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An Examination of the Relationship between Family and U.S. Latinos' Physical Health

G. Bostean

Department of Sociology, University of California, Irvine

Abstract. Latinos, especially immigrant Latinos, have lower mortality rates and some better health outcomes than U.S.-born Latinos and whites, a situation called the Latino Paradox. One explanation for the advantage is that Latinos' family orientation protects health. However, because few large-scale studies examine Latinos' family relationships by nativity, the extent to which family factors contribute to Latinos' health outcomes is unclear. Additionally, while a large literature focuses on family cohesion, fewer studies address both cohesion and conflict, which may be particularly important among immigrants, whose migration and adaptation experiences can strain family relations. This study examines the relationship between family context and U.S. Latinos' physical health outcomes. Using nationally representative data on Latinos, it explores the relationship between chronic conditions and activity limitation and nativity, ethnicity, and family factors—both subjective, such as cohesion and conflict, and objective, such as household size, marital status, and language spoken with family. Results reveal that family conflict in particular is related to poorer health. Furthermore, objective measures of family context, such as marital status and household size, do not capture the effects of family relationships (cohesion, conflict, social support). These findings emphasize the importance of family relationships and the need for makers of both immigration and health policy to take into account the complex effects of these relationships on society from a public health perspective.

Keywords. Latino health paradox, family conflict, family cohesion, social integration, Mexican, Cuban, Puerto Rican.

1 Introduction

Despite their relatively low socioeconomic status, U.S. Latinos, especially immigrants, have lower mortality rates and some advantaged health outcomes compared to U.S.-born whites (Markides and Coreil 1986; Hummer *et al.* 2007), but the health advantage diminishes with time in the United States (Burnam *et al.* 1987; Antecol and Bedard 2006; Fuentes-Afflick and Hessol 2008).¹ One explanation for the nativity and ethnic gradient in health—called the Latino Paradox—focuses on family. “The sense of family is what saves Latinos. Solid family ties are essential for preserving health” (Andalo 2004). In fact, research finds that Latinos have more traditional family values than non-Latino whites (Sabogal *et al.* 1987), live in larger households, possibly indicating a familial orientation (Wilmoth 2001), have a greater availability of social support (Vega 1990), and have stronger family networks (Alvarez, Bean, and Williams 1981). Furthermore, a century of research on numerous populations provides evidence for the link between health and social relationships (Durkheim 1951; House, Landis, and Umberson 1988), particularly family factors such as marital status (Lillard and Waite 1995), living arrangements (Joutsenniemi

et al. 2006), and quality of relationships (Gove, Hughes, and Style 1983).

Among Latinos, familism, or a traditional family orientation, buffers against the negative health effects of Americanization. For example, Latino immigrants are less likely than their U.S.-born co-ethnics to smoke and abuse alcohol and drugs (Abraído-Lanza, Chao, and Flórez 2005). Family may also provide social support, an important stress buffer (Pierce *et al.* 1996). Mulvaney-Day and colleagues (2007) find that social support and cohesion are positively related to Latinos' self-rated mental and physical health, though conflict and poor-quality relationships are also related to health (Williams 2005). Despite this apparent contradiction, few studies address both family cohesion and conflict among Latinos. Conflict may be especially important among immigrants, because the migration and adaptation (to U.S. society) experiences can strain family relations, such as when children acculturate and assimilate linguistically faster than their parents, causing generational dissonance (Rumbaut 1997).

The existing literature is also limited in other ways. First, although scholars posit that family-contextual factors play a role in explaining the Latino Paradox, few population-level

Correspondence to: Georgiana Bostean
(gbostean@uci.edu)

¹For reviews of the literature on the Latino Paradox, see, among others, Franzini, Ribble and Keddle 2001; Markides and Eschbach 2005.

studies address this area of inquiry; therefore, the extent to which family context explains the nativity gap in health remains unclear. Second, most studies examine mental health or self-rated health (Mulvaney-Day *et al.* 2007; Rivera *et al.* 2008), the findings of which cannot be generalized to individual physical outcomes without empirical support (Williams and Umberson 2004). Finally, studies reveal differing findings by health measure. While foreign-born Latinos have lower rates of adult (Palloni and Arias 2004) and infant mortality (Weeks, Rumbaut, and Ojeda 1999) and some chronic diseases (Jasso *et al.* 2004), they have higher rates of infectious diseases and other conditions, including diabetes (Harris *et al.* 1998), and outcomes vary by ethnic subgroup, with Mexicans tending to be healthiest and Puerto Ricans, least healthy (Zsembik and Fennell 2005). Thus questions remain about which health outcomes Latinos are advantaged in and the ways in which family context is related to various outcomes.

To answer these questions, this study builds on the broader literatures of social integration and Latino health (Mulvaney-Day *et al.* 2007; Rivera *et al.* 2008), examining the relationship between family context and U.S. Latinos' physical health outcomes, namely, chronic conditions and activity limitation. Using nationally representative data, it explores the relationship between nativity, ethnicity, family factors—both subjective, such as cohesion and conflict, and objective, such as household size, marital status, and language spoken with family—and physical health. In doing so, I address how family factors are related to chronic conditions and activity limitation and to what extent they explain the nativity gap in health outcomes and whether health behaviors (smoking and drinking) explain the relationship between family factors and health.

2 Methods

2.1 Data and Sample

The 2002-2003 National Latino and Asian American Survey (NLAAS) is a nationally representative survey of noninstitutionalized Latino and Asian American adults aged 18 or older residing in households in the United States, based on a stratified area probability sample design (see Heeringa *et al.* 2004). Conducted in respondents' homes using computer-assisted personal interview, the interviews took place between May 2002 and December 2003. Of the 4,864 respondents, 2,554 were Latinos (868 Mexicans, 577 Cubans, 495 Puerto Ricans, and 614 Other Latinos). Of those, 58.6% were interviewed in Spanish. The Latino response rate was 75.5%. After excluding missing cases, this study's final sample size is 2,343 Latinos.

2.2 Measures

2.2.1 Dependent Variables

Chronic conditions is a dichotomous variable coded 1 if the respondent reported that a doctor or health professional told him/her that he had cancer, diabetes, high blood pressure, or heart disease, and 0 otherwise. Activity limitation is a dichotomous variable indicating whether the respondent answered

yes to the following question: "Was there ever a time in the past 30 days when health-related problems caused you difficulties with mobility, such as standing for long periods, moving around inside your home, or getting out of your home?"

2.2.2 Independent Variables

Research finds several family-contextual factors to be associated with health, including marital status, household size, language use, relationship quality, and social support. Marital status is coded 1 for currently married or cohabiting, and 0 otherwise.² Household size indicates the number of persons living in the household. The language of interview and language spoken with family were also included but were ultimately dropped from the final models because they are highly collinear with immigrant status. In the NLAAS, over 85% of respondents chose their language of interview, and most immigrants interviewed in Spanish.

As relationship quality measures, I include scales of cohesion and conflict. I created the family cohesion scale (Cronbach's $\alpha = .932$ for the Spanish interviews and $.929$ for English), ranging from 10 (low cohesion) to 40 (high cohesion), by reverse coding and summing responses indicating how strongly the respondent agrees (1 = strongly agree, 2 = somewhat agree, 3 = somewhat disagree, 4 = strongly disagree) with 10 statements:

"Family members respect one another."

"We share similar values and beliefs as a family."

"Things work well for us as a family."

"We really do trust and confide in each other."

"Family members feel loyal to the family."

"We are proud of our family."

"We can express our feelings with our family."

"Family members like to spend free time with each other."

"Family members feel very close to each other."

"Family togetherness is very important."

To create the family conflict scale, I created a scale ranging from 5 (low conflict) to 15 (high conflict) ($\alpha = .89$ in Spanish interviews, $.763$ for English). I reverse coded and summed responses indicating how often the following apply (1 = hardly or never, 2 = sometimes, 3 = often):

"Being too close to family interfered with goals."

"Argue with family over different customs."

"Lonely and isolated due to lack of family unity."

"Family relations less important to people close to you."

"Personal goals conflict with family."

²I use a combined married or cohabiting measure because the publicly available data do not distinguish between them.

I also created scales of support from family (outside the household) and from friends. I reverse coded and summed answers to 3 questions:

“How often do you talk on phone or get together with relatives?”

“How much can you rely on relatives who do not live with you for help if you have a serious problem—a lot, some, a little, or not at all?”

“How much can you open up to relatives who do not live with you if you need to talk about your worries?”

The scale ranged from 3 (very little support from relatives outside the household) to 13 (a lot of support). I then used the parallel questions for friend support to create a similar friend support scale ($\alpha = .767$ for Spanish, $.732$, for English).

Nativity is coded 0 for U.S.-born and 1 for foreign-born.³ The Latino groups I examine are Mexican, Cuban, Puerto Rican, and Other Latinos (“Others”). I control for sociodemographic factors related to health: age, sex, education (less than 12 years, 12, 13-15, and 16+ years), and household income (as a ratio to the poverty threshold: at or below, 2-5 times, 6-9 times, and 10 or more times the threshold). Finally, I include two health behaviors—smoking (never, current smoker, or former/only a few times) and drinking (coded 1 if the respondent answered yes to the following question, “Did you ever use alcohol or drugs so much that your family or friends worried about you or repeatedly complained about your use?” and 0 otherwise)—to control for nativity differences in behaviors and assess the impact on the effect on family factors.

2.3 Analyses

I first examine the weighted characteristics of the sample by nativity. Next I conduct logistic regressions to analyze chronic conditions and activity limitation. For each health outcome, I estimate four models to assess the change in nativity effect when adding family contextual and health factors. The first model includes nativity, ethnicity, and sociodemographic controls; the second adds marital status and household size; the third adds family cohesion and conflict, and social support from family and friends; the final model adds health behaviors. I first add the objective measures of family context and then the scales of cohesion, conflict, and support to assess whether the objective measures are associated with health both with and without conditioning on family relationships and social support. Finally, I add health behaviors.

3 Results

Figures 1, 2, and 3 reveal nativity differences among Latinos in health, sociodemographic profiles, and family contextual factors. Importantly, foreign-born Latinos have a lower

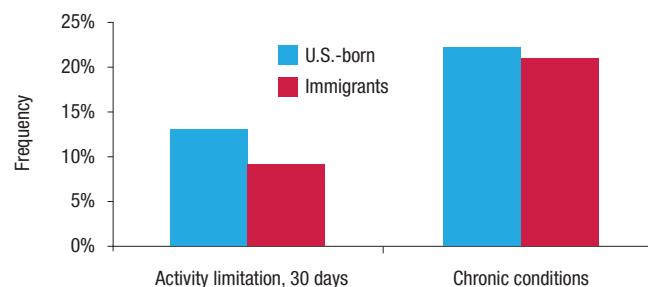


Figure 1. Health Conditions by Nativity*

Note: Difference in chronic conditions not significant.

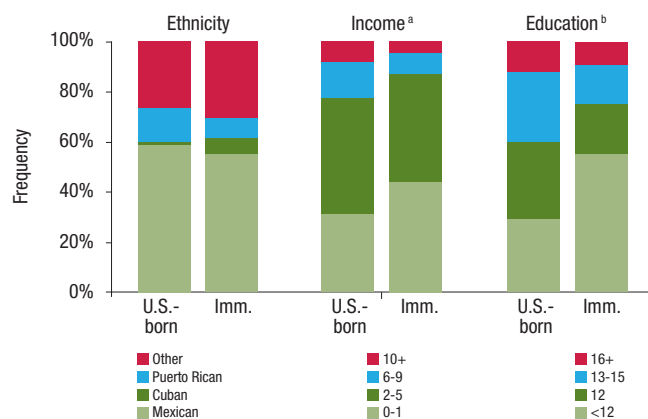


Figure 2. Socio-demographic Characteristics by Nativity*

Note: ^aHousehold income ratio to poverty threshold. ^bYears of education.

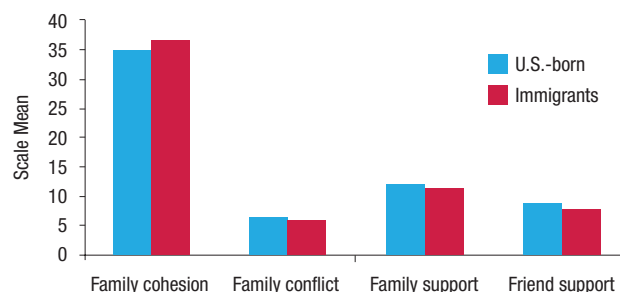


Figure 3a. Family & Friend Relationships by Nativity*

Note: Scale ranges: Cohesion (10-40), Conflict (5-15), Family support (3-13), Friend support (3-13)

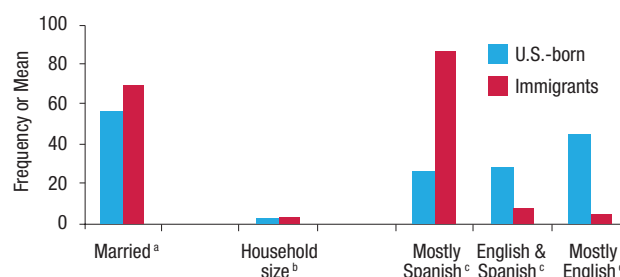


Figure 3b. Family-related Characteristics by Nativity*

Note: ^aMarried or cohabiting. ^bMean number of persons in household. ^cLanguage spoken with family.

* Note for Figures 1, 2, 3a and 3b: Data from 2002-2003 National Latino and Asian American Survey. Nativity differences significant at the .01 alpha level.

³I use the terms “foreign-born” and “immigrant” interchangeably to identify an individual who was born outside of and then migrated to the United States, without differentiating by legal status or migratory context. I consider Puerto Ricans to be foreign-born because they differ from the U.S.-born in health outcomes and sociodemographic characteristics.

prevalence of activity limitation but do not differ in rates of chronic conditions compared to U.S.-born Latinos. The foreign-born are also older and less educated and have lower incomes. In terms of family factors, they are more likely to be married, live in larger households, have higher mean levels of family cohesion and lower family conflict, but report lower levels of support from both relatives and friends outside the household. Language spoken with family was not included in the multivariate regressions (because it is highly collinear with immigrant status), but the fact that 87% of foreign-born Latinos speak mostly Spanish with their families confirms the strong relationship between nativity and language use.

3.1 Chronic Conditions

Table 1 presents logistic regression odds ratios of chronic conditions, providing evidence of the foreign-born advantage: net of sociodemographic characteristics, immigrants have nearly 30% lower odds of chronic conditions. Compared to Mexicans, Cubans and Puerto Ricans have higher odds. Adding marital status and household size, although not statistically significant themselves, further reduces immigrants'

odds slightly (Model 2). Accounting for cohesion, conflict, and family and friend support reduces immigrants' advantage over the U.S.-born and makes household size a significant predictor of chronic conditions (Model 3). Furthermore, both family conflict and friend support are associated with higher odds of chronic conditions. In analyses not shown here (due to space constraints), I examined cohesion and conflict separately and found that each one is a significant predictor of chronic conditions—cohesion is related to lower odds and conflict to higher—but when both are included in the model, only conflict remains significant. This suggests that family conflict is a stronger correlate of activity limitation and that studies analyzing only cohesion (or familism) omit an important part of the family dynamic. Finally, Model 4 reveals that smoking and alcohol problems are not significantly related to chronic conditions, nor do they attenuate the effects of nativity and family factors.

3.2 Activity Limitation

Immigrants also have nearly 50% lower odds of activity limitation than the U.S.-born when accounting for

Table 1. Logistic Regression Results: Odds Ratios of Chronic Conditions

	Model 1	Model 2	Model 3	Model 4
Sociodemographic				
Immigrant (U.S.-born)	0.733**	0.714**	0.775*	0.740**
Ethnicity (Mexican)				
Cuban	1.775***	1.849***	1.786***	1.830***
Puerto Rican	1.653***	1.728***	1.725***	1.773***
Other Latino	1.260	1.310	1.343	1.352
Age	1.074***	1.076***	1.080***	1.079***
Female	1.450*	1.463*	1.321	1.264
Years of education (less than 12)				
12 years	0.817	0.823	0.789	0.792
13-15 years	0.892	0.896	0.849	0.843
16+ years	0.684	0.693	0.640	0.617
Household income ^a (at/below threshold)				
2-5 times	0.981	0.981	0.965	0.947
6-9 times	1.311	1.331	1.269	1.236
10 or more times	0.600	0.607	0.577	0.568
Family factors				
Married		1.122	1.262	1.251
Household size		1.054	1.075*	1.074*
Family cohesion ^b			0.986	0.985
Family conflict ^b			1.108**	1.114***
Family support, out of household ^b			1.017	1.019
Friend support ^b			1.070**	1.068**
Health behaviors				
Smoking status (never smoked)				
Current smoker				0.819
Former smoker				1.052
Alcohol use ever cause family conflict (No)				0.838
N	3956	3956	3956	3956

Source: 2002-2003 National Latino and Asian American Survey

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (two-tailed test). Reference groups in parentheses. Estimates weighted to be nationally representative of Latinos.

^a Ratio to poverty threshold

^b Scale—see text for description.

sociodemographic differences (table 2, Model 1). However, unlike with chronic conditions, only Puerto Ricans have significantly higher odds of limitation than Mexicans. In Model 2, the nativity gap remains nearly the same while the gap between Puerto Ricans and Mexicans narrows by 5%, suggesting that ethnic differences are more pronounced when accounting for a broader range of confounding factors. The nativity and ethnic gaps continue to narrow in Models 3 and 4, and, as with chronic conditions, family conflict is related to higher odds of limitation. In contrast to their relationship to chronic conditions, smoking and drinking are related to significantly higher odds of limitation, though they do not explain the nativity or family conflict effects.

4 Discussion and Conclusions

This study finds that family relationships, especially family conflict, are related to Latino health. Furthermore, objective proxy measures of these relationships, such as marital status or household size, do not capture the effects of the quality of those relationships. The findings also corroborate previous research: Latino immigrants have health advantages (in both

chronic conditions and activity limitations) over U.S.-born Latinos, and there is an ethnic health gradient among Latinos, with Mexicans having lowest odds of these conditions and Puerto Ricans having the highest.

Given the large literature supporting the marital status-health relationship, it is somewhat surprising that the married/cohabiting are not significantly healthier than the unmarried in this study. One explanation is that cohabitators are included in the married category, but this is unlikely because non-marital, consensual unions are not uncommon among these groups (De Vos 1999). A more plausible explanation is that Latinos' familistic norms, which include extended family rather than only the spouse as a source of support, reduce the impact of being married on health. Furthermore, some Latino families are separated when one member immigrates to the United States, leaving other family members behind. Though limited by the data, which do not specify which family members are in the household, this finding may indicate that living apart does not confer the same health benefits as living with a spouse or partner. The cross-sectional nature of the data also limits the ability to assess the direction of causality. Therefore, it is possible that

Table 2. Logistic Regression Results: Odds Ratios of Activity Limitation

	Model 1	Model 2	Model 3	Model 4
Sociodemographic				
Immigrant (U.S.-born)	0.553***	0.560***	0.598***	0.655***
Ethnicity (Mexican)				
Cuban	1.357	1.307	1.265	1.273
Puerto Rican	1.606***	1.544**	1.549***	1.490**
Other Latino	0.898	0.863	0.863	0.874
Age	1.037***	1.035***	1.037***	1.036***
Female	1.921***	1.952***	1.771***	2.109***
Years of education (less than 12)				
12 years	0.701	0.694	0.689	0.679
13-15 years	1.016	1.008	0.998	0.999
16+ years	0.936	0.914	0.888	0.936
Household income ^a (at/below threshold)				
2-5 times	0.757	0.735	0.720*	0.745
6-9 times	0.963	0.906	0.863	0.860
10 or more times	0.557	0.511*	0.517	0.510
Family factors				
Married		1.024	1.129	1.155
Household size		0.915*	0.926	0.929
Family cohesion ^b			1.004	1.006
Family conflict ^b			1.169***	1.159***
Family support, out of household ^b			1.017	1.015
Friend support ^b			1.035	1.033
Health behaviors				
Smoking status (never smoked)				
Current smoker				1.401
Former smoker				1.505*
Alcohol use ever cause family conflict (No)				1.440**
N	3956	3956	3956	3956

Source: 2002-2003 National Latino and Asian American Survey

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (two-tailed test). Reference groups in parentheses. Estimates weighted to be nationally representative of Latinos.

^a Ratio to poverty threshold

^b Scale—see text for description.

health affects family relationships rather than the other way around. In this case, however, the measures of conflict and cohesion have more to do with culture than with the type of conflict that would arise from a family member having a chronic illness or activity limitation, suggesting that the causal direction runs from conflict to health.

These findings underscore the complex relationship between migration, family relationships, and Latino health, and the heterogeneity among Latinos by nativity and ethnicity. Research and policy should take into account Latinos' varied contexts—cultural, migratory, historical—that shape their U.S. experiences and trajectories. Especially important in the family-health relationship are migration context (of exit and of reception) and whether and which family members immigrants leave behind in their countries of origin. The study in this issue by Sternberg evidences the tremendous impact of separation on both migrants and their families. Policy makers must be cognizant of the increasing importance of transnational relationships for migrants (Viruell-Fuentes and Schulz 2009) and the societal and health ramifications of these relationships. Over 35 million persons in the United States are foreign-born (U.S. Census Bureau 2006), another 21 million are the children of immigrants (Portes and Rumbaut 2006), and the U.S. immigrant population continues to grow. The topics of family and transnational relationships span social groups across ethnicity and socioeconomic class, and thus are public health and social issues of a wide-reaching importance not to be overlooked by researchers and policy makers.

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