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Pathways between acculturation and health behaviors among residents of low-income housing: The mediating role of social and contextual factors

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ABSTRACT

Acculturation may influence health behaviors, yet mechanisms underlying its effect are not well understood. In this study, we describe relationships between acculturation and health behaviors among low-income housing residents, and examine whether these relationships are mediated by social and contextual factors. Residents of 20 low-income housing sites in the Boston metropolitan area completed surveys that assessed acculturative characteristics, social/contextual factors, and health behaviors. A composite acculturation scale was developed using latent class analysis, resulting in four distinct acculturative groups. Path analysis was used to examine interrelationships between acculturation, health behaviors, and social/contextual factors, specifically self-reported social ties, social support, stress, material hardship, and discrimination.

Of the 828 respondents, 69% were born outside of the U.S. Less acculturated groups exhibited healthier dietary practices and were less likely to smoke than more acculturated groups. Acculturation had a direct effect on diet and smoking, but not physical activity. Acculturation also showed an indirect effect on diet through its relationship with material hardship.

Our finding that material hardship mediated the relationship between acculturation and diet suggests the need to explicate the significant role of financial resources in interventions seeking to promote healthy diets among low-income immigrant groups. Future research should examine these social and contextual mediators using larger, population-based samples, preferably with longitudinal data.

1. Introduction

Acculturation has been defined as the process by which the attitudes, values, beliefs and behaviors of one culture are adopted by an individual from another (Clark and Hofsess, 1998). Often, acculturation is equated with language proficiency and preference, as well as generational status (Abraido-Lanza et al., 2005; Lopez-Class et al., 2011). Acculturation has traditionally been viewed as a process of assimilation, which assumes a unidirectional, linear trajectory in which immigrants adopt the "dominant culture" (Berry and Sam, 1997). More recently, there has been acknowledgment that acculturation is a multidimensional, reciprocal and dynamic process (Abraido-Lanza et al., 2006; Lara et al., 2005; Lopez-Class et al., 2011) that is affected by societal structures and policies (Abraido-Lanza et al., 2006; Lopez-Class et al., 2011). The concept of acculturation has been criticized because it is commonly conceived as an individual-level factor, potentially masking the societal-level factors that prompt, co-exist, or are the result of immigration experiences (Acevedo-Garcia et al., 2012).

Nonetheless, a large body of literature has examined relationships between acculturation, health status (Kaplan et al., 2004; Singh and Siahpush, 2002) and health behavior (Abraido-Lanza et al., 2005; Andreeva et al., 2011; Ayala et al., 2008). Increased time spent in the United States (US) has consistently been associated with increased physical activity, presumably because of changes in cultural norms (Abraido-Lanza et al., 2005; Lara et al., 2005; Perez-Escamilla and Putnik, 2007). However, acculturation

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may also be associated with adoption of unhealthy behaviors, for example, when a cultural group with a largely plant-based diet adopts a "Western diet" lower in fruits/vegetables and higher in saturated fats (Ayala et al., 2008; Desilets et al., 2007; Lara et al., 2005; Patil et al., 2009). Norms surrounding tobacco use may also lead to increased adoption of smoking among more acculturated groups (Bethel and Schenker, 2005). While some of these trends have strong empirical evidence (Abraido-Lanza et al., 2005; Lara et al., 2005; Perez-Escamilla and Putnik, 2007), few studies have explicitly tested theory-driven pathways by which acculturation may influence health behaviors (Abraido-Lanza et al., 2006; Mills and Caetano, 2012) or potential social and contextual factors that might mediate these relationships (Abraido-Lanza et al., 2006). In particular, there has been a call for greater use of a 'social determinant framework' to examine the social, political, and structural factors that influence both the circumstances and consequences of immigration (Viruell-Fuentes et al., 2012).

A major area of debate is the measurement of acculturation (Abraido-Lanza et al., 2006; Lara et al., 2005; Perez-Escamilla and Putnik, 2007). Whereas language and nativity are commonly used as proxy measures (Lara et al., 2005; Lopez-Class et al., 2011), a more comprehensive understanding of acculturation has evolved in recent years, the socio-cultural context into which individuals and groups immigrate. For example, immigration can be accompanied by disruption in social ties, decrements in socio-economic standing, increased stress, and experiences of discrimination. Social and contextual changes that accompany immigration may be important mechanisms by which acculturation exerts its influence on health behaviors (Abraido-Lanza et al., 2006). Yet, these mechanisms have largely gone unexamined and there has been a call for the use of more sophisticated statistical models in investigating such pathways (Abraido-Lanza et al., 2006; Lara et al., 2005). There has also been a call for greater attention to the socio-contextual factors that affect the experience of immigration—including environments from which and to people immigrate (Acevedo-Garcia et al., 2012). This study uses path analyses to examine associations among acculturation, social/contextual factors, and self-reported health behaviors. Our goal was to evaluate the extent to which acculturation exerts a direct effect on health behaviors, as opposed to acting indirectly through socio-contextual factors.

1.1. Conceptual framework

Our study was guided by a conceptual model (Fig. 1) based on an integrated acculturation theory (Riedel et al., 2011) and stress and coping theory (Lazarus and Folkman, 1984). These theories posit that the immigration experience is shaped by an array of health-enhancing or health-threatening resources and hazards, with social ties and support being important components of these resources. For immigrants, the strength of social resources may moderate the acculturative process, including the experience of stress, coping, and subsequent behavioral reactions (Berry and Sam, 1997). In the context of immigration, health-enhancing resources may be diminished, given one's separation from a familiar social environment, potentially resulting in maladaptive coping behaviors (e.g., smoking, overeating).

Stress and coping theory (Lazarus and Folkman, 1984) aligns with integrated acculturation theory, in that it emphasizes the potential for social resources and negative interactions to influence health, both directly (through peer pressures or social controls) and indirectly (by buffering stress, or affecting how an individual appraises or copes with stress) (Cohen, 2004). While social ties typically change in structure and content across the life course (Umberson et al., 2010), the nature of these changes may be particularly pronounced among immigrants. Accompanying disruptions in social ties, a lack of material resources (Hunt et al., 2004) and experiences of discrimination (Viruell-Fuentes, 2007; Viruell-Fuentes et al., 2012; Yoon et al., 2012) are common sources of stress for many groups that may function as mediators in the relationship between acculturation and health behaviors. More specifically, among less acculturated groups, material hardship and experiences of discrimination may serve as additional sources of stress, but they may also affect behavior, independent of stress. For example, material hardship may restrict access to a range of services (e.g., health care, housing) that could serve to promote, enable, or maintain health.

2. Methods

2.1. Setting and sample

Data were obtained from Health in Common (HIC), an observational study designed to examine the social and environmental determinants of cancer risk among residents of low-income housing. According to the US Department of Housing and Urban Development, "low-income housing" is any housing that is limited to occupancy by persons whose family income does not exceed a preset maximum (e.g., 50% or less of the area median gross income for geographic area) (U.S. Department of Housing and Urban Development, 2012). HIC used a multi-stage cluster design, sampling households from within housing sites, and adults from within households (Kish, 1965). Surveys were conducted among 828

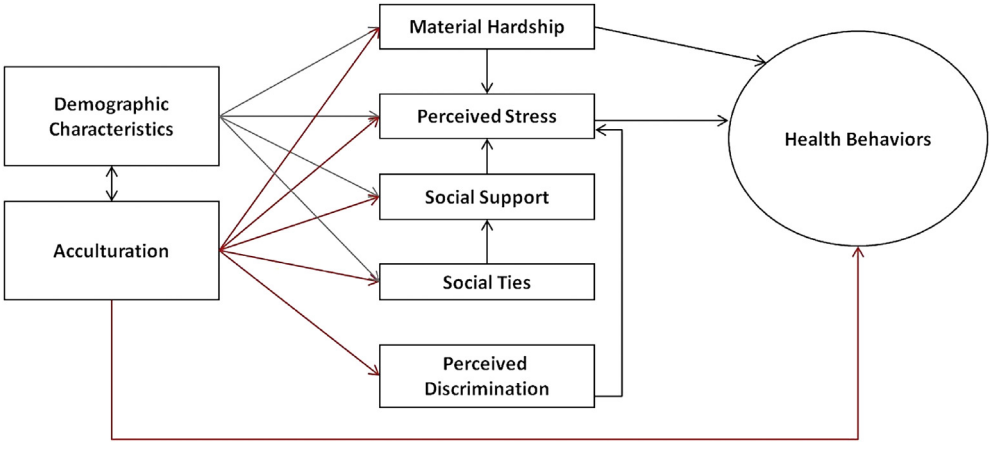

Fig. 1. Hypothesized causal pathway: Association between acculturation, social/contextual factors and health behaviors.