outcomes than those who have lived in the country for an extended period of time. Based on NHIS data from 1979 to 2003, Latino immigrants were found to have longer life expectancy and lower mortality for a number of diseases, including cancer, cardiovascular disease, unintentional injuries, and suicide (Singh & Hiatt, 2006). These findings highlight the importance of considering immigration status and the cultural reality of Latino individuals and communities.

The issues just described highlight the need for health psychologists working with Latino Americans to identify the background and cultural reality of the individuals and communities participating in their research or interventions. The complexity of such cultural realities suggest that even traditional measures of acculturation may not be appropriate to a full understanding of the role of "Latino culture" in the health behavior and outcome of individuals from that population. In fact, the study of acculturation has been criticized for using indirect measures of acculturation instead of directly measuring change in the corresponding cultural variables of interest (Betancourt & Fuentes, 2001; Koneru, Weisman de Mamani, Flynn, & Betancourt, 2007). To understand the health behavior and outcomes of Latinos, research must identify changes in health-related cultural variables that are likely to be associated with variations in acculturation, such as value orientations, beliefs, norms, and practices. The direct study of cultural factors that influence psychological functioning and behavior can be more informative to health psychologists working with Latinos than mere assessment of acculturation level.

Socioeconomic Status

Another issue adding complexity to Latino health psychology has to do with the overrepresentation of this population at lower levels of income and education. According to data from the 2007 Current Population Survey, approximately 21.5% of Latinos were living in poverty, compared to 8.2% of non-Latino Whites (U.S. Census Bureau, 2008). In fact, the median household income for Latinos was less than three quarters of the median household income for Anglos. Levels of education are also quite low for Latinos. Based on data from 2006, only 55% of Latinos have a high school degree, compared to 85% of Anglos (U.S. Census Bureau, 2007). Moreover, a greater number of Latinos are represented in service industries, compared to Anglos.

The overrepresentation of Latinos at lower levels of income and education is particularly important for the study of Latino health, for a growing body of evidence demonstrates important disparities in health care and outcome associated with SES (Smedley et al., 2003). For instance, it has been reported that lower levels of socioeconomic status are associated with poorer health outcomes and higher mortality rates (Adler et al., 1994).

The noted research findings highlight the importance of acknowledging the diversity and distinctiveness of the Latino population in the

United States, which may contribute to a better understanding of ethnic and SES health disparities. Since research on health disparities has become a national concern, inequities associated with ethnicity as well as those associated with SES should also be a focus of Latino health psychology. In fact, understanding the cultural and socioeconomic reality of Latinos, including their own intragroup diversity, is important not only for an understanding of the health behavior and outcome of this population but also for an understanding of health disparities in the United States in general.

The Study of Latino Health

As indicated in the previous section, the study of Latino health behavior and outcome is quite complex. In this section, national data regarding Latino health outcomes are compared to those of Anglos in order to identify some of the predominant health disparities among these two broad cultural groups. Of course, the comparative study of health in general and health disparities in particular implies not only inequities (Hebert, Sisk, & Howell, 2008). In fact, some disparities among Latinos and other ethnic minority and majority groups reflect health advantages for Latinos. Efforts have been made to report research findings that take into consideration the diversity of the Latino population in the United States when available (e.g. immigration/generation status, Latino subpopulation, SES). However, research that recognizes the complexity of the Latino population is more recent, and much of the national data therefore focus on Latinos as a broad group. Such research can also be useful in terms of understanding the existence of broad disparities among all Latino groups in comparison to Anglos.

In this section, research studies are reviewed that investigate the underlying factors responsible for the noted disparities in health outcomes. To this end, research findings are discussed regarding culturally based protective factors as well as culturally based risk factors. These studies move beyond the comparative analysis of ethnic-group differences based on a particular health behavior or outcome and examine variations in the culturally based protective and risk factors. Such a perspective reflects the importance of diversity factors associated with cultural variation and psychological processes relevant to Latino health behavior and outcome.

Disparities: Health Risks and Positive Health Outcomes Among Latinos

One health issue that remains at the forefront of national concern for Latinos is the incidence of diabetes. According to data from 2006, Latinos were over one and a half times as likely to be diagnosed with diabetes, compared to Anglos (Centers for Disease Control and Prevention [CDC], 2007). In fact, data from 2005 indicate that Mexican Americans were almost twice as likely as Anglos to be diagnosed with diabetes. Moreover, the prevalence of diabetes among female Latinos was higher than among male Latinos. Mexican Americans also had higher rates of end-stage renal disease as a result of their diabetes and were 50% more likely than Anglos to die from diabetes. Using data from the National Vital Statistics Systems and the 1990 and 2000 censuses, findings reveal that within-group diabetes mortality rates were twice as high among Mexican Americans and Puerto Ricans, compared to Cuban Americans (Smith & Barnett, 2005).

According to the Healthy People 2010 Midcourse Review (USDHHS, 2006) the number of new AIDS cases and HIV infection deaths remains quite high among Latinos in the United States. In fact, data from 2006 indicate that Latino men were 2.8 times as likely to be diagnosed with HIV/AIDS than were non-Latino Whites, whereas Latino women were 5 times as likely. Moreover, mortality data from 2004 indicate that Latino men were 2.6 times as likely to die from HIV/AIDS, and Latino women were 4 times as likely to die from HIV/AIDS, than were non-Latino Whites (CDC, 2007). In an analysis of within-group differences based on place of birth, CDC data from 2003 to 2006 revealed that HIV infection is more prevalent among Latinos born outside the United States (61%; Espinoza, Hall, Selik, & Hu, 2008). Moreover, a short HIV-to-AIDS interval was more common among Latinos born in Mexico and Central America than among those born in the United States.

Findings regarding disparities among Latino and non-Latino Whites in relation to cancer are mixed. For instance, Latino men and women reported higher incidence and mortality rates for stomach and liver cancer, according to data

from 2004. In addition, Latino women were twice as likely as non-Latino Whites to be diagnosed with cervical cancer and 1.5 times as likely to die from the disease.

Despite the prevalence of disadvantages such as these, Latinos have better health outcomes for a number of conditions, compared to other ethnic minority groups and Anglos. For instance, based on 2004 data, Latino men were 13% less likely to be diagnosed with prostate cancer than were non-Latino White men. Furthermore, in 2004 Latino women were 33% less likely to be diagnosed with breast cancer than were non-Latino White women.

Research also indicates that Latinos have lower rates of adult-mortality stroke and cardiovascular disease (CVD) than Anglo Americans (CDC, 2007; Hummer et al., 2000). In fact, based on data from 2005, Latino men were 15% less likely and Latino women 25% less likely to die from stroke than were non-Latino Whites. Regarding cardiovascular health, Latinos were 10% less likely than non-Latino Whites to have heart disease. In fact, Latino men were 30% less likely to die from CVD complications, compared to non-Latino White men, and Latino women were 20% less likely to die from complications, compared to non-Latino White women. Within-group analyses reveals that Mexican Americans have lower total CVD than non-Latino Whites, African Americans, and Puerto Ricans but higher rates than Cuban Americans (Durazo-Arvizu, Barquera, Lazo-Elizondo, Franco, & Cooper, 2008).

Regarding the developmental health of the Latino population, data from 2005 demonstrate that infant mortality rates are lower for all Latino subpopulations, compared to Anglos, with the exception of Puerto Rican infants (CDC, 2008). In fact, Puerto Rican infants had 1.4 times the infant mortality rate, compared to non-Latino White infants, and were nearly twice as likely to die from causes associated with low birth weight. Cuban American infants had the lowest mortality rates. Despite these favorable rates, data reveal that all Latino subpopulations were more likely to receive late or no prenatal care. In fact, Mexican Americans were 2.5 times more likely than non-Latino White mothers to receive late or no prenatal care.

A number of culturally based protective factors may contribute to the noted health advantages for Latinos. The study and understanding of such factors is not only likely to benefit research and intervention with Latinos but also may be helpful in the development and implementation of interventions with mainstream groups as well as other minority groups. Such research recognizes culture as an integral part of health, not a barrier to it (Hayes-Bautista, 2003).

Latino Protective Factors

Although Latinos report higher rates of poverty and lower levels of education and health insurance, there are still many health benefits associated with Latinos—which leads to what some researchers have called the *Latino mortality paradox* (Abraido-Lanza, Dohrenwend, Ng-Mak, & Turner, 1999). Some plausible explanations for the Latino mortality paradox include migratory patterns, proposing that healthy Latinos migrate to the United States, and unhealthy Latino Americans return to their places of origin to die; however, this was proven untrue, according to one study (Abraido-Lanza et al., 1999). These authors concluded that healthy behaviors associated with cultural values and such practices as dietary intake and smoking behaviors are possible explanations for the Latino mortality paradox.

Nutrition. The Mediterranean diet is comprised of foods low in saturated fat and high in polyunsaturated fat, such as olive oil, nuts, and fish. High consumption of fruits, vegetables, legumes, nuts, cereals, olive oil, and fish, along with lower consumption of animal and dairy fats, is typical of the Mediterranean diet (Schröder, 2007). The beneficial effects of the Mediterranean diet are well documented, including a reduced rate of coronary heart disease (Keys, 1980; Salas-Salvado et al., 2008) and reduced rates of obesity and diabetes (Mendez et al., 2006; Panagiotakos, Pitsavos, Arvaniti, & Stefanadis, 2007).

Similarities between the agricultural and fishing environments of Mediterranean countries and several Latin American countries are evident. In fact, Rozowski and Castillo (2004) compared the traditional Chilean diet to that of the Mediterranean. However, these investigators raise concerns about a recent shift in the Chilean diet toward a more Western (U.S.-like) diet due to economic and media-based cultural change. A similar pattern of increased energy-dense food consumption has been observed in several

other Latin American countries (Bermudez & Tucker, 2003; Rivera, Barquera, Gonzalez-Cossio, Olaiz, & Sepulveda, 2004). Despite the benefits of the Mediterranean diet, these recent trends in food consumption in Latin America are resulting in the consumption of food rich in saturated fats, sugar, and refined foods (Vio & Albala, 2000), which has been associated with an increased risk for diabetes and obesity (Schulze et al., 2005). Still, studies examining the dietary patterns of recent immigrants in the United States confirm the healthier dietary intake of Latinos from Latin American countries.

For instance, first-generation Latino adolescents reported more servings of fruit and vegetables and less soda consumption, compared to Anglos (Allen et al., 2007). Other investigators (Dixon, Sundquist, & Winkleby, 2000) found that Mexican American women born in Mexico consumed significantly less fat and more fiber, vitamins, and minerals than Mexican Americans born in the United States. It appears that as Latinos spend more time in the United States, they adopt more of the behaviors and habits of mainstream Anglos, including a less healthy diet (Dixon et al., 2000). The role of acculturation is discussed in greater detail in the following section on risk factors.

Drinking, Smoking, and Substance Abuse. Latino lifestyles may also serve as protective mechanisms for addictions, which impact health outcomes in such areas as cancer and cardiovascular disease. According to data from the National Health Interview Survey, Latinos report lower rates of smoking and alcohol consumption than Anglo Americans (Adams & Schoenborn, 2006). Specifically, Latinos are less likely to be current smokers (15.2%), compared to both Anglos (23%) and non-Latino African Americans (20.9%). Latinos are also less likely to be current alcohol drinkers (50%), compared to Anglos (63%), with larger differences among women. In fact, Anglo women are more than twice as likely to be heavy drinkers than Latino women.

Differences in tobacco-smoking rates are also found, based on immigration status and Latino subpopulations. For instance, based on a national data set, the odds of being a daily smoker were highest among individuals born in the United States to U.S.-born parents and lowest among foreign-born individuals, even after controlling for age, gender, race/ethnicity, SES, and central-city residency (Acevedo-Garcia, Pan, Jun, Osypuk, & Emmons, 2005). According to data from the National Household Survey on Drug Abuse (National Institute on Drug Abuse, 2003), Central/South Americans and Cubans were the least likely to have recently smoked, whereas Puerto Ricans were the most likely to have done so. Other studies have found no significant differences among men in smoking rates based on national origin. However, Puerto Rican women had the highest rates of smoking compared to other Latino women (Pérez-Stable et al., 2001).

Similar trends for illicit drug use emerged across ethnic and racial categories. According to data from the National Household Drug Survey 1999–2000 (National Institute on Drug Abuse, 2003), aside from Puerto Ricans, all other Latino subgroups in the United States report lower prevalence rates of illegal drug use than Anglo Americans, African Americans, and American Indian/Alaska Natives.

Social Support. One explanation for the lower rates of substance abuse and other health advantages observed among certain Latino American populations is social support, which is conceived as a culturally based protective factor. Generally speaking, Latino families are likely to be larger, with greater generational variability, and to include extended and non-kin family members (Knight et al., 2002). These social support systems have been associated with better physical health outcomes (Berkman & Glass, 2000), such as improvements in cardiovascular, neuroendocrine, and immune function (Uchino, 2006).

Although little research has been conducted on the biological implications of social support among Latino Americans, there is evidence of its influence on physical health outcomes. For instance, in a study with Mexican American adults, greater numbers of peers and family members in the United States were associated with better health (Finch & Vega, 2003). Moreover, family emotional support has been found to influence self-rated physical health among Latinos, even after controlling for several demographic factors, such as income and education (Mulvaney-Day, Alegría, & Sribney, 2007).

According to Uchino (2006) and other social support theorists (Berkman & Glass, 2000; Cohen, 1988), there are two major pathways by which social support influences morbidity and

mortality: behavioral processes and psychological processes. For example, social support has been found to influence health behaviors, such as greater leisure-time physical activity (Marquez & McAuley, 2006) and cancer-screening behaviors (Katapodi, Facione, Miaskowski, Dodd, & Waters, 2002), among Latinos in the United States. Social support has also been found to influence psychological processes, such as levels of distress among Latino women treated for early stage breast cancer (Alferi, Carver, Antoni, Weiss, & Duran, 2001).

Another study, which investigated alcohol use among adolescent Latinos, found that the cultural value of *familism* was associated with a lower disposition to deviance, which in turn predicted lower levels of alcohol use (Gil, Wagner, & Vega, 2000). However, more research is needed, specifically examining the mediating role of behavioral and psychological processes on health outcomes (House, Landis, & Umberson, 2003), particularly among Latino populations.

The protective factors associated with some of the Latino American groups, such as eating a nutritious diet, less smoking, lower use of alcohol and drugs, and the existence of social support networks, can be conceived as culturally based. Socially shared values, beliefs, norms, and practices associated with a particular view of the world are important aspects of culture (Betancourt & Lopez, 1993) that influence motivation and behavior, including health behavior. Therefore, to better understand the protective and risk factors associated with health outcomes among Latinos in the United States, it is necessary also to examine the effects of cultural factors and related psychological processes on health behavior and practices. The role of culture in health behavior and outcome is examined later in this chapter.

Latino Risk Factors

Access to Care. As indicated earlier, Latinos in the United States are overrepresented at lower levels of income, which has implications for access to health care. For instance, compared to any other ethnic or racial group in the United States, Latinos have the highest rate of uninsured individuals. Based on data from 2007, 32.1% of Latinos are uninsured, compared to 19.5% of African Americans, 16.8% of Asian Americans, and 10.4% of Anglo Americans. Insurance status also varies among Latinos of different background. For instance, Mexican Americans are the least likely to report having private health insurance (39%), compared to Puerto Ricans (47%), Cubans (58%), and other Latinos (45%).

Disparities in access to care based on immigration status also exist. Data from 2007 indicate that only 12.7% of U.S.-born Latinos are uninsured, whereas 33.2% of foreign-born Latinos are uninsured. Furthermore, among the foreign born, 17.6% of naturalized citizens are uninsured, whereas 43.8% of noncitizens are uninsured (DeNavas-Walt, Proctor, & Smith, 2007). A study conducted in California found that according to the 2003 California Health Interview Survey, 52.8% of undocumented Mexicans in the United States reported having no health insurance, compared to 32.5% of Mexicans with green cards, 20.5% of naturalized Mexican American citizens, and 14.8% of U.S.-born Mexican Americans (Ortega et al., 2007). Similar results were found for other Latino populations, with 56.8% of undocumented Latinos uninsured, compared to 30.9% of Latinos with green cards, 15.6% of naturalized Latinos, and 15.6% of U.S.-born Latinos.

Despite these barriers to health care access, research findings demonstrate health advantages for recent immigrants (Singh & Hiatt, 2006). In fact, Singh and Hiatt (2006) suggest that if immigrants and natives had similar health-care access, the mortality of U.S.-born Latinos might be even higher than that of Latino Americans born outside the United States. These investigators point to the culturally based protective health behaviors among recent immigrants that are likely to lead to better health outcomes among some Latino groups. Still, numerous studies report that such health behaviors decline with acculturation (Nieri, Kulis, Keith, & Hurdle, 2005; Perez-Escamilla & Putnik, 2007).

Acculturation. As discussed earlier, aspects of culture can have positive as well as negative effects on health behavior and outcome. From an acculturation perspective, it is possible that as Latinos adapt to the cultural views, values, and beliefs of the host society, they may in fact adopt unhealthy behaviors and practices (Koneru et al., 2007). Although this is not always the case, according to Berry's (2005) multidimensional conceptualization of acculturation, it is possible that some individuals could be slowly losing

their own cultural values, beliefs, norms, and practices that are protective in terms of influence on health behavior and outcome.

Acculturation appears to have varying effects based on the behavior or outcome of interest and the way in which acculturation is assessed (Koneru et al., 2007). For instance, it has been found that acculturation has a positive effect on health-care use and self-perceptions of health, whereas it has a negative effect on substance abuse, dietary practices, and birth outcomes (Lara, Gamboa, Kahramanian, Morales, & Hayes Bautista, 2005). Depending on the health behavior under consideration, acculturated Latinos reported poorer health behaviors and outcomes than Anglos (Lara et al., 2005).

A recent study (Burns, Levinson, Lezotte, & Prochazka, 2007) found that highly acculturated Latinos smoke for longer periods of time than Anglos. However, this relationship was not observed after accounting for socioeconomic status. These findings suggest that highly acculturated Latinos may be at even greater risk for lung cancer and other chronic diseases associated with socioeconomic status.

Another study, which examined adolescent participation in preventive health behaviors, found that compared to Anglos, third-generation Latinos were less likely to consume fruits and vegetables and were more likely to drink soda, watch television, and play video games (Allen et al., 2007). These findings emerged based on generation status, as first-generation Latino adolescents had healthier nutritious intake than Anglo adolescents.

The aforementioned studies examined acculturation using such proxy measures as generation status and language preference. These types of measures have some methodological limitations. Specifically, these measures do not account for the multidimensional nature of the acculturation construct, in which culture-of-origin and host cultural identities can vary independently. Cultural change implies changes in the components of culture, such as values, beliefs, expectations, norms, and roles, as well as changes in cultural practices and related psychological functioning (Koneru et al., 2007). Research examining the role of acculturation in relation to health behaviors and outcomes might elicit more systematic results when such aspects are considered.

Acculturative Stress. A growing body of literature has examined stress typically associated with the Latino acculturation process and its influence on health behaviors and outcomes. Acculturative stress has been described as including the incidence of family conflict between less and more acculturated individuals, as well as experiences of discrimination (Gil et al., 2000). Although not a great deal of research has been done in this area, preliminary findings suggest that greater acculturative stress is associated with poorer health behaviors and outcomes. For instance, among a group of adolescent Latinos, those who experienced greater acculturative stress reported more smoking, drinking, drug use, violence, and depressive symptoms (Romero, Martinez, & Carvajal, 2007). Gil and colleagues (2000) examined acculturative stress factors, including perceived discrimination, language conflicts, and acculturation conflicts, in relation to alcohol use among adolescent Latino boys. These researchers found that acculturation stress influenced alcohol use primarily through the deterioration of family values, attitudes, and behaviors.

Perceived Discrimination. Another area of research relevant to Latino health that is receiving significant attention as a health risk factor is the impact of perceived discrimination. The implications of health-care discrimination can be quite deleterious for individuals from minority groups. For instance, perceptions of health-care discrimination have been associated with such health behaviors as delay in seeking health care (Hobson, 2001) and adherence to cancer screening guidelines (Moy, Par, Feibelmann, Chiang, & Weissman, 2006). In fact, perceptions of discrimination also have a direct influence on an individual's psychological health and physiological reactivity. In a review of the literature, Krieger (1999) found that perceived discrimination was associated with poorer mental health and, more often than not, that discrimination had a negative effect on reported blood pressure and hypertension. Clark and Gochett (2006) also found that blood pressure reactivity among African American youth was influenced by perceived racism.

Perceptions of discrimination are likely to be associated with higher stress, which may be responsible for the poorer health outcomes of certain groups. More recently, allostatic load

(a construct used to quantify stress-induced biological risk based on a number of physiological measures) has been associated with accelerated disease processes (McEwen, 2000). Differences in allostatic load have been associated with differences in stress exposure and tend to be more prevalent among individuals from lower socioeconomic groups (Szanton, Gill, & Allen, 2005).

Although the majority of research examining perceived discrimination has focused on the African American population (Smedley et al., 2003), preliminary evidence suggests that Latinos also experience the deleterious effects of discrimination. Finch, Hummer, Kolody, and Vega (2001) found that in California, Mexican Americans who reported greater perceptions of discrimination also reported poorer physical health, even after factors such as socioeconomic status, country of origin, level of acculturation stress, and social support were controlled for.

Perceptions of discrimination also appear to be influenced by generation/immigration status. In fact, immigrants report greater instances of "othering" (Viruell-Fuentes, 2007), perceptions of everyday discrimination (Perez, Fortuna, & Alegría, 2008), and perceptions of health-care discrimination (Gee, Ryan, Laflamme, & Holt, 2006) with increasing time spent in the United States. Viruell-Fuentes (2007) argued that the longer immigrants are in the United States, the more adept they become at learning and interpreting the racial/ethnic dynamics of the United States and the implication of their minority status.

The literature examining risk factors associated with health behaviors and outcomes among Latinos is quite diverse. Despite the health advantages relevant to the Latino mortality paradox, research reveals that as Latinos spend more time in the United States and acculturate to mainstream cultural practices, their health outcomes tend to suffer. Because most research in this area examines either protective factors or risk factors associated with Latinos in the United States, research examining both protective and risk factors under a single research paradigm appears necessary to advance knowledge in this area.

Can Protective Health Factors Outweigh the Risk Factors for Latinos in the United States?

Despite the influence of the noted risk factors (e.g. income, education, access to care, acculturation, and discrimination), which results in poorer health outcomes among Latinos, when protective factors are also evident, the gravity of their effect on health outcomes can be ameliorated. For instance, among a group of Latino adolescent males born in the United States and Latin America, higher levels of acculturation were found to increase the use of alcohol (Gil et al., 2000). However, familism values and parental respect mediated the influence on alcohol use. These researchers found that greater familism values and parental respect predicted a lower disposition to deviance, which in turn predicted less alcohol use. Another study found that bicultural Latino adolescents who adopted aspects of the mainstream culture while holding onto their own cultural ways had better mental health outcomes than the marginalized students with fewer attachments and adaptations to Latino culture (Carvajal, Hanson, Romero, & Coyle, 2002).

The discrimination literature also highlights various protective mechanisms that can ameliorate the negative effects of perceived discrimination on health outcomes among diverse groups. For instance, Clark and Gochett's (2006) study, discussed earlier, tested the mediating effect of coping mechanisms on blood pressure and vascular reactivity among African Americans. Results indicated that some coping strategies were protective, whereas others influenced blood pressure reactivity negatively. Similarly, Finch and Vega (2003) found that both instrumental and religious social support moderated the effects of discrimination on reported physical health among Latinos in California. Findings revealed that discrimination was associated with poorer health only among the Latinos who lacked social support.

Taken together, these findings demonstrate two important aspects relevant to the study of culture in relation to health behavior and outcome, which are discussed in greater detail in the next section. First, when investigating the protective and risk factors associated with culture among diverse ethnic and socioeconomic groups, it is important to examine cultural influences on psychological factors relevant to the health behavior of patients. Second, when research is conducted in such a manner, findings may reveal that such protective factors as social support may ameliorate the negative effects of the risk factors. For instance, acculturation or

perceived discrimination may not have such a negative impact on health outcomes when individuals maintain some of the protective cultural values, beliefs, and practices of their native Latino cultures.

Investigating the Role of Culture in Health Behavior and Health-Care Delivery

Because Latinos are the fastest-growing ethnic group and are currently the largest minority group in the United States, it is important to recognize how culture may influence the health behaviors of patients as well as the way they are treated by health-care professionals. In a culturally diverse society, health disparities among individuals from different ethnic, racial, and economic groups may be in part a function of cultural differences between a health-care system primarily based on Anglo cultural assumptions and the populations it serves (Roosa et al., 2002). This incongruence between culturally diverse patients and the delivery of health-care services based on mainstream cultural assumptions may lead to negative interactions, unequal quality of care, and perceptions of discrimination on the part of ethnic minority and low-SES individuals (Smedley et al., 2003). For instance, research indicates that Latino Americans are 20% more likely to report poorer-quality health care, compared to mainstream Americans (Agency for Healthcare Research and Quality, 2006). Latinos are also significantly more likely to report that they personally have been treated unfairly by doctors and health-care professionals based on their ability to pay for care (20%), ethnic background (15%), insurance status (21%), and ability to speak English (14%; Lillie-Blanton, Brodie, Rowland, Altman, & McIntosh, 2000).

Theory-Based Research on Culture and Disparities in Health Behavior and Outcome

It is apparent that understanding and reducing health disparities is a major challenge to health care. In order to advance the study of culture-based health risk and protective factors associated with Latino culture in the United States, research and intervention strategies must be guided by theoretical models and appropriate methodology. Consistent with this view, this section introduces a conceptual and methodological approach for the study of culture and behavior that has been applied to the study of health disparities among Anglo and Latino Americans. Research guided by the corresponding model and methodological approach is used to illustrate the kind of research thought to more effectively contribute to the understanding of health issues relevant to Latinos and other underserved groups.

The model represented in Figure 20.1 is based on the postulates for the study of culture in psychology developed by Betancourt and collaborators (Betancourt & Fuentes, 2001; Betancourt, Hardin, & Manzi, 1992; Betancourt & Lopez, 1993). This model, adapted for the study of health behavior, has guided research in such areas as adherence to diabetes treatment and cancer screening among Latino and Anglo Americans in the United States (Flynn, 2005; McMillin-Williams, 2004).

As observed in Figure 20.1, the model articulates (a) how culture relates to population categories that serve as sources of cultural variation and (b) how culture influences the behavior of health personnel (e.g., interactions with patients) and the health behaviors of patients (e.g., screening, treatment adherence), both directly and through psychological processes and dispositions. An important underlying principle of the model is that relations among the variables conceived as determinants of health behavior are structured from most distal to more proximal (moving from A to D), with proximity to behavior determining a greater impact. According to the model, health behavior (D) is a function of psychological processes (C), which are the most proximal determinants and therefore have the greatest influence on behavior. Health behavior (D) is also associated with such aspects of culture as value orientation, beliefs, and expectations (B). These aspects of culture may be directly or indirectly associated with behavior through mediating psychological processes (C). Moving further away from behavior are social or population categories, such as race, ethnicity, and SES (A), which may represent sources of cultural variation. However, these categories are more distal determinants (and not necessarily directly associated with a particular health behavior). Therefore, the model highlights that it is culture, not just race, ethnicity, or membership in any other category of people, that influences health behaviors and potentially mediating psychological processes.

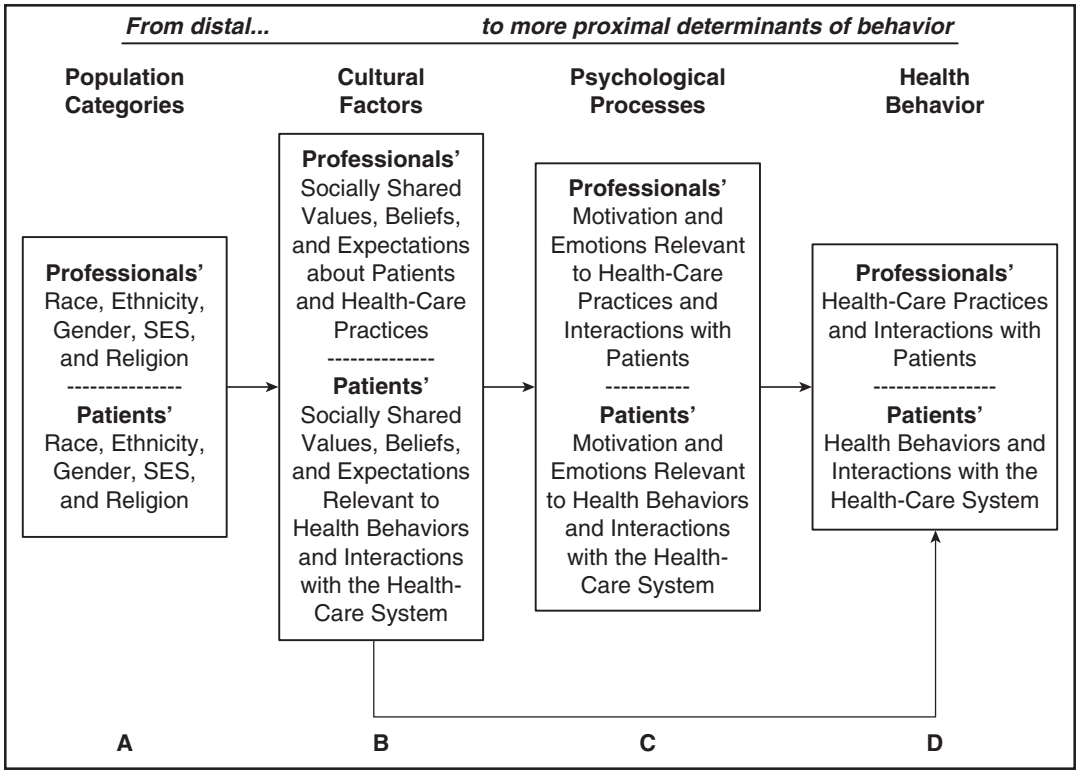

Figure 20.1 Betancourt's Model of Culture and Behavior Adapted for the Study of Health Behavior

Two different but complementary methodological approaches consistent with the theoretical model described above have recently been applied to the comparative study of Anglo and Latino American health behavior and outcome (e.g., Flynn, 2005; McMillin-Williams, 2004). For instance, the bottom-up approach can be used to identify specific aspects of culture that may be relevant to health behavior or outcome. Then, instruments can be developed to measure these cultural elements. The resulting cultural instruments can be used to assess the degree to which individuals and groups endorse certain cultural factors relevant to a particular health behavior. Another methodological approach is the top-down approach. With this approach, one begins with a theory of health behavior, and then cultural elements thought to be relevant are incorporated to broaden the theory's conceptualization. The ultimate and common goal in both approaches is hypotheses testing concerning the role of culture, psychological processes, and health behavior or outcome.

Culture-Based Health Research and Intervention

The model and methodological approaches described can contribute to the advancement of research on aspects of culture that may influence the behaviors of health-care personnel as well as those affecting the health behaviors and outcomes of patients from various cultural and economic backgrounds. For instance, based on the definition of culture highlighted in the model and the corresponding bottom-up methodological approach, researchers can gain a better understanding of the cultural beliefs, values, expectations, and norms of patients as well as health care providers. This can be accomplished by conducting interviews and focus groups with diverse patients as well as their health-care providers, that is, physicians, surgeons, nurses, medical technicians, and receptionists. A cultural instrument can then be developed and used to assess these cultural elements. Once

these aspects of culture have been assessed, one can test their relations with mediating psychological processes such as cognitions and emotions and subsequent health behaviors and outcomes.

The resulting information obtained through research employing the model and methodological approaches to the study of culture can then be used to develop culturally appropriate interventions. Interventions can be developed for culturally diverse patients as well as their health-care providers. It is particularly important that information gained from culturally diverse patients be used not only to develop interventions with this population but also to educate and inform health-care providers about their patients' cultural values, beliefs, expectations, and norms, which may in turn influence their health behaviors and outcomes. Therefore, from the perspective of health-care professionals, interventions should include two components. First, professionals should be made aware of their own cultural values, beliefs, expectations, and stereotypes that may influence the way they provide and deliver health-care services. Second, they should be educated about the cultural values, beliefs, expectations, and norms of their culturally diverse patients so that they are better prepared to deliver effective and appropriate health-care services.

Finally, as discussed in the corresponding section of this chapter, it is particularly important for health psychologists working with Latinos in the United States to recognize that there is as much within-group as between-group variation in cultural factors relevant to psychological functioning and health behavior. Latinos from Cuba may not hold the same cultural values, beliefs, norms, and health practices as Latinos from Mexico. At the same time, depending on such factors as generation, immigration status, acculturation, and education, some Latino patients may share health-related cultural beliefs and practices with mainstream Anglo Americans more than with the average Latino. Hence, it is important for research and intervention to assess how individuals or communities score on cultural factors relevant to the corresponding health concern rather than assuming that because of their ethnic backgrounds, individuals will engage in certain health behaviors or practices. In fact, based on evidence included in this chapter, such an approach may in fact be responsible, at least in part, for health inequities by perpetuating stereotypical views of culturally diverse groups.

It is expected that a better understanding of the role of culture in health behavior and care, within the context of relevant social-structural factors, may significantly contribute to improving the health outcomes and quality of life of Latinos and other nondominant ethnic groups in the United States. This implies, among other things, advancing the study of culture in health psychology. Such research should include the role of culture in the health behavior of Latinos and their interactions with the health-care system, as well as the role of mainstream cultural factors in the behavior of health-care personnel and policy decisions. By such inclusion, the study of culture-based protective and risk factors influencing Latino health and well-being might contribute to advancing not only the health outcomes of Latinos but also those of Anglos and other ethnic groups.

Notes

1. The term *Latino* refers to the individuals or populations of the United States who came originally from Latin America or from a region of the United States that was once part of Latin America. This population is sometimes referred to as *Hispanic,* although this term is often rejected by Latinos because it excludes important segments of the Latino population who do not share the Spanish language or cultural heritage—for example, a significant portion of the indigenous people of Latin America and those whose ancestors came from other countries in Southern Europe (e.g., Brazilians), Africa, or Asia (see Betancourt & Fuentes, 2001).

2. *Anglo American* (shortened herein to *Anglo*) refers to the mainstream non-Latino White individuals or populations of the United States who came originally from the United Kingdom or other European backgrounds, who share the English language and Anglo American cultural heritage (see Betancourt and Fuentes, 2001).

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