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Culturally Responsive Health Promotion in Puerto Rican Communities: A Structuralist Approach

María Idalí Torres, PhD, MSPH
David X. Marquez, PhD
Elena T. Carbone, DrPH, RD, LDN
Jeanne-Marie R. Stacciarini, PhD, RN
Jennifer W. Foster, PhD, CNM

This literature review discusses the value of the structuralist approach as an integrated theoretical and methodological framework for participatory cultural assessments designed to capture the cultural dynamics of those affected by health disparities. Drawing from principles of the Lévi-Straussian strand of structural anthropology found in contemporary cultural studies, and using the Puerto Rican cultural experience as an example, the authors present the distinction between deep and surface structures of cultural knowledge and meaning and highlight information-processing and behavioral systems influenced by the complexity of cognitive and social representations of cultural structures. To understand and address the deeply rooted web of ideology, norms, and practices that influence health decision making and behavioral responses, the authors show the need for ethnographic narrative inquiry beyond surface manifestations of culture. Finally, the authors discuss the implications of the structuralist approach for culturally responsive health education and other health promotion interventions.

Keywords: *cultural structures; cultural assessments; Puerto Ricans; community health assessment; health disparity; structural anthropology*

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To eliminate racial and ethnic health disparities, health promotion and health education interventions must be culturally responsive. The complexity of cultural systems and how they influence decision making and behaviors have been analyzed by some health promoters and educators in terms of the dualistic concept of deep and surface structures (Freimuth & Quinn, 2004; Resnicow, Baranowski, Ahluwalia, & Braithwaite, 1999; Resnicow, Braithwaite, Dilorio, & Glanz, 2002). Surface structures refer to visible cultural expressions such as speech patterns, social interactions, and symbols, whereas deep structures refer to systems of beliefs, perceptions, and other cognitive templates underlying behavioral patterns. This analysis suggests that the focus of health promotion and health education needs to address the complex elements of deep cultural consciousness that affect people's choices. Though not acknowledged in these analyses, this distinction between deep and surface structures is largely associated with the strand of structural anthropology practiced by Lévi-Strauss (1963) in studying indigenous concepts of healing, illness, kinship, and laws in the Americas and Africa. Used as both theoretical framework and methodological approach, this structuralist approach assumed a universal human need for systematically ordering received information and storing it at the deepest levels of unconsciousness (deep structure). This template of information, in turn, surfaces as cognitions or manifestations of pre-constituted frames of reference to which people's actions conform (Manning & Cullum-Swan, 1994).

New generations of structuralists in the field of cultural studies have distanced themselves from Lévi-Strauss's (1963) static and deterministic definition of deep structure. Nonetheless, they have adopted two of his main ideas: that structures for specific actions and meanings are embedded in the relationships among

The Authors

María Idali Torres, PhD, MSPH, is an associate professor of public health and acting assistant dean of public health practice and outreach in the School of Public Health and Health Sciences, University of Massachusetts–Amherst.

David X. Marquez, PhD, is an assistant professor in the Department of Kinesiology and Nutrition, University of Illinois at Chicago.

Elena T. Carbone, DrPH, RD, LDN, is an associate professor in the Department of Nutrition at the University of Massachusetts–Amherst.

Jeanne-Marie R. Stacciarini, PhD, RN, is an assistant professor, College of Nursing, University of Florida, Gainesville.

Jennifer W. Foster, PhD, CNM, is a visiting scholar, Nell Hodgson Woodruff School of Nursing, Emory University in Atlanta, Georgia.

elements of a whole cultural system, rather than in individual elements (Alasuutari, 1995) and that inner knowledge is observable in oral narratives and other forms of verbal textual data susceptible to structural analyses (Manning & Cullum-Swan, 1994). These new structuralists have reconceptualized the notion of “deep structure” as multiple dynamic entities that are continued or transformed over time by people’s schema within the structural constraints of social relations and interactions in local, global, and transnational contexts (Alicia, 1997; Karlsen & Nazroo, 2002). By blending the Lévi-Straussian approach with other postmodern orientations from interpretive–constructivist anthropology, cultural studies seek to understand how human behavior is influenced by the relationships between cultural elements in the deep structures and individual agency (Doja, 2006; Dressler, 2001; Karlsen & Nazroo, 2002; Philen, 2005; Viladrich, 2006; Waitzkin & Britt, 1989).

The absence of anthropological references in health education publications on the deep–surface distinction in cultural structures highlights the gap in communication between anthropologists and health educators at a time when multidisciplinary scholarship is vital for addressing health disparities. The goal of this literature review is to show the benefits of integrating theoretical and methodological structuralist approaches to distinguish between surface and deep structures of cultural knowledge and meaning, particularly while conducting cultural assessments for health promotion interventions in ethnic minority communities. To that end, we use the Puerto Rican cultural experience to illustrate how historical circumstances have influenced transnational and linguistic

identities and interactive dynamics to restructure interpersonal communication in the family and other places of cultural engagement. Our review includes a sample of ethnographic assessments for health promoters and health educators to discover cultural structures significant to health behavior at each of the multiple levels of influence embedded in the socioecological model. The article closes by discussing the implications for developing culturally responsive health promotion interventions to address health disparities.

METHOD

This literature review searched a variety of databases, including Anthropology Plus, Anthropological Source, Hispanic American Periodicals Index, Sociological Abstracts, Pub Med, and Academic Search Premier (multiple databases including CINAHL, ERIC, PsycINFO, and Social Sciences Abstracts). The review included research articles, theoretical essays, and book chapters on three topics: (a) the legacy of structuralism and the Lévi-Straussian deep–surface distinction in cultural studies, (b) the experience of Puerto Ricans as a commuter community, and (c) the use of qualitative inquiry and ethnographic assessments in health promotion.

References on the Lévi-Straussian deep–surface distinction were searched in the social science literature from 1960 to 2006. This search yielded 87 publications in the 1960s and 1970s, mainly the work of Levi Strauss, other linguistic and symbolic anthropologists, and diverse social scientists involved in feminist studies. Only 32 references were found citing the deep–surface distinction in the 1980s, but more health-related topics and those from Africanist and feminist perspectives were published. As the postmodernist movement gained strength in the 1990s, only 5 references cited the deep–surface structure. However, 11 new publications since 2000 have revisited the legacy of Lévi-Strauss and its influence on cultural studies and narrative inquiry perspectives. Literature on the experience of Puerto Ricans and ethnographic tools for cultural assessments (57 articles) emerged from searching the databases above between 1986 and the present. Our search of key cultural assessments from 1985 to the present yielded 35 publications. Most of these publications use the set of questions developed by Arthur Kleinman for assessing cultural explanatory models during clinical encounters.

RESULTS

The Puerto Rican Context

Puerto Ricans have the worst indicators of general health status among Latino subgroups in the United

States (Hajat, Lucas, & Kington, 2000). Poor health outcomes in this community are frequently associated with limited access to educational and economic opportunities. Inadequate access to health information and health education services has been cited as a barrier for obtaining health insurance (Vitullo & Taylor, 2002), primary care health services (Siegel & Schrimshaw, 2000), and health protection measures (Peragallo, 1996). Limited health promotion materials are available with information that is culturally appropriate, relevant, and understandable to populations with low levels of functional and health literacy or English language proficiency. Like other cultural minority groups, Puerto Ricans have had inconsistent outcomes from conventional or generic health promotion strategies (O'Malley, Kerner, & Johnson, 1999). Puerto Ricans' preference for health information that is culturally relevant (Davis & Flannery, 2001; J. B. Torres, 2000) suggests the need to move beyond the commonly used behavioral expressions of culture. Instead, the focus of community health promotion interventions needs to be the complex elements of cultural consciousness that affect people's choices. For Puerto Ricans, we argue, these elements are similar to those for African Americans (Airhihenbuwa, 1995; Resnicow et al., 2002), that is, national, ethnic, linguistic, and religious identity, social interaction processes, and communication systems, all of which are required to influence decision making and to leverage behavioral and social change. The critical need to eliminate health disparities requires that health promoters and educators understand how these cultural elements influence exposure, adoption, and transmission of information and behaviors associated with negative and positive outcomes.

¡Eso somos nosotros/as! Transnational and Linguistic Identities

A basic tenet of structuralism in anthropology is the effect of historical context on behavior. Waitzkin and Britt (1989, p. 51) treated "deep structures" as "historically specific patterns" that often bring to light structures underlying the cultural meaning of speech and behaviors in day-to-day social interactions. The internalization of historical circumstances into deep structures happens through a lifelong process of enculturation. This process involves individuals interacting with and interpreting their objective reality, including social, economic, political, and cultural external constraints that shape their ethnic and/or racial identities and give meaning to their lived experience (Airhihenbuwa, 1995; Chapman & Berggren, 2005; Myers, 1987; Resnicow et al., 2002). In this context, frameworks are structured and restructured for locus of

control for individual responsibility and action in cultural identity formation and representation. In these cultural processes, the dynamics of class, race, ethnicity, and gender are often negotiated to produce distinctive cultural models of behavior (Alicea, 1997; Olmedo, 2002; Ramos-Zayas, 2004), including practices and preferences that could influence health promotion programs addressing ethnic disparities (Airhihenbuwa, 1995; Karlsen & Nazroo, 2002).

Cultural identity is a multidimensional process that changes as individuals interact with their environment. To understand the deep structures of Puerto Rican culture, health promoters need to understand the historical context of their national and linguistic identities before deciphering other macro-level determinants of health. Cultural identity significantly influences Puerto Rican learning processes and preferences (Antrop-Gonzalez, 2002; Nine-Curt, 1993). Affirming cultural and linguistic identities among Puerto Rican adolescents contributes to positive outcomes in education (Antrop-Gonzalez, 2002) and some health protective behaviors (Brook, Whiteman, Balka, Win, & Gursen, 1998). Like that of other groups, the Puerto Rican collective cultural consciousness reflects historical, political, economic, and social conditions and serves as a cultural resource to meet environmental challenges.

Key to representations of Puerto Rican cultural identity is the experience with U.S. colonialism and automatic citizenship. Since Puerto Rico's occupation in 1898, generations of island-born Puerto Ricans have been exposed to U.S. culture and language. Because the congressional Jones Act of 1917 granted automatic American citizenship to Puerto Ricans, they commute without restriction and often travel between their hometowns in Puerto Rico and their communities in the United States. Frequent visits to the island allow Puerto Ricans to maintain strong family ties and other social networks, preserve native language, and experience the island's current social developments. As a result, their cultural representations of community transcend geographical and national boundaries.

Although Spanish language symbolizes the cultural reaffirmation of their Caribbean-Creole heritage, English provides access to educational, technological, and economic opportunities (Torre, Rodríguez-Vecchini, & Burgos, 1994). In the context of Puerto Rican sociolinguistic dynamics, language becomes an inappropriate proxy for Puerto Ricans' acculturation level. Several assumptions about language limit the validity of health research findings for developing culturally responsive health promotion interventions. These assumptions include that acquiring skills to communicate in English

automatically changes other cultural processes involved in health decision making, that the U.S. host community's dominant culture always represents a single set of values and lifestyles (Page, 2005), and that the acculturation process is unidirectional (from Spanish to English). Spoken language expresses a very small component of the thought process embedded in the deep cultural structures of meaning and intention that influence beliefs, norms, and behavioral patterns of interest to health educators.

Assessment of acculturation must account not only for the diverse linguistic characteristics of Puerto Ricans but also for their cognitive processes as they interact with different cultural contexts in Puerto Rico and the United States. Thus, variations in proficiency and speech patterns in Spanish–English hybrids and in Puerto Ricans' ability to negotiate cultural threads in both societies (Alicea, 1997; Olmedo, 2002) suggest that length of stay and exposure to health information both on the island and stateside are important factors in designing interventions. Longer exposure to U.S. culture has been associated with specific behaviors (e.g., drug use; Page, 2005; Resnicow et al., 2002).

The experiences of colonialism and automatic citizenship differentiate the collective cultural consciousness of Puerto Ricans from that of other Caribbean and Latin American immigrants referred to as Latinos/as or Hispanics. This experience has also transformed Puerto Ricans into a commuter nation (Torre et al., 1994). Besides not sharing a national history, cultural heritage, or immigration status with other Latino groups (Umaña-Taylor & Fine, 2001), Puerto Ricans differ in residential patterns as they tend to congregate in urban communities that are culturally and economically segregated (Santiago & Galster, 1995) and to travel regularly between stateside and the island. For Black Puerto Ricans, the effects of cultural and economic segregation are compounded by color-based discrimination (Borrell, 2005). *Eso somos nosotros* (“that is what we are”) recognizes a felt sense of distinction between the Puerto Rican cultural experience and that of other Latino groups.

¿Oíste eso? Social Interactions and Interpersonal Communication

Structuralist anthropologists and other followers of the Levi-Straussian orientation in cultural studies share a desire to find and describe the meaning in collective representations of culture, which “cannot be entirely reduced to individual perception” (Dressler, 2001, p. 458). Culture is generally transmitted through social interaction and communication. In the structuralist view, individuals become competent members of a cultural group by

embodying (routinizing daily activities) specific cultural experiences and dispositions (Karlsen & Nazroo, 2002) learned from significant others as structures of specialized knowledge and skills (Alicea, 1997; Olmedo, 2002). The cultural meaning of significant social relationships resides in deep structures, whereas the behaviors associated with interpersonal communication are observed in surface structures.

Puerto Ricans' interactions with health promoters and educators reflect their culture-bound styles of communication and conceptualizations about their bodies. Interpersonal interactions are structured by the meaning attributed to *respeto*, that is, by using reverential language and behavior to address those of higher social status based on age, gender, income, and education and by using vague language to facilitate open interpretation and to promote harmonious relationships. Indeed, Puerto Ricans tolerate high levels of uncertainty and indirectness in verbal communication (Goldsmith, 2001). This cultural characteristic may explain the meaning of the popular Puerto Rican expression *¿Oíste eso?* (“Did you hear?”). In this case, meaning is highly situational and depends on the relationship between communication partners. The term *¿Oíste eso?* can be used to request an opinion, to validate a message, to manifest surprise at a message, or to intentionally transmit a message. Consistent with rules for interpersonal communication behaviors in cultures that give meaning based on relational and situational context, Puerto Ricans tend to emphasize emotional expression, physical proximity, touching, and body language in their interactions with others, including health providers (De la Cancela, 1989; Morales, 1994).

Face-to-face interactions, the most cherished style of communication, are characterized by four attributes: *símpatía*, *personalismo*, *confianza*, and *cariño* (Juarbe, 1998; J. B. Torres, 2000). These attributes are often expressed in a continuum from low to high levels of intimacy. Initially pleasant and empathic behaviors and words promoting harmony and mutuality (*símpatía*) are followed by increased informal personal interactions (*personalismo*), contributing to the development of trust and loyalty (*confianza*). Finally, affection (*cariño*) is expressed both verbally (with loving words) and nonverbally (hugging, touching). Verbal and nonverbal expressions of love are viewed as social inoculation against physical and mental health problems of family, friends, and other significant relationships (De la Cancela, 1989; Juarbe, 1998; J. B. Torres, 2000).

A key element of the Puerto Rican nonverbal repertoire, which reflects the mind–body concept of health, is using the senses to obtain and communicate information. Morales (1994) described Puerto Rican patients' expectations that health care professionals use touch and

physical closeness to reassure their patients' personal worth and to signal prospects for recuperation. Similarly, some Puerto Rican anglers relied on their sight, smell, and taste to assess environmental risks in local waters while fishing (Beehler, McGuinness, & Vena, 2003).

The most dominant structure of social interaction and influence in Puerto Rican culture is the family. This dominance continues despite recent reports suggesting that traditional familism is decreasing among newer generations and more highly educated Puerto Ricans (Cortés, 1995; J. B. Torres, 2000). The family's social functions of mutual support, reciprocity, and transmission and maintenance of culture are inculcated in deep structures of collective representations. The size and structure of Puerto Rican families—from dyads to three generations—are affected by several factors: adaptation to commuting family members, changes in gender roles and educational achievements of women, and chronic poverty levels. The extended family structure can include blood and marriage kinships and close friends, neighbors, and other significant social relationships. Besides supporting the health and well-being of family members, extended family living arrangements create additional gateways for information between first-generation grandparents and their grandchildren (Olmedo, 2002). These living arrangements can become cultural diffusion resources for health promotion programs.

As family size and gender roles change, Puerto Ricans are restructuring their social interaction and communication patterns to meet family members' needs. The rising matrifocal family structure in Puerto Rican communities (Chavira-Prado, 1994) places women in culturally influential positions in social networks and in the management of sociocultural resources to cope with changes such as high rates of divorce and single motherhood. Some Puerto Rican women appear to successfully negotiate individual autonomy within the cultural expectations of familism by becoming leaders in their family networks and by regularly communicating with large multigenerational networks, thus mobilizing and exchanging resources such as housing, child care, and elder care across national boundaries (Alicea, 1997).

Likewise, Puerto Rican men view their contributions to the care of children (Roopnarine & Ahmeduzzaman, 1993) and elderly parents (Delgado & Tennstedt, 1997) as part of their commitment to their families. This commitment to family is supported by an ethnographic study in which fatherhood emerged as a deeply valued aspect of male identity among the Puerto Rican partners of adolescent mothers (Foster, 2004).

The constant restructuring of family dynamics, of size and interdependency ties, and of membership cohesiveness appears to not affect levels of interaction and communication among Puerto Rican family members.

Frequent visits and telephone calls preserve family stability and unity and serve as a cultural resource for transmitting health information (Davis & Flannery, 2001; J. B. Torres, 2000). Indeed, the value of using family-oriented approaches to reach Puerto Ricans for public health interventions is well documented (De la Cancela, 1989; Juarbe, 1998).

Lugares de Confianza: Spaces for Cultural Practice

Structuralist tendencies in anthropology and cultural studies emphasize the agency of individuals to define rules for places of social engagement and cultural expressions in local, global, and transnational communities. Like Lévi-Strauss (1963), younger social scientists who have adopted his ideas seek to uncover the structure of cultural meaning in people's accounts of their everyday situations in such organizing structures as institutions and community networks. Puerto Rican social scientists view places of cultural practice in Puerto Rican enclaves as spaces for establishing symbolic language and cultural boundaries between ethnic communities and for reaffirming cultural identity (Alicea, 1997; Antrop-Gonzalez, 2002; Ramos-Zayas, 2004).

Puerto Ricans living in the United States have created community organizations to make meaning, that is, to connect them to their cultural experiences of faith, commerce, and recreational sports "here" (the United States) and "there" (Puerto Rico). These organizations are *lugares de confianza*, or trusted spaces, where cultural ideas and practices are affirmed (Antrop-Gonzalez, 2002; Rodríguez, 1989). Below the family in the hierarchy of cultural activities and social interactions lie churches and other faith organizations. These faith-based spaces not only ensure social acceptance of Puerto Rican cultural identities, stability of the Spanish language, and continuity of religious traditions in the United States (Díaz-Stevens & Stevens Arroyo, 1998) but also reinforce the emotional and social relations that give meaning to cultural ideology, norms, and values. Churches engage individuals in religious rituals for birth, marriage, and death, important events in the Puerto Rican life cycle, thus mobilizing parishioners and other community members for religious-cultural celebrations. The church's support network buffers the effects of illness-induced adversity and stress (Siegel & Schrimshaw, 2000), provides information and logistical assistance to find housing and employment, and meets other needs of community newcomers (Delgado, 1997). The church also promotes behavioral and environmental changes that benefit individual and group health and general quality of life (Rodríguez, 1989).

Other faith-based places are the homes and commercial establishments of lay health spiritual practitioners. In these places, community members can find alternatives to standard biomedical practices to restore mind and body to health and wellness (Viladrich, 2006). Healing practices may include counseling, herbal remedies, praying, attending spirits, and other rituals. Botanical shops are one example of commercial healing places that sell herbal products for homemade concoctions and paraphernalia for spiritual practices associated with health promotion. Lay spiritual practitioners in the Puerto Rican community, where they are known for their wellness mission and services, are effective collaborators in delivering information about HIV prevention (Delgado & Santiago, 1998). These traditional healing approaches should be explored for culturally relevant variations and their application to health promotion interventions.

Besides these botanical shops, Puerto Rican enclaves typically have an extensive network of small family-owned businesses that serve as cultural contexts for social interaction (Rodríguez, 1989). Often operating in geographical and social proximity to churches and botanical shops, these small businesses house *bodegas* (grocery stores), bakeries, barber and beauty shops, restaurants, laundromats, and other places where community members congregate to discuss the latest developments on the island and in their stateside neighborhoods. Those who own and work in these spaces tend to interact daily with and have personal relationships with the same customers. Generally, men spend longer periods than do women inside the bodegas, restaurants, and barber shops watching or listening to Spanish-language televised sports games and political programs. On the other hand, women spend longer periods interacting with others in bakeries, laundromats, clothing stores, botanical shops, and beauty parlors. Hairdressers and other beauticians have natural roles as lay advisors, counselors, and coaches, making their shops prime sites for community outreach and education (Delgado, 1997). Likewise, owners of bodegas can help health practitioners make healthy food available in low-income neighborhoods (Wechsler, Basch, Zybert, Lantigua, & Shea, 1995).

Local Puerto Rican churches and businesses sponsor recreational sports and games that reinforce informal and formal networks, preserving cultural, linguistic, and intergenerational ties in the community (Rodríguez, 1989). Although some activities such as fishing tend to be limited to family members and close friends (Beehler et al., 2003), others extend to larger networks. For example, baseball, basketball, and softball teams participate in neighborhood, city, and regional leagues. Puerto Rico's sovereignty in sports has always been a source of cultural

pride. This pride has been reinforced in the United States by the increased visibility of Caribbean Latino players in Major League Baseball and their demonstrations of solidarity for each other's cultural heritage (Regalado, 2002).

Most communities have organized formal and informal baseball, basketball, softball, and boxing activities. One of five Puerto Rican households in a New England community was found to have at least one family member engaged in local sports activities (M. I. Torres, 1998). Cultural passion for sports, especially baseball (Brenton & Villegas, 2003), and Latino representation in Major League Baseball offer vehicles for promoting physical activity among Puerto Ricans who engage in little regular exercise (Crespo, Keteyian, Heath, & Sempas, 1996). Key to any physical activity intervention would be to learn how Puerto Ricans and other Latinos reconcile the apparent contradiction between their collective excitement as sports spectators and their individual sedentary behaviors.

¿Y Por Qué? Discovering Cultural Structures and Cultural Models

The Puerto Rican cultural experience described above illustrates the reciprocal dynamics among the deep structures of culture, social structures, and institutions in a specific community and their influence on the behaviors that health promotion interventions seek to prevent or promote. To understand the Puerto Rican contextual landscape, assess its impact on health, and mobilize community members for health promotion, Baker and her colleagues (1997) suggested the socioecological model. This framework is a step forward in the analysis of risk causation and strategies for health protection because of its influence at the intrapersonal, interpersonal, community organization, policy, and broader society levels. Although adaptable to the experience of diverse cultural settings (Levy et al., 2004), most applications of the socioecological model in the health promotion literature fail to capture the interactive and bidirectional restructuring dynamics of cultural structures that sustain and/or change behavior.

The study of cultural structures focuses on the relationship between visible behaviors and social actions (surface) and the deep structures of meaning acquired over time through enculturation or inculcation. These deep structures involve the conscious and unconscious acquisition of competence to sense and decode meaning, to interpret experience, and to perform in a particular cultural context. Inculcated core values provide community or group members a cultural model for a

sense of belonging and identifying with the past, present, and future (Olmedo, 2002; Page, 2005) and the foundational script or schema for meaningful actions. For example, the cultural deep structures of oral tradition and verbal arts that guided Africans' judgments, decision making, and problem-solving strategies have surfaced in African Americans' preferences for various approaches to speech making, healing, and food preparation (Myers, 1987) that are relevant to health promotion interventions (Airhihenbuwa, 1995; Resnicow et al., 2002)

Understanding how deep structural elements are transformed into observable preferences and behaviors is crucial for designing culturally responsive interventions. To identify differences in structures of cultural knowledge and meaning and to document their relevance for behavioral change interventions, Resnicow et al. (2002) suggested using focus groups. Indeed, Puerto Rican cultural structures have been discovered in focus group-generated text (Beehler et al., 2003). Likewise, textual data from participant observations (Antrop-González, 2002; Ramos-Zayas, 2004), life histories (Alicia, 1997; Olmedo, 2002), and individual interviews (Morales, 1994) documented participants' responses when asked *¿y por qué?*, or the "why" of their ideas and/or behaviors.

To eliminate racial/ethnic health disparities, Chapman and Berggren (2005, p. 149) have championed ethnography as a tool for health researchers to create "new inequality knowledge." Rather than using comprehensive ethnographic accounts requiring immersion in a community or group of interest, health promoters and educators can conduct rapid ethnographic assessments (REAs) to gather cultural data on a specific topic, to inform the development and impact of interventions, and to engage people of different cultural backgrounds and literacy levels through participatory action and interactive processes (Pelto & Pelto, 1997). The REA is also a valuable tool for understanding how cultural dynamics interact with low levels of English proficiency, of formal education, and of literacy skills and the use of reverential and nonverbal communication (Zambrana, Molnar, Muñoz, & Lopez, 2004). Among the REA tools for data collection is a comprehensive cultural assessment framework (Huff & Kline, 1999) that can be used for formative research in culturally distinct communities. This tool includes general questions on culture-specific demographics and epidemiological and behavioral patterns and specific questions about cultural identity, social interactions, communication patterns, beliefs, and practices. These questions reflect components of the cultural cosmology (or

natural universe of people), regarded by structuralists as the foundation for explanatory systems (Alasuutari, 1995). They can also be tailored to fit the multiple spheres of influence embedded in the socioecological framework mentioned above. The tool also includes a section on cultural explanatory models, which pose questions to elicit indigenous theories about causation, type, time, place, and onset of symptomatology and treatment strategies for specific health conditions.

The cultural explanatory model approach can be used, like other cognitive-focused methodologies with a structuralist orientation, to identify explanatory structures of knowledge and meaning for numerous health issues, populations, and settings and is amenable to different analytical strategies. This approach was used to elicit cultural explanations of *ataques de nervios* among Puerto Ricans in two studies (Guarnaccia, De La Cencela, & Carrillo, 1989; Guarnaccia, Rivera, Franco, & Neighbors, 1996). In the first study, explanatory narratives of illness were obtained from Puerto Rican and other Latino patients. Several core themes emerged from the narratives, with each theme demonstrated by a particular case history. In the second study, Guarnaccia et al. (1996) applied a broader analytical framework, which combined thematic and narrative analysis, to another set of textual data collected in Puerto Rico. After themes were identified, narrative accounts were integrated to link cultural elements of cognition with symbolic and ideational structures used by participants to organize their experience of *ataques de nervios* in the context of family and gender structures and collective emotional representations of cultural identity. The latter analysis captured the individual-cognitive schema and the contextual-public function of the health condition (*ataques de nervios*) and gave health care providers an appropriate cultural frame for clinical and community interventions.

Narrative analysis can also be used to illustrate how time and context influence research participants' interpretation of their experience in the social world over time. This theme in the work of structuralists builds on Lévi-Strauss's focus on the narrator (Doja, 2006; Philen, 2005) but pays more attention to how time (sequence of historical events), place (context), and social interactions transform the narrator's thoughts and behaviors, thus transforming cultural meaning (Alasuutari, 1995; McGannon & Mauws, 2002; Viladrich, 2006). Narrative analysis has been proposed as a way to gain greater insights than provided by thematic analysis into the complexities of a community intervention (Riley & Hawe, 2005), adding support for health education and health promotion intervention research.

► DISCUSSION: IMPLICATIONS FOR HEALTH PROMOTION AND HEALTH EDUCATION

Individually, health promoters and applied anthropologists have long been seeking to identify and understand cultural aspects of behaviors relevant to health interventions. The two disciplines could be brought closer in addressing the limitations of existing theoretical and methodological frameworks for cultural assessments by using several strategies mentioned in our literature review. The closest tool to the holistic structuralist approach in health promotion is the social ecological framework, in which individual behaviors change within the relational dynamics among individuals, their networks, and other structures in their community (Baker et al., 1997; Levy et al., 2004; Minkler, 1999). The need to eliminate racial and ethnic health disparities requires that applications of the socioecological model give more attention to the influence of cultural structures in each sphere of analysis or influence. Structural anthropology's premise that structures for specific behaviors and meanings are embedded in systemic and orderly relations between constituent elements that can only be understood when studied as an entire system and in the context of historical events, human agency, and social context presents an opportunity to expand the socioecological framework. A culturally responsive socioecological model will distinguish the dual role of cultural structures of knowledge and meaning. The first role involves a cognitive script used by people to interpret their experience while interacting with others (intrapersonal) in their external structured environment (interpersonal), and the second role is as an organized system (organizational and policy) of social reality that people experience and influence by their actions.

The structuralist perspective is also consistent with the need to address the production of health disparities. To address health disparities, health promoters must constantly take the pulse of cultural contexts and respond to emerging adaptations and reframing processes that affect deep structures of meaning (Airhihenbuwa, 1995; Chapman & Berggren, 2005; Karlsen & Nazroo, 2002; Page, 2005). Our literature review suggests that health promoters must be cognizant of how prolonged exposure to U.S. colonialism has affected Puerto Rican cultural identity. Specifically, the use of language and collective representations of cultural identity has been reproduced and restructured, affecting the structures of family composition, gender relations, social networks, places of social engagement, political positioning, and patterns of

interpersonal communication. These factors influence levels of health knowledge, access to health information, and behavioral risk as much as length of stay in the United States and exposure to health information in the United States and Puerto Rico. Because language is the main means of communicating complex configurations of meaning in deep structures, researchers should carefully consider how the language in which they gather data affects the trustworthiness of their findings.

Structuralists in cultural studies hold that people produce and reproduce specific deep structures of meaning only in their social relations and interactions. Capturing and deciphering those cultural processes requires not only face-to-face interactive fieldwork (e.g., focus groups) but also reconceptualization of the deep and surface structures as "poles of a continuum" (Resnicow et al., 2002) that illustrate degrees of complexity, heterogeneity, and saliency of cultural elements in a particular community. Another tool for developing interventions is narrative analysis, which has been used to study adherence to physical activity (McGannon & Mauws, 2002). Narratives document the transformation of individuals' thoughts and behaviors over time, thus helping health promoters to discover deep and surface elements of a specific culture. This documentation of cultural system elements and relational patterns underlying complex configurations of meaning that transform values, norms, and beliefs into behavioral manifestations of culture can inform promoters' early decisions about the focus, content, and methodologies of programs. Once a program's activities begin, narratives can provide an account of "the mechanisms" (Riley & Hawe, 2005) by which activities are diffused, adopted, translated, and sustained over time, helping interventionists better understand the short- and long-term impacts of their efforts on behavioral and social change. Systematic methods of narrative analysis used by structuralists include semiotics (meaning structures), discourse analysis, transformations (e.g., metaphors and symbols reflecting deep-surface connections), and cognitive oppositions (e.g., health illness) (Manning & Cullum-Swan, 1994). Data interpretation is based on detecting the structural principles that sustain the complexity of the relational patterns, restructuring, reframing, and reproducing cultural models.

► CONCLUSION

Eliminating health disparities requires building a theoretical and methodological base to assess and address cultural structures in health promotion and health education interventions. The formative stages of health

promotion interventions may benefit more from the structuralist approach when its theoretical and methodological assumptions and limitations are clearly stated and the spheres of the socioecological model are superimposed. Using the structuralist approach as a theoretical and methodological framework for health promotion research can contribute to the trustworthiness of cultural assessments, particularly if it is combined with the socioecological model. There is a need to test the feasibility of culturally responsive structuralist ecological models to emphasize the role of cultural structures of knowledge and meaning in each of the target levels for behavioral and social change. Focused ethnographic methodologies that engage those affected by health disparities may effectively access narratives containing cognitive and social representations of cultural structures that translate into norms and behaviors targeted for health promotion interventions. Community health interventions in cultural minority communities need to focus on the complex elements of cultural consciousness that influence decision making and leverage behavioral changes. Culture is the most significant element via which a community or group collectively constructs meaning and exchanges shared cultural symbols and information. Once health promoters and health educators have cultural data to understand the context of people's lives, they can consider how cognitive-cultural structures (deep, surface) and processes (e.g., enculturation, acculturation) affect behaviors and use this knowledge to develop effective interventions.

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