Article

Racial stratification in self-rated health among Black Mexicans and White Mexicans

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A B S T R A C T

How do Mexicans of distinct racial backgrounds fit into the recognized patterns of racial health disparities? We conduct regression analyses using data from the 2000-2017 National Health Interview Survey to determine if Mexicans who self-identify as White or Black have a relative advantage or disadvantage in self-rated health in relation to Non-Hispanic (NH) Whites and Blacks in the U.S. Our results indicate that both Black Mexicans and White Mexicans have a significant disadvantage in relation to NH-Whites while White Mexicans have a slight advantage in relation to both NH-Blacks and Black Mexicans. Overall, our results suggest that studying health outcomes among Hispanics without considering race may mask inequalities not observed in the aggregate.

1. Introduction

Many studies examining the "Hispanic[1] paradox," an epidemiological phenomenon primarily documented among persons of Mexican origin, often use nationality and ethnicity without including race. Race is a salient characteristic that can shape one's health. Outside of health, many scholars find that on the basis of race, individuals experience social inequalities such as work discrimination and residential segregation (Massey & Denton, 1993; Pager, 2008). Perhaps few studies on the Hispanic paradox have examined race because of the well-documented association between darker skin Hispanics and poorer health (Calzada, Kim, & Gara, 2019; Codina & Montalvo, 1994; Landale & Oropesa, 2005; Perreira & Telles, 2014). However, work by LaVeist-Ramos, Galarraga, Thorpe, Bell and Austin (2012) and Borrell and Crawford (2009) show Black Hispanics having similar health behaviors and death rates to White Hispanics and NH-Whites, respectively. To date, little is known about whether the protective effects attributed to the Hispanic paradox among Mexicans extends to Black Mexicans, demonstrating a need for deeper examination of Mexican health at the intersection of race and ethnicity. The Mexican and Mexican American population at nearly 37 million (Bustamante, 2019) accounts for slightly over 62% of all Hispanics and approximately 12% of the total U.S. population. It is critical to examine the racial dynamics of this group in order to determine how these affect health outcomes. Furthermore, our findings

contribute to the Hispanic paradox literature by addressing whether there is racial stratification in health among Mexicans and Mexican Americans, the largest Hispanic subgroup.

In this study, we examine self-rated health within and between Mexicans and non-Mexicans by race in the U.S. We use pooled data from the 2000–2017 National Health Interview Survey (NHIS), a large dataset that allows us to examine a sizable Black Mexican population in the U.S. While a large proportion of Hispanics select (or classified based on write-in responses to) "Some Other Race" on the U.S. Census, we focus on the Black-White binary as a first step towards better understanding the racial health disparities among Mexicans. We acknowledge the potential shortcoming of using one measure of race (Saperstein, Kizer, & Penner, 2016) and that race is a multidimensional construct (Roth, 2016). We use racial self-identification, which is "often used as a proxy for racial identity" (Roth, 2016, p. 1313). We argue that our sample of Mexicans who self-identify as White or Black can help us explore the nuances of a racialized health experience in a population that has been largely studied using a homogeneous racial framework.

2. Literature review

2.1. Hispanic paradox and the Mexican population

The Hispanic paradox refers to Hispanics, primarily foreign-born

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[1] We also acknowledge that the academic literature increasingly refers to Hispanics as Latinxs (Salinas & Lozano, 2017). However, we decided to use the more traditional term Hispanic in order to harmonize our terminology with the bulk of the health literature for this population.

Mexicans living in the U.S., experiencing similar or better health and lower mortality relative to NH-Whites and other racial and ethnic groups despite a weak social gradient (Beltrán-Sánchez, Palloni, Riosmena & Wong, 2016; Kimbro, Bzostek, Goldman, & Rodríguez, 2008; Palloni & Arias, 2004). Many suggest cultural, migratory (e.g., "the salmon bias" and "healthy migrant effect"), or data artifacts as contributors to this phenomenon (Abraído-Lanza, Dohrenwend, Ng-Mak, & Turner, 1999; Beltrán-Sánchez et al., 2016; Markides & Coreil, 1986; Palloni & Arias, 2004). Nevertheless, the Hispanic paradox is observable across the life span. At birth, scholars report that Mexican-origin mothers have infants with higher birth weight and lower preterm death compared with U.S. born Hispanics (Acevedo-Garcia, Soobader, & Berkman, 2007; Fuentes-Afflick, Hessol, & Pérez-Stable, 1998; Singh &Yu, 1996). In addition, research suggests Hispanic immigrant infants have lower mortality (Hummer, Powers, Pullum, Gossman, & Frisbie, 2007).

As with adults, Mexicans show favorable health outcomes with regards to biological risk profiles and mortality (Crimmins, Kim, Alley, Karlamangla, & Seeman, 2007; Lariscy, Hummer, & Hayward, 2015; Peek et al., 2010). Crimmins et al. (2007) finds Mexican immigrants have a superior physiological risk profile, a measure of factors that contribute to poor health (e.g., blood pressure, metabolic risk and inflammation risk factors), compared to their U.S.-born counterparts and a similar risk profile to NH-Whites. Similarly, foreign-born Mexicans report having a lower allostatic score (a physiological measure of "wear and tear") of 2.55, compared with U.S.-born Mexicans (3.07), NH-Whites (2.87), and NH-Blacks (3.21) (Peek et al., 2010). Lastly, Lariscy et al. (2015) found foreign-born Hispanic women have a mortality advantage of 25%–33% over NH-White women in every age cohort. In addition, foreign-born Hispanic men have a mortality advantage of 20%–40% compared with NH-White males in every age cohort. Reviewing previous literature, we make the following hypothesis:

H1. Compared to NH-Whites, White Mexicans will have better self-rated health.

There are two important caveats to positive health patterns among Mexicans. First, Mexicans live longer but generally have sicker lives (Hayward, Hummer, Chiu, González-González, & Wong, 2014; Markides and Eschbach 2005; Markides, Eschbach, Ray, & Peek, 2007). Mexicans have a higher prevalence of obesity and diabetes, and in turn experience disabilities at a much higher rate (Markides and Eschbach 2005). Second, the Hispanic health advantage tends to decrease with length of residency in the U.S. and with increasing levels of acculturation (Saenz & Morales, 2012). Abraído-Lanza, Chao, and Flórez (2005) found that higher acculturation levels are associated with higher body mass index and higher levels of alcohol consumption and smoking. The likelihood of having a disability or poor mental health also increases for Mexicans the longer they reside in the U.S. (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 2000; Fuller Thomson, Nuru-Jeter, Richardson, Raza, & Minkler, 2013). Researchers argue that with a greater amount of time spent in the U.S., immigrants lose the protective elements of their culture. In other words, family ties loosen, dietary behavior changes, and alcohol and substance use increases (Abraído-Lanza et al., 2005; Alba & Nee, 2003), yielding a higher risk of poor health. A newer body of literature contests the notion that immigrant health deteriorates due to cultural losses. These scholars empirically argue that health erodes over time due to structural issues that arise with greater contact from American society. Over time, immigrants gain exposure to the racialization processes such as racism and discrimination at the macro and micro level, which leads to the development of a sense of "othering" or being marginalized (Viruell-Fuentes, 2007; Viruell-Fuentes, Miranda, & Sawsan, 2012). Thus, the deterioration of immigrant health over time can be attributed to cumulative disadvantage (Riosmena, Everett, Rogers, & Dennis, 2015), and other social inequalities (Viruell-Fuentes et al., 2012). These scholars call for a structural and intersectional framework to explain the loss of the immigrant health advantage instead

of relying on cultural explanations (Riosmena et al., 2015; Viruell-Fuentes, 2007; Viruell-Fuentes et al., 2012). In order to assess the level of exposure to mainstream American society, we control for length of residency in addition to nativity.

2.2. Self-rated health and Mexicans

Self-rated health is an individual's assessment of their own health, typically measured by asking survey respondents if their health is "excellent, very good, good, fair or poor." Self-rated health is highly correlated with clinical assessments and other health behaviors and indicators (Angel & Guarnaccia, 1989; Franzini & Fernandez-Esquer, 2004; Idler and Benyamini, 1997). It is also highly predictive of mortality even when accounting for health risk factors (Ferraro & Kelley-Moore, 2001; Idler and Benyamini, 1997; Idler, Russell & Davis, 2000; Mossey & Shapiro, 1982; Wolinsky et al., 2008). Self-rated health measures, in their different iterations, are highly reliable in predicting population survival (Idler and Benyamini, 1997). Studies argue that this measure is reliable because it is more inclusive and accurate than health risk variables taken into consideration. It captures all illnesses an individual might have and the symptomatology that might have not yet reached clinical levels and might be undiagnosed (Idler and Benyamini, 1997). Self-rated health also captures human judgements about the severity of their own health issues; it is a holistic assessment of how individuals experience diseases, pain, and other bodily "sensations coming from within" (Idler and Benyamini, 1997, p. 28; Stenback, 1964). It also might reflect family history, within-person resources, and the trajectory of one's health status (Idler and Benyamini, 1997; Idler & Kasl, 1991).

Regarding self-rated health and individuals of Mexican descent, the results are inconsistent. Some scholars argue that despite having an advantage in several health outcomes and mortality, Hispanics overall report their health as fair or poor at higher rates than NH-Whites (Borrell & Dallo, 2008; Kandula, Lauderdale, & Baker, 2007; Liang et al., 2010). Among Hispanics, the disparities with NH-Whites are larger for Mexicans and Puerto Ricans (Franzini & Fernandez-Esquer, 2004). Among the foreign-born, the picture is more complex. For instance, some studies report that Mexican immigrants have lower odds of poor/fair health compared to their native-born counterparts (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010) while others suggest that foreign-born Mexicans rate their health worse than native born (Bzostek, Goldman, & Pebley, 2007).

Moreover, some scholars argue that these puzzling findings could be associated with language of interview as well as a different cultural understanding of what it means to be in good health (Bzostek et al., 2007; Santos-Lozada & Martinez, 2018; Viruell-Fuentes, Morenoff, Williams, & House, 2011). Hispanic lower health ratings could be a function of expressing psychological distress through physical symptoms as well as a cultural tendency to refrain from "bragging" about good health (Viruell-Fuentes et al., 2011). In terms of translation issues with the self-rated health measure, the main problem resides in one of the answer categories, "fair." Fair is commonly translated to Spanish as regular, which does not carry the same negative connotation as fair does in the English language. Santos-Lozada and Martinez (2018) found that this is indeed the case, and most Hispanic subgroups (Mexicans, Puerto Ricans, Cubans, Dominicans from Dominican Republic and other Hispanics) are more likely to report poor or fair self-rated health when interviewed in Spanish. Researchers have also noted that the disparities in self-rated health decline as acculturation and English proficiency increases (Angel & Guarnaccia, 1989) which further supports the assertion that language and cultural framework account for some of the disparities in Hispanic self-rated health. The recommendation is to take into consideration these issues of translation and interpretation when studying this particular outcome among Hispanics and other ethnic groups (Viruell-Fuentes et al., 2011). In our statistical models, we account for language of interview.

2.3. Black Hispanics and Black Mexicans

Before we delve into the literature on Black Hispanic and Black Mexican health, we provide a brief background on our sample of Black Mexicans. From our sample of 2029 Black Mexicans, 1015 are U.S.-born, 994 were born in Mexico, and 20 are of unknown nativity status. The Mexican Census Bureau counted the Black population in Mexico, known as Afro Mexicans or Afro descendants, for the first time in 2015 on a mid-census survey. There are approximately 1.4 million Afro Mexicans, roughly 1.2% of the Mexican population (Instituto Nacional de Estadística y Geografía, 2015). Many Afro Mexicans' roots can be traced back to slavery during the Spanish colonial period (Gates, 2011; Sue, 2013). It is estimated that 200,000 slaves entered New Spain (present-day Mexico) across three centuries (Beltrán, 1944; Sue, 2013). Like other countries in Latin America, today's conception of race in Mexico is influenced by early essentialism through which racial mixing (*mestizaje*) created and reified social boundaries based on a color hierarchy (Sue, 2013; Telles & Sue, 2009). Whiteness comes with a set of privileges that are not equally attainable for darker-skinned Mexicans despite many perceiving Mexico as a "raceless" context (Figueroa, 2010; Figueroa and Saldívar Tanaka, 2016). According to Mexican census data, Black Mexicans have lower than average educational attainment and higher illiteracy rates than the overall population (Instituto Nacional de Estadística y Geografía, 2015). In 2017, the Mexican Census Bureau released data from a survey that incorporated an 11-point skin tone scale. Mexicans with lighter skin have higher educational attainment and occupational prestige than darker-skinned individuals (Instituto Nacional de Estadística y Geografía, 2017) supporting the notion that there is indeed a system of racial stratification in Mexico (Flores & Telles, 2012; Villarreal, 2010) with deep historical roots.

The body of literature on Black Hispanic health is small and it is even more scant for Black Hispanic subgroups. Therefore, most of the literature we are about to review aggregates all Black Hispanics. Studies show that Black Hispanics have poorer health profiles compared to White Hispanics and NH-Whites (Borrell, 2006; Borrell & Crawford, 2006). It is widely recognized in the health literature that "race" can capture social processes like racism and discrimination which negatively shape Black health profiles (Borrell & Crawford, 2006; Gee and Ford, 2011; Harrell et al., 2011; Jones, 2001, 2002; Phelan & Link, 2015). Similar to this study, Borrell and Crawford (2006) investigated self-rated health among Hispanics and non-Hispanics by race and found Black Hispanics have a higher odds of "fair/poor" health compared to White Hispanics and NH-Whites. Relatedly, Borrell (2006) found that Black Hispanics have a higher prevalence of hypertension relative to White Hispanics. By phenotype, Landale and Oropesa (2005) considered skin tone and reported that darker skin Puerto Rican (a group with African, indigenous, and Spanish origins; see Landale & Oropesa, 2002) mothers are at higher risk of having a low birthweight infant compared to their lighter skinned counterparts among Puerto Ricans living in certain eastern states. Following previous literature, we hypothesize the following self-rated health outcomes for Black Mexicans relative to White Mexicans and NH-Whites:

H2. Black Mexicans will have poorer self-rated health relative to White Mexicans.

H3. Black Mexicans will have poorer self-rated health relative to NH-Whites.

How might health outcomes vary between Black Hispanics and NH-Blacks? Literature generally finds that Black Hispanics have similar or worse health outcomes compared to NH-Blacks (Borrell & Crawford, 2006; Borrell & Dallo, 2008; LaVeist-Ramos et al., 2012; Ramos, Jaccard, and Guilamo-Ramos 2003). Some attribute this to Black Hispanics being a part of "two minority groups traditionally held in low regard by mainstream society" and that they "may potentially face additional burdens beyond those of either minority group considered singly"

(Ramos, James, & Guilamo-Ramos, 2003, p. 149). In other words, Black Hispanics may be burdened with ramifications of "double minority status" in comparison with NH-Blacks and White Hispanics. Ramos et al. (2003) found that Black Hispanic females had the highest levels of depressive symptoms relative to the other racial and ethnic groups in the study. In different literatures, Black Hispanics are shown to experience similar or worse outcomes to NH-Blacks in terms of residential segregation and socioeconomic status (Denton & Massey, 1989; Kalmjin, 1996). Taking into account previous literature, we make the following hypothesis:

H4. Black Mexicans will have poorer self-rated health compared to NH-Blacks.

3. Data and methods

We draw our data from the 2000–2017 IPUMS Health Surveys, a harmonized version of the NHIS (Blewett, Rivera Drew, Griffin, King, & Williams, 2018). The NHIS survey includes a wide range of health topics such as health behaviors, care access and utilization, and medical conditions. We use self-rated health ("excellent, very good, good, fair and poor") as our outcome variable dichotomized into two categories: 0 for excellent, very good and good health; and 1 for fair and poor health. This recoding procedure is based on previous studies of self-rated health (Acevedo-Garcia et al., 2010; Idler and Benyamini, 1997; Subramanian, Acevedo-Garcia, & Osypuk, 2005). We also assessed self-rated health as a categorical variable using generalized ordered logistic regression and yielded similar results. Therefore, we proceeded with a binary dependent variable.

For our independent variables, we classify individuals into mutually exclusive racial and ethnic groups based on their self-identification on the NHIS, NH-Whites (N = 740,553), NH-Blacks (N = 162,085), White Mexicans (N = 142,451) and Black Mexicans (N = 2029). Even though the Black Mexican subsample seems small in comparison to the other three groups, we have opted for parsimonious models to preserve statistical power. Our subsample is large enough in relation to the number of independent variables. As previously mentioned, 1015 Black Mexicans are U.S.-born and 994 were born in Mexico. The fact that we have 994 foreign-born Black Mexicans is significant in relation to the size of the Black Mexican population in Mexico. We control for acculturative effects, nativity and length of residency by four categories: 1) U.S.-born, 2) foreign-born who have been in the U.S. for less than five years, 3) foreign-born who have resided in the U.S. between five and fourteen years, and 4) foreign-born who have lived in the U.S. for fifteen years or more. We also control for language of interview due to the aforementioned translation issues, 1 for English, 2 for Spanish and 3 for Bilingual (both English and Spanish). Sociodemographic control variables include gender, a binary variable coded 0 for male and 1 for female), age (continuous), educational attainment (a categorical variable: less than high school, high school graduate, some college and bachelor's degree and above; bachelor's degree and above is the reference group in all models), marital status (coded 0 for not married and 1 for married), and employment (coded 0 for unemployed and 1 for employed). We also include a health behavior measure of smoking, coded 0 for no and 1 for yes. We used logistic regression in the analysis due to the dichotomous nature of the outcome variable and conducted the analysis using Stata 15 (StataCorp, 2017). We performed four sets of regression models; we used each group as reference category in each set. Table 2 presents the odd ratios of the main explanatory variable (race/ethnicity) for the models with alternate reference group including all covariates. Table 3 presents the results of the first model, using NH-Whites as reference category, and showing the effects for all explanatory variables. To

account for the complex sample design of the NHIS, we applied the SVY command to all models in Stata. In addition, we adjusted the sampling weight of the pooled data to represent the average total population in the U.S. across an 18-year period (Blewett et al., 2018).[2]

4. Results

Table 1 presents weighted distributions and means of respondents by non-Hispanic and Hispanic groups across predictors. NH-Blacks have the highest proportion of respondents that rate their health poor or fair, with 17.2%. Among Hispanics, Black and White Mexicans have similar rates of respondents that rate their health poor or fair, 13.2% among Black Mexicans and 13.1% among White Mexicans. The vast majority of NH-Whites and NH-Blacks are native-born (95.1% and 89.3%, respectively). For nativity, 45.9% of White Mexicans are U.S.-born compared with 53.9% of Black Mexicans who were born in the United States. White Mexicans also have the largest share of recent immigrants (<5 years) with 5.3% while only 3.0% of Black Mexicans have less than five years of residency in the U.S., 17.3% of White Mexicans and 15.2% of Black Mexicans have lived in the U.S. for 5–14 years and 31.5% and 27.9% have lived in the U.S. for 15 years and over, respectively. Almost all NH-Whites and Blacks were interviewed in English whereas 25.7% were completed in Spanish and 15.5% were done in both English and Spanish for White Mexicans. Among Black Mexicans, 69.1% were interviewed in English, 19.7% in Spanish and 11.3% were conducted in both languages. Black Mexicans are the youngest of all groups with an average age of 36.2 years old while NH-Whites are the oldest at 48.1 years old. The gender distribution is similar across groups and ranges from 48% to 55.3%. White Mexicans have the lowest educational attainment of all groups, 43.4% have less than high school and only

8.2% have a bachelor's degree or more. NH-Whites have the highest rate of college graduates (30.5%) while NH-Blacks have the highest rate of completed high school (32%). Black Mexicans have the highest rates of employment (69.2%) and NH-Blacks have the lowest rate of employment among respondents in this sample (61%). NH-Whites have the highest rate of smoking (20.1%) while White Mexicans have the lowest rate of smoking (13.6%).

We estimate a series of logistic regression models to predict fair or poor self-rated health among White and Black Mexicans and NH-Whites and Blacks. We first measure the odds of respondents rating their health as fair or poor by adding one independent variable at a time (Table 3). The full models with all predictors and alternating reference groups can be seen in Table 2. All logistic regression models were assessed for goodness of fit.

Relative to NH-Whites, the odds of being in poor or fair health are 72% higher for NH-Blacks, 31% higher for White Mexicans and 47% higher for Black Mexicans, all things equal and statistically significant ($P. < 0.05$). Changing the reference group to NH-Blacks (Table 2), the odds of being in poor or fair health for White Mexicans are 24% lower ($P. < 0.01$). The odds of poor or fair health are 14% lower for Black Mexicans compared with NH-Blacks, but this effect is not statistically significant. Compared with White Mexicans, NH-Whites have 24% lower odds of poor or fair health and NH-Blacks have 30% higher odds, both of these statistically significant. Black Mexicans have 12% higher odds of poor or fair health, but this is not statistically significant. Relative to Black Mexicans, both Hispanic and NH-Whites show an advantage, lower odds of poor or fair health, although it is only significant for NH-Whites. NH-Blacks show 16% higher odds of poor or fair health but this is not statistically significant. We also tested an interaction term (not shown in tables) between race and nativity, or being foreign-born, and it was significant for White Mexicans. Foreign-born White Mexicans have 20% lower odds of poor or fair health ($P < 0.01$).

Turning to other predictors (Table 3), we found foreign-born individuals have lower odds in rating their health as poor or fair relative to U.S.-born individuals (69%, 51%, and 10%, respectively). As previous literature has suggested (Abraído-Lanza et al., 2005; Saenz & Morales, 2012), the "immigrant advantage" in Hispanic self-rated health decreases as length of residency in the U.S. increases. The odds of poor or fair health are 9% lower for females, 72% lower for the employed and 14% lower for the married relative to males, the unemployed and the unmarried respectively ($P < 0.01$). The odds of rating one's health as fair or poor are 51% higher for individuals who answered the survey in Spanish compared with those who answered in English ($P < 0.01$). This might denote the aforementioned translation issues with the question wording (Bzostek et al., 2007; Franzini & Fernandez-Esquer, 2004; Sanchez & Vargas, 2016; Santos-Lozada & Martinez, 2018; Shetterly, Baxter, Mason, & Hamman, 1996). However, this could also be a function of "cumulative disadvantage" among Spanish speakers as outlined by Viruell-Fuentes and colleagues (2007; 2012) and Riosmena et al. (2015). The odds are also higher for those with less than a high school education (3.89), those who completed high school (2.31) and those with some college (1.87) compared with those with a bachelor's degree or higher ($P < 0.01$). Smokers have odds that are 86% higher compared with non-smokers ($P < 0.01$). The odds of fair or poor health also increase by 1% with each one-year increase in age ($P < 0.01$).

In summary, all groups are significantly more likely to report being in poor or fair health relative to NH-Whites. Among Hispanics, White Mexicans and Black Mexicans are 31% and 47% more likely to report their health poorly, respectively, compared to NH-Whites. When White Mexicans are the reference group, Black Mexicans are 12% more likely to report poor or fair self-rated health. Although this is not statistically significant, we can still observe a pattern of disadvantage among this group. The same pattern is observed among NH-Blacks vis-à-vis both White and Black Mexicans.

Table 1
Percentage Distributions, Means and Standard Deviations of Sample Respondents by Racial and Ethnic Group across Independent and Control Variables, Weighted.

	Non-Hispanic Whites	Non-Hispanic Blacks	White Mexicans	Black Mexicans
Respondents in Poor or Fair Health	11.4%	17.2%	13.1%	13.2%
Native Born	95.1%	89.3%	45.9%	53.9%
Foreign Born <5 Years of U.S. Residency	0.5%	1.4%	5.3%	3.0%
Foreign Born 5–14 Years of Residency	1.0%	3.3%	17.3%	15.2%
Foreign Born 15 + Years of Residency	3.4%	6.0%	31.5%	27.9%
Language of Interview: English	99.9%	99.9%	58.9%	69.1%
Language of Interview: Spanish	0%	0%	25.7%	19.7%
Language of Interview: Bilingual	0%	0%	15.5%	11.3%
Percentage of Females	51.6%	55.3%	48.0%	54.1%
Mean of Age	48.1	43.4	39.1	36.2
Schooling: Less than High School	10.2%	18.2%	43.4%	34.5%
Schooling: High School	29.0%	32.0%	26.8%	28.4%
Schooling: Some College	30.5%	32.1%	21.3%	27.9%
Schooling: Bachelor's and More	30.5%	17.8%	8.2%	8.8%
Employed	63.6%	61.0%	67.0%	69.2%
Married	66.0%	43.8%	64.6%	58.6%
Respondents who smoke	20.1%	20.4%	13.6%	13.9%

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[2] For more information, please refer to IPUMS' "User Note-Sampling Weights" (https://nhis.ipums.org/nhis/userNotes_weights.shtml).

Table 2

Odd Ratios of Main Independent Variable in Models Alternating Reference Group.

	Model 1		Model 2		Model 3		Model 4	
	Reference: NH Whites		Reference: NH Blacks		Reference: White Mexicans		Reference: Black Mexicans	
	Odd Ratios	S.E.	Odd Ratios	S.E.	Odd Ratios	S.E.	Odd Ratios	S.E.
Non-Hispanic Whites	ref.		.58**	.00	.76**	.02	.68*	.09
Non-Hispanic Blacks	1.72**	.03	ref.		1.30**	.03	1.16	.16
White Mexicans	1.31**	.03	.76**	.02	ref.		.89	.12
Black Mexicans	1.47*	.21	.86	.12	1.12	.15	ref.	

*$p < 0.05$; **$p < 0.01$.

Table 3

Logistic Model of Poor or Fair Self-Rated Health Expressed in Odd Ratios Adding All Covariates and Using Monoracial Whites as Reference Group.

Model 1 Poor or Fair Self-Rated Health (Reference: NH Whites)

NH-Blacks	1.61** (.023)	1.64** (.024)	1.66** (.024)	1.66** (.024)	2.09** (.031)	1.74** (.024)	1.68** (.023)	1.64** (.023)	1.72** (.026)
White Mexicans	1.17** (.021)	1.27** (.023)	1.08** (.021)	1.09** (.021)	1.65** (.031)	1.15** (.022)	1.18** (.022)	1.18** (.022)	1.31** (.031)
Black Mexicans	1.17 (.117)	1.23* (.126)	1.09 (.112)	1.09 (.112)	1.94** (.199)	1.38* (.150)	1.40* (.152)	1.38* (.150)	1.47* (.210)
Nativity and Length of Residency									
FB < 5 Years		.38** (.021)	.29** (.017)	.29** (.017)	.46** (.026)	.42** (.025)	.37** (.022)	.37** (.022)	.31** (.025)
FB 5–14 Years		.54** (.019)	.42** (.014)	.42** (.014)	.56** (.019)	.51** (.019)	.52** (.019)	.53** (.019)	.48** (.024)
FB 15 + Years		1.13** (.020)	1.00 (.017)	1.00 (.017)	.79** (.014)	.77** (.014)	.86** (.015)	.87** (.015)	.89** (.023)
Language									
Spanish			2.04** (.066)	2.05** (.067)	2.08** (.068)	1.44** (.047)	1.42** (.049)	1.44** (.049)	1.51** (.065)
Bilingual			1.41** (.052)	1.41** (.052)	1.44** (.054)	1.06 (.040)	1.06 (.039)	1.07* (.039)	1.03 (.048)
Gender and Age									
Female				1.12** (.006)	1.05** (.006)	1.08** (.006)	.91** (.011)	.90** (.006)	.91** (.010)
Age					1.04** (.0003)	1.03** (.0003)	1.02** (.0002)	1.02** (.0003)	1.01** (.0003)
Schooling									
Less than HS						6.18** (.102)	4.56** (.073)	4.47** (.073)	3.89** (.077)
High School						3.06** (.042)	2.63** (.035)	2.60** (.035)	2.31** (.041)
Some College						2.27** (.030)	2.04** (.027)	2.02** (.027)	1.87** (.033)
Other Control Variables									
Employed							.29** (.002)	.29** (.002)	.28** (.003)
Married								.87** (.007)	.86** (.009)
Smoking									1.86** (.023)

Notes: Standard errors in parentheses. *$p < 0.05$; **$p < 0.01$.

5. Discussion

In this study, we examine self-rated health among Black and White persons of Mexican and non-Mexican origins. We aim to contribute to the Hispanic and immigrant health literature in various ways. One, we document patterns of self-rated health among Black Mexicans in the U.S. Most research on Black Hispanic health does not disaggregate Hispanic subgroups (Borrell, 2006; Borrell & Crawford, 2009; Borrell & Dallo, 2008) and research on the health of Black Mexicans in Mexico is limited (Ortiz-Hernández et al., 2011; Perreira & Telles, 2014). Research on the relationship between race and health in Latin America suggests that despite a racial homogeneous discourse, those who identify as Black, Brown, or those with darker skin tones have poorer health than their White or lighter-skin counterparts (Barber et al., 2018; Perreira & Telles, 2014; Smolen & de Araújo, 2017). Second, we take into consideration the Hispanic paradox, which suggests Hispanics, particularly Mexicans, experience a health and mortality advantage compared with other groups (Hummer et al., 2007; Kaestner, Pearson, Keene, & Geronimus, 2009; Markides and Eschbach, 2005) while accounting for racial processes within this population. Even though both White and Black Mexicans are more likely to report poor or fair self-rated health relative to NH-Whites, Black Mexicans display a slightly larger disadvantage than White Mexicans, which means that the effects described in the Hispanic paradox literature might not apply evenly across racial categories. Lastly, this slight disadvantage among Black Mexicans highlights the role that racialized processes play in affecting health outcomes among Hispanic subpopulations. We need more health research at the intersection of race and ethnicity in the United States as the Hispanic population continues to grow.

Based on theory and previous literature, we hypothesized that White Mexicans would have better self-rated health compared to NH-Whites and that Black Mexicans would have worse self-rated health relative to NH-Whites, NH-Blacks, and White Mexicans. In our analysis, we found a pattern of racial stratification within Mexican and non-Mexican self-rated health in our analysis, NH-Whites occupy the top position, White Mexicans next, Black Mexicans thereafter and NH-Blacks at the bottom. Black Mexicans and NH-Blacks occupying the lower rungs of self-rated health supports a body of literature indicating that race negatively affects health in a myriad ways. From perceived discrimination at the micro level (Brondolo, Gallo, & Myers, 2009) to residential segregation at the macro level (Williams and Collins, 2016), race continues to be a major predictor of health status due to a wide disparity in risk exposure (Williams, Lavizzo-Mourey, & Warren, 1994). White Mexicans reporting better self-rated health than their Black counterparts and NH-Blacks may be the result of their ability to benefit from a near-White (Bonilla-Silva, 2004) or "off-White" (Gomez, 2005) status in American society, lending credence that the race construct is an important determinant of health status.

We also found that race "trumps" ethnicity in terms of self-rated health. Among Mexicans, the strength of the race effect is observable in Model 1, in which White Mexicans show a smaller disadvantage in relation to NH-Whites than Black Mexicans, and in Model 3, in which Black Mexicans have a small disadvantage, albeit not significant, compared to White Mexicans. Even though both groups share an ethnic background, in this case, race is an important predictor of self-rated health. Among Whites, NH-Whites consistently report lower odds of poor or fair self-rated health compared with NH-Blacks and Black and White Mexicans. In our analysis, being White is a significant predictor of

good self-rated health.

Outside of race and ethnicity, we found that acculturative predictors, nativity and length of stay, and language of interview have varying effects on Mexican self-rated health. Foreign-born respondents had a lower likelihood of reporting poor or fair health, but as the length of residency increases, the odds of reporting poor or fair self-rated health increases across all models. However, those who interviewed in Spanish had higher odds of poor or fair health. These findings are consistent with structural explanations of the reduction of the immigrant health advantage over time (Riosmena et al., 2015; Viruell-Fuentes, 2007; Viruell-Fuentes et al., 2012). The foreign-born start out with better self-rated health but over time, as exposure to America's social hierarchy increases, the positive health ratings decline. Furthermore, those who speak Spanish, who are presumably less acculturated, might be facing greater structural difficulties, and a heightened sense of marginalization due to their lack English proficiency. This accumulation of social disadvantages (Riosmena et al., 2015) has the potential to produce poor health outcomes, including a sense of poor health and well-being. Regarding educational attainment, as it increases, the odds of reporting poor or fair self-rated health diminish, albeit the odds of poor and fair self-rated health are still higher than they are for those with a college degree and above. We also observe that employment decreases the odds of reporting poor or fair health across all models. In addition, results from other demographic and health behavior predictors are consistent with self-rated health literature (Idler and Benyamini, 1997).

6. Limitations and future research

There are some limitations in this study. First, the data used in the analysis are cross-sectional and causality cannot be inferred. Second, we do not have access to measures of discrimination and we can only speculate that the different mechanisms of racial discrimination are operating to influence our outcome. Lastly, we are limited by one measure of race. Race is multidimensional (Bailey, Loveman, & Muniz, 2013; López, Vargas, Juarez, Cacari-Stone, & Bettez, 2018; Roth, 2016) and results may vary if we had additional measures such as reflected race, observed race, and/or phenotype characteristics (e.g., skin tone). We also limit our analysis to White and Black Mexicans and do not include the 4% of respondents who identify as "Other". In analysis not shown, the likelihood of poor or fair health among Other Mexicans was somewhat similar to White Mexicans. However, we decided to exclude them as the literature on why Mexicans and other Hispanics identify as "Other" is limited and we did not want to make assumptions about this group. Tafoya argues that Hispanics "experience race differently" (2004pg:3). In her analysis of Hispanics, identifying as "White" or "Other" varied by socioeconomic status, citizenship status, and even, geography. We cannot ascertain if these factors drove people to identify as other or vice versa.

Future research on Mexicans and other Hispanic subgroups should continue to explore the role of race in determining health and other outcomes (e.g. education, labor market). Our results suggest that race plays an important role in shaping health outcomes and might potentially shape other experiences. It would also be interesting to examine diverse outcomes using discrimination-related variables to ascertain whether Black Mexicans (and other Black Hispanics) experience discrimination similarly to NH-Blacks and how these experiences shape their outcomes. We would also suggest considering alternative measures of acculturation when studying foreign-born populations.

In our study, we analyze self-rated health among White and Black Mexicans and non-Mexicans taking into consideration sociodemographic, acculturative, and health behavior covariates. Although both White and Black Mexicans are disadvantaged in relation to NH-Whites, White Mexicans have an advantage over NH-Blacks and to a certain extent, over Black Mexicans as well. Overall, our main contribution is the consideration of race among Mexicans, the largest of the Hispanic subgroups, in order to determine how race affects their self-rated health

independently of ethnic status. Our results suggest that studying health outcomes among Hispanics without considering race may mask inequalities not observed at the aggregate level.

Declaration of competing interest

The authors have no competing interests to declare.

Acklnowledgements

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