A comprehensive analysis of the mortality experience of hispanic subgroups in the United States: Variation by age, country of origin, and nativity

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ABSTRACT

Although those identifying as "Hispanic or Latino" experience lower adult mortality than the more socio-economically advantaged non-Hispanic white population, the ethnic category Hispanic conceals variation by country of origin, nativity, age, and immigration experience. The current analysis examines adult mortality differentials among 12 Hispanic subgroups by region of origin and nativity, and non-Hispanic whites, adjusting for socioeconomic and demographic characteristics. We use the National Health Interview Survey Linked Mortality Files pooled 1990–2009 to obtain sufficient sample of each subgroup to calculate mortality estimates by sex and age group (25–64, 65+). Among adults aged 65 and over, all foreign born subgroups have an advantage over non-Hispanic whites, and many USB subgroups exhibit an advantage in the adjusted model. Foreign-born Dominicans, Central/South Americans, and other Hispanics exhibit consistent advantages across models for both men and women, aged 25–64 and 65 and over, and both unadjusted and adjusted for socioeconomic covariates. Both US-born and foreign-born Mexicans between ages 25 and 64 have mortality disadvantaged relative to non-Hispanic whites, while older Mexicans exhibit clear advantages. Our results complicate the traditional formulation of the Hispanic Paradox and cast doubt on the singularity of the mortality experience of those of Hispanic origin.

Introduction

In most populations, socioeconomic status (SES) exhibits a strong positive association with health; this relationship holds for a variety of measures of both SES and health, which speaks to its relatively universal nature (Elo, 2009). Between populations, however, the SES-health relationship is less clear, particularly with respect to the Hispanic/Latino population in the United States. The Hispanic mortality paradox, as it is sometimes known, refers to the finding that Hispanics in the United States have health and mortality outcomes similar to those of non-Hispanic whites while having socioeconomic attainment similar to African-Americans (Fenelon, 2013; Hummer, Powers, Pullum, Gossman, & Frisbie, 2000; Markides & Eschbach, 2011). In many studies, Hispanics exhibit higher life expectancy than non-Hispanic whites (Arias, Kochanek, & Anderson, 2015), as well as more favorable profiles with respect to non-fatal conditions such as cancer incidence and severity, heart disease, and hypertension (Eschbach, Mahnken, & Goodwin, 2005; Singh & Siahpush, 2002). Although the earliest empirical findings demonstrated this for Hispanics as a whole, subsequent work showed that the pattern varies significantly by country of origin and place of birth (Palloni & Arias, 2004).

The emergence of the panethnic Hispanic origin group has its roots in the second-half of the 20th Century (Jones-Correa & Leal, 1996); but instead of being the result of the natural development of an existing cultural identity, the formation of the official ethnic origin "Hispanic/Latino" reflected the simultaneous actions of state actors aiming to describe the origins of growing immigrant populations and social movement interests aiming to generate political legitimacy for a social group (Mora, 2014). Indeed, the speed with which the terms "Hispanic" and "Latino" entered the public lexicon of the United States partially reflects the growing population of Mexicans and Mexican-Americans in the US Southwest during the 1960s and 1970s. The implicit perception that Hispanic was synonymous with Mexican also contributed to the development of the "Hispanic Epidemiological Paradox" in the 1980s, which largely referred to evidence of the mortality experience of Mexican-Americans (Markides & Coreil, 1986). As the Hispanic population has expanded,

so has the recognition of Hispanics' internal heterogeneity. Individuals classified as Hispanic by the U.S. census and demographic surveys have origins in more than 20 countries, each with distinctive social and cultural characteristics that contribute to unique health experiences within the United States.

U.S. Hispanics differ greatly in terms of nativity and country of origin, socioeconomic background and attainment, English language orientation, geographic mobility, and health (Fenelon, 2016; Hall, 2013; Markides & Eschbach, 2005) While the largest waves of Mexican migration began in the 1960s and 1970s, large populations of immigrants from Central America arrived in the 1980s and South American migration began largely in the 1990s and 2000s. Mexicans tend to experience the highest levels of socioeconomic disadvantage (Franzini & Fernandez-Esquer, 2004), and employment for Mexican immigrants is concentrated both geographically and in terms of industry (Kandel & Parrado, 2005; Palloni & Arias, 2004). Puerto Ricans tend to be the most residentially segregated from non-Hispanic whites (Tienda & Fuentes, 2014), and US-born Cuban Americans achieve the highest levels of socioeconomic attainment among Hispanics (Williams, Mohammed, Leavell, & Collins, 2010). These patterns support the notion that comparing Hispanics as a whole to other race/ethnic groups in terms of mortality experience ignores substantial within-group variation.

Background

Explanations for the hispanic paradox

Explanations for the Hispanic mortality advantage historically fall into three main categories: data artifacts, migration effects, and cultural effects (Waters & Pineau, 2015). The data artifacts hypothesis questions whether mortality data for Hispanics in the US, particularly immigrants, are of high enough quality to obtain accurate estimates; because Hispanic origin is often undercounted on US death certificates, standard mortality calculations for Hispanic populations may be underestimated (Arias, Schauman, Eschbach, Sorlie, & Backlund, 2008). Nationally-representative surveys with prospective mortality follow-up have resolved issues of underreporting of Hispanic ethnicity on US death certificates, since these combined datasets use self-reported ethnicity in the survey rather than relying on third-party reporting from death certificates (Fenelon, 2013; Lariscy, Hummer, & Hayward, 2015). As a result, recent research has focused largely on the latter two explanations.

Since the majority of adult Hispanics in the United States are foreign born, explanations of the Hispanic mortality experience must account for migration. This explanation draws attention to the selective processes governing both who comes to the United States as well as who remains in the country over time (Palloni & Ewbank, 2004). Individuals who come to the United States are likely to be different from those who remain in their origin countries in ways that are relevant to health, a process known as the healthy migrant effect (Hamilton, 2015; Lu & Qin, 2014). Alternatively, older Hispanics may return to their countries of origin as their health declines, leaving a relatively healthy subset in the United States, referred to as return migration bias or salmon bias (Arenas, Goldman, Pebley, & Teruel, 2015). Both selection processes certainly occur with respect to Hispanic immigrants, although selection is unlikely to be of sufficient magnitude to explain a large proportion of the advantage for most groups (Akresh & Frank, 2008; Turra & Elo, 2008). Additionally, return migration effects are unlikely to explain the advantage found with respect to infant mortality (Hummer, Powers, Pullum, Gossman, & Frisbie, 2007).

More recent research focusing on the role of cultural buffering suggests that aspects of Hispanic culture may provide health benefits and may help to shelter individuals from the deleterious effects of socioeconomic disadvantage. Scholars suggest that Hispanic commu-

nities may foster and maintain beneficial social, cultural, and behavioral characteristics in close-knit community enclaves (Markides & Eschbach, 2005; Osypuk, Roux, Hadley, & Kandula, 2009).

Hispanic panethnicity and the mortality of hispanic subgroups

Partially by definition, most explanations for the Hispanic Paradox view Hispanics as a singular ethnic group with a homogeneous mortality experience. The opportunity to identify as of Hispanic origin on the United States Census first appeared in 1970,[1] with the precise category "Hispanic" entering the census in 1980 as a result of the 1977 Office of Management and Budget standard identifying Hispanic ethnicity as a separate concept from Race.[2] With the growing use of Hispanic panethnicity in the US system of racial and ethnic classification, incoming US immigrants have been increasingly categorized in the panethnic. Although the term Hispanic has traditionally meant little outside of the US context, transnational relationships and global Spanish-language media have increasingly adopted the term and led to greater usage in origin countries (Roth, 2009). Research approaches that have combined all Hispanics into a singular group have typically done so due to data limitations, since direct measurement of the mortality experience of Hispanic subgroups is unavailable in many data sources (Arias et al., 2008; Elo, Turra, Kestenbaum, & Ferguson, 2004; Liao et al., 1998; Sorlie, Backlund, Johnson, & Rogot, 1993). The heterogeneity of the Hispanic population has also grown over time, as migration from Latin America to the United States increased during the 1990s and early 2000s (Logan & Turner, 2013).

Variation in the social and behavioral characteristics of Hispanic subgroups can lead to corresponding differences in mortality experience vis-à-vis non-Hispanic whites. The distinctive migration experiences of US Hispanic region-of-origin subgroups underscore this heterogeneity (Borrell & Lancet, 2012). For instance, work by Feliciano (2005) suggests that the greater migration distance for migrants countries in South America as compared to Mexico implies stronger socioeconomic and health selection. This is supported by the finding that Mexicans appear to be among the least select immigrant groups in the United States (Akresh & Frank, 2008). Early Cuban migrants were highly-selected, while more recent migration cohorts are more mixed (Zsembik & Fennell, 2005). Puerto Ricans have fewer immigration barriers than other groups, given U.S. citizenship (Abraido-Lanza, Dohrenwend, Ng-Mak, & Turner, 1999). Different migration experiences contribute to socioeconomic variation among Hispanic subgroups, which may contribute to differences in adult mortality rates. Hispanic subgroups may also differ in terms of health-related behaviors such as cigarette smoking. While Cubans and Puerto Ricans in the United States smoke at relatively high rates, Central Americans, South Americans, Dominicans, and Mexicans exhibit low smoking prevalence (Kaplan et al., 2014). Mexican immigrants in the US, particularly women, tend to smoke at very low rates, which explain a large fraction of their mortality advantage over non-Hispanic whites (Fenelon, 2013).

Some comprehensive demographic studies of adult mortality differentials among Hispanics have expanded their analysis to include many region of origin populations. Hummer et al. (2000) used the National Health Interview Survey (NHIS) linked mortality file pooled from 1986 to 1995 to reveal modest variation in mortality experience among Hispanics by region of origin, finding that Puerto Ricans experience the highest mortality and Central/South Americans the lowest. Mexicans also exhibit consistently favorable mortality outcomes relative to non-Hispanic whites (Sorlie et al., 1993). Indeed, the fact that Mexicans comprise nearly two-thirds of American Hispanics is an

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[1] Individuals could identify as Mexican, Cuban, Puerto Rican, Central or South American, or Other Spanish. The term "Hispanic" was not used in this census cycle.

[2] Subsequently, the OMB 1997 standard changed the term "Hispanic" to "Hispanic or Latino"