# Hispanic Names, Acculturation, and Health

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September 5, 2018

**Abstract**

The Hispanic Health Paradox is that despite their disadvantaged socioeconomic status, Hispanics in the U.S. experience mortality outcomes that are similar to those of non-Hispanic whites. Why being Hispanic is protective remains an active subject of research. In this paper, we explore how a novel, continuous metric of Hispanic identity based on an individual's first name helps us better understand health among Hispanics in the U.S. Health and Retirement Study (HRS), a rich dataset of Americans aged 50 and older. We document and characterize the Hispanic Health Paradox in mortality and health status in the HRS, and we examine the information contained within first names. We uncover a striking asymmetry in how the Hispanicity of the first name is associated with health outcomes and to a lesser extent with health inputs. For foreign-born Hispanics, a more Hispanic first name often signals healthier outcomes; but for native-born Hispanics, the reverse is true. The evidence is consistent with a story of an immigrant health advantage and differential assimilation among the second and later generations in which the more assimilated, with less distinctively Hispanic names, are healthier. But disadvantages among native Hispanics with more Hispanic names do not appear to be attributable to drinking, smoking, or exercise.

**Keywords** Paradox; Behavior; Inequality; Immigration
**JEL Classifications:** I14 · J14 · J15

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# 1 Introduction

Mortality outcomes among native and foreign-born Hispanics in the U.S. appear to be similar to those of non-Hispanic whites, which contrasts with the stark differences in socioeconomic status (SES) favoring whites. This pattern is known as the Hispanic health paradox (HHP), and it was first reported by Markides and Coreil (1986) and is described in recent reviews by Markides and Eschbach (2005, 2011). The HHP in mortality is most often described as a similarity or advantage in age and sex-specific mortality rates compared to whites.[1] The paradox is robust to standard data quality issues in vital statistics such as age misreporting (Elo et al., 2004; Arias et al., 2008; Arias, 2010, 2014). The "salmon bias" problem emphasized by Palloni and Arias (2004) appears to be real but not sufficiently large to explain the entire HHP in mortality (Hummer et al., 2007; Turra and Elo, 2008; Riosmena, Wong and Palloni, 2013). Longitudinal data on individuals also reveals an Hispanic paradox in mortality (Lariscy, Hummer and Hayward, 2015).

Because roughly half of U.S. Hispanics are foreign born, immigration status is a focal point in this literature. But studies also show lower rates of age and sex-specific mortality among native-born Hispanics. Their mortality advantage is usually smaller than among the foreign-born, it may not benefit Hispanics from non-Mexican backgrounds, and might not be very large (Markides and Eschbach, 2011; Fenelon, 2013; Hayward et al., 2014; Lariscy, Hummer and Hayward, 2015). But an advantage among native-born Hispanics suggest the HHP in mortality is not solely attributable to an immigrant health advantage, although some researchers seem to view it that way (Markides and Eschbach,

[1] Equality or an advantage in age and sex-specific mortality rates compared to non-Hispanic whites is sometimes called the "strong form" of the HHP, while an Hispanic advantage observed conditional on SES is sometimes called the "weak form" (Riosmena et al., 2015). The nomenclature can be confusing. In this parlance, a "weak" HHP results after controlling for SES in addition to age and sex. This may sound more like a "strong" form of the paradox, namely a protective benefit associated with being Hispanic that persists after controlling for more factors. We often observe both forms of the HHP simultaneously, for example if being Hispanic is independently associated with health that is better enough to offset the SES disadvantage. But the picture becomes more complicated if SES varies over the life cycle, or if the SES gradient in health varies across groups.

2011). There is indeed a rich literature on health and immigrant assimilation (Antecol and Bedard, 2006), but unless key traits maintain salience for health and are inheritable, the HHP appears to be broader.

The causes of the Hispanic health paradox remain unclear. It is striking that the Hispanic advantage in mortality is not always mirrored by Hispanic advantages in health status or in the behavioral and material inputs to health.[2] Crimmins et al. (2007) show that common biomarkers fail to capture it; Hispanics actually register more biomarkers above clinical risk levels than whites, while differences are insignificant after controlling for SES. Hayward et al. (2014) reveal that foreign-born Hispanics suffer the highest rates of age and sex-specific disability of all groups, followed by native Hispanics and non-Hispanic blacks.[3] Patterns in the most commonly examined indicator, self-reported health status, are apparently confounded by differences in interpretation across languages or cultures associated with question framing (Lee and Schwartz, 2014). Although many studies have shown that self-reported health status is predictive of future mortality, there is less evidence of an Hispanic paradox in it.

Smoking appears to be one example of an input to health in which there is a clear Hispanic advantage, and there may be similar patterns in other health behaviors. Fenelon (2013) argues that a Hispanic advantage in smoking patterns and smoking-related mortality explains much of the HHP in mortality at least among native and foreign-born Mexican Americans. His preferred explanation is a flatter SES gradient in smoking among Mexicans and Mexican immigrants, which leads to less smoking and deaths at low levels of SES among Hispanics compared with whites. Similarly, Rosero-Bixby and Dow (2016) cite a flatter SES gradient in lung cancer and heart disease in Costa Ricans compared to the U.S. as being important for explaining better longevity outcomes. Turra and Goldman (2007) confirm flatter SES gradients in mortality among U.S.

[2] A necessary condition for an Hispanic paradox is a large advantage in at least one dimension. If sufficiently large, it could drive an overall Hispanic paradox in mortality even when advantages along other dimensions do not exist.

[3] They did not control for SES, but we can speculate that those results may have looked like the patterns in biomarkers.

Hispanics, and Goldman et al. (2006) find flatter SES gradients in a range of health-related variables such as smoking, drinking, and body mass index (BMI), for both Mexican immigrants and Mexican Americans compared to non-Hispanic whites. Beltrán-Sánchez et al. (2016) report mixed evidence on SES gradients in biomarkers, while Lariscy, Hummer and Hayward (2015) emphasize immigrant health advantages and the role of smoking in explaining the Hispanic paradox in mortality. Although Hispanics are likely disadvantaged in terms of access to medical care, and at least not advantaged in terms of objective or subjective health status, patterns suggest an advantage in healthy behaviors, at least at the lower end of the SES distribution.

Given these patterns, a natural focus is on the process of acculturation and assimilation among foreign-born and native Hispanics. Identity itself may be a direct input to health through psycho-social channels. But interest in acculturation has usually centered instead on how acculturation coincides with the adoption of unhealthy behaviors common to U.S. natives like smoking, drinking, poor diet, and lack of exercise; or with changing kinship networks or neighborhoods.[4] Measures of acculturation are relatively scarce. For the foreign born, years spent in the U.S. and citizenship status are common indexes, but neither of these is a useful measure for native Hispanics. Language proficiency and language-of-interview are also common metrics, but they are usually binary indicators that may not capture much of the true variation in acculturation.

In this paper, we examine a new measure of Hispanic acculturation derived from the first names preferred by respondents in the U.S. Health and Retirement Study (HRS). We use restricted data on first names in HRS to create an Ethnic Name Index (ENI), a continuous measure within the unit interval that indicates the prevalence of a first name among Hispanics compared to non-Hispanics in the pool of HRS respondents. Earlier studies have examined the informational content of first names in this way. Fryer and Levitt (2004) examine how distinctively black first names in postwar California were

[4]With so many moving parts, it is probably not surprising that no studies have examined how Hispanic identity per se may directly affect health.

associated with familial circumstances and later-life outcomes. Goldstein and Stecklov (2016) use first and last names to assess assimilation patterns among immigrants and their children in Census records from 1930 and before, revealing different paths to assimilation. First names are useful indicators of assimilation because they are chosen by parents, rather than inherited like last names, although children may change either name later in life. Sue and Telles (2007) describe first names as providing a "window into parental visions of the ethnic identity of their children," which are then viewable by friends, coworkers, spouses, and researchers.

We find much variation in the Hispanicity of first names within the HRS panel, which mostly consists of individuals born before 1960. As one might expect, the largest average Hispanic ENI is found among foreign-born Hispanics, and the ENI is correlated with years spent in the U.S. and with language skills and usage. We also find that the ENI varies in interesting ways among native-born Hispanics, for whom it similarly is correlated with language. For all Hispanics, the ENI is not only correlated with the respondent's education, it is also predicted by self-reports of maternal but not paternal education. Strikingly, we find that low maternal education is predictive of a high ENI only among native-born Hispanics; among the foreign born, neither maternal nor paternal education predicts Hispanicity of the first name.

Asymmetries between foreign-born and native Hispanics in the correlations between Hispanic first names and key variables also emerge when we examine health outcomes and behaviors. Put succinctly, our findings suggest that a more Hispanic first name is a marker of better health for foreign-born Hispanics, while it is a marker of worse health for native-born Hispanics. The starkest and most revealing example of this pattern is that foreign-born Hispanics with a high ENI are taller, other things equal, while the reverse is true for native-born Hispanics.

These patterns seem most consistent with a composite story of both immigrant selection and imperfect assimilation among the second and later generations. Hispanic immigrants whose first names are more Hispanic appear to be healthier than those who go by less Hispanic names. But native-born

Hispanics whose names are more Hispanic are less healthy than those whose names are less Hispanic. While this measure of Hispanic identity seems to be a marker of enhanced robustness among immigrants, it is instead a marker of disadvantage among natives. The correlation between low maternal education and high ENI for native Hispanics suggests that for them, whose parents faced a clear choice between choosing a traditional name for their children or an American name, Hispanic names are a proxy for reduced assimilation.

In the sections that follow, we first describe the samples from the Health and Retirement Study that we examine. Then we describe the new metric of Hispanicity derived from the Ethnic Name Index constructed from first names in a special restricted extract of the HRS. We then briefly explore the Hispanic Health Paradox that we see in the HRS. Finally, we explore how the ENI varies with health, and we show how the ENI appears to mean different things for native and foreign-born Hispanics. In the last section, we discuss implications of these results for understanding Hispanic health and directions for future research.

# 2 Hispanics in the HRS

The U.S. Health and Retirement Study (HRS) is a biennial panel survey of individuals in households that began in 1992 and was consolidated and expanded in 1998 to be representative of Americans aged 50 and older. After its twelve wave in 2014, the entire HRS dataset comprised almost 40,000 individuals, a little over 4,000 of whom had self-identified as Hispanic or Latino. In the eighth HRS wave conducted in 2006, there were 18,469 respondents of whom 1,711 identified as Hispanic.

The core HRS survey asks respondents a wide array of questions about health, household structure, income and wealth, and retirement, and it also asks them about some characteristics of their parents, such as years of schooling, in addition to other retrospective questions. The HRS asks respondents about their own nativity, but it does not ask about parental nativity and thus cannot separately identify second-generation immigrants from other natives.

Beginning with the eighth wave in 2006, the HRS also collects physical measurements, biomarkers, and genetic samples on rotating halves of the sample. In order to examine the Hispanic Health Paradox in physical measures as well, we focus on a special pooled sample of respondents who submitted physical measures in 2006 or 2008. Due to the sensitive nature of the first names data, which we describe below, we limit our analysis to self reports and the physical measures only, which are included in the public data releases.

## 2.1 Names and language in the HRS interview process

The process of data collection used by the HRS team implies that a respondent's first name of record is the name by which he or she prefers to be known. According to the HRS investigator team, the HRS sample is constructed first by outreach to households via addresses, a process that starts without any names. Sampled households receive a precontact letter either in English or printed two-sided in English and Spanish, depending on the local density of Hispanic households. An in-person screening interview of the household follows, which is conducted in the language preferred by the household respondent. During this process, the HRS interviewer obtains the names of the household members as stated by the household respondent. When those members (typically a respondent and a spouse) are later selected for inclusion in the sample and interviewed, they can update their name with the interviewer if they prefer a different name.

Following the precontact letter, the initial mode of interview is an in-person interview. Prior to biomarker collection, the mode had reverted to telephone for most respondents, ostensibly for budgetary reasons. The onset of biomarker collection means that most respondents are interviewed by telephone every other wave, when biomarkers are not collected, and visited in an enhanced face-to-face interview when they are.

## 2.2 Hispanic first names in the HRS

To preserve confidentiality and minimize risk to survey participants, the names of respondents are not available in the public HRS files. Following a clearance process, we were able to access a file containing the first name and self-reported dichotomous Hispanic status for 37,494 HRS respondents within a secure data enclave maintained at the University of Michigan.[5]

Using this specially created restricted dataset, we generated an Ethnic Name Index using the standard procedure also followed by Fryer and Levitt (2004) and Goldstein and Stecklov (2016):

$$ENI(name_j, ethnicity_k) = \frac{p(name_j|ethnicity_k)}{p(name_j|ethnicity_k) + (name_j|ethnicity_{!k})}, \quad (1)$$

where $name_j$ is a particular first name; and for our purposes, ethnicity is a dichotomous indicator of either self-identifying as Hispanic or Latino, or not. An ENI of 0 for name $j$ and ethnicity $k$ means the name is absent from ethnic group $k$ but appears among others; an ENI of 1 means the name is exclusive to ethnic group $k$. The HRS team rounded the Hispanic ENI that we derived to two decimal places, and then the team re-linked the rounded ENI to the public HRS dataset within their secure enclave.

There are multiple modalities within the ENI measure that we recover, as shown by Figures 1, 2, and 3, but there also is dispersion around the modes for each major subsample. Most notably there is a large mode at 1 for foreign-born Hispanics in the HRS, whose ENI's are depicted in Figure 1. Names in this cluster include "Juan," "Guadalupe," "Francisco," "Roberto," and "Ana" with one n, none of which are found among non-Hispanics in these data. Although not visually evident in the histogram, 56 percent of the foreign-born Hispanic subsample has an ENI less than 1. Only about 20 percent has an ENI less than 0.9.

[5]The HRS investigator team at the University of Michigan allows external researchers who pass a clearance process to examine restricted data via a secure data enclave. Via the enclave, the HRS team provided us access to a dataset containing (1) a masked identifier they had created which was unknown to us; (2) the first name of the individual; and (3) the dichotomous measure of Hispanicity based on self-report.

The ENI ranges more widely among native-born Hispanics, whose ENI's are depicted in Figure 2. A mode is still evident at unity, but it represents only about one quarter of the subsample. Other modes are apparent at about 0.5 and about 0.25. Names around ENI = 0.5 in the HRS sample include "Martha," "Irene," "Samuel," "Frank," and "Anna" spelled with two n's. In the neighborhood of ENI = 0.25, we see names like "Mary," "Margaret," "Edward," "Robert," "Richard," and "John."

When we look at the ENI among non-Hispanics, shown in Figure 3, we see a large mode at 0, where 37 percent of the subsample is located, with a long right tail. Names with an ENI of exactly zero tend to be diminutive and distinctively white, like "Gracie," "Willie," "Will," "Bill," and "Annie," or distinctively spelled, like "Anne" with an e. Also located at zero are names like "Shirley," "Donna," "Kenneth," "Carolyn," "Lois," and "Janet." In the neighborhood of zero are names from English and French monarchy like "William" and "Charles." Spanish versions of these names, like "Guillermo" and "Carlos," have ENI's of 1 and 0.98 by comparison. Importantly, we also see strictly positive ENI's among non-Hispanics, many of whom have names like "Mary" and "Richard" around ENI = 0.25 as mentioned before. There are non-Hispanics within the sample whose names register ENI's above 0.8.

The summary statistics underneath these figures are also illuminating. The average ENI among foreign-born Hispanics is 0.92 with a standard deviation of 0.18. Among native-born Hispanics, the average is 0.69 with a SD of 0.33. And we see an average of 0.17 with an SD of 0.20 among non-Hispanics. Several key points are that:

- The subgroup with the most Hispanic first names are foreign-born Hispanics.
- The subgroup with the *highest variance* in the Hispanic ENI are the native-born Hispanics, a group that includes children of immigrants and more distant descendants.
- Non-Hispanics share names with Hispanics, so their ENI's are often nonzero.

## 2.3 Correlates of Hispanic names

Table 1 lists averages of the ENI and two measures of language usage alongside basic demographics and own and parental average years of education within each of the three main subgroups in the 2006 wave of the HRS that we consider: foreign-born Hispanics, native-born Hispanics, and non-Hispanics. In addition to the differences we previously noted in the ENI across these subgroups, we see large differences in language usage. Only 21 percent of foreign-born Hispanics report English as the language usually spoken at home, and among this group of respondents, the average share of their completed HRS interviews across the panel that were conducted in Spanish was 78 percent.[6] For native-born Hispanics, these statistics were reversed: 75 percent usually spoke English at home, and the average share of interviews conducted in Spanish was 15 percent. Among non-Hispanic respondents, English usage is predominant, and none conducts interviews in Spanish.

We also see large differences across these subgroups in the share that identifies as black or African American, in years of own education, and in years of parental education. Foreign-born Hispanics within this subsample have the fewest years of education, and their parents were similarly least educated on average. Non-Hispanics and their parents had the most education, and native-born Hispanics were in-between.[7] These patterns imply that if we were to examine simple bivariate associations between the Hispanic ENI and outcomes, we would likely also pick up the influences of different levels of own SES and family SES that the ENI appears to reflect.

Further, we see different associations between the Hispanic ENI and back-

[6]We constructed this measure by looking across all completed HRS interviews for the respondent, measuring the number conducted in Spanish, and deriving this statistic as the proportion conducted in Spanish out of the total. A number like 0.75 for an individual means that 3 out of 4 or possibly 6 out of 8 HRS interviews had been conducted in Spanish. This cumulative variable is arguably a better measure of "lifetime" Hispanicity, but its mean and standard deviation here for the subgroup are the same as they would be for a single measure of Spanish usage in the wave 8 interview.

[7]For reference, we also computed these averages for black non-Hispanics separately. In wave 8, the 2,568 respondents in this category had an ENI also of 0.17, an average age of 66.8, share female of 0.64, 11.5 years of education, 8.7 years of maternal education, and 8.0 years of paternal education.

ground characteristics when we descend to look within these subgroups. The two panels in Table 2 show Pearson correlations between the ENI, language variables, and own and parental education within the two Hispanic subsamples. All correlations shown are relatively large, with a few notable exceptions. The smallest hover in the teens and appear in the lower panel, in particular the correlations between the ENI and whether the foreign-born Hispanic respondent usually speaks English at home, and the correlations between English speaking and parental education. In the upper panel, which depicts the analogous correlation matrix for native-born Hispanics, these correlations and others have the same sign but are between 1.5 and 2 times as large.

By contrast, correlations between the respondent's education and parental education levels are smaller among native-born Hispanics than among foreign-born Hispanics. These differences are not enormous, and correlations among native-born Hispanics are basically the same as what we see among non-Hispanics (not shown). But they are striking given the other patterns we see in Table 2. Among native-born Hispanics, the ENI is more strongly related to language and own education, but own education is less strongly associated with parental education. In other words, having or keeping an Hispanic first name tells us more about the language abilities and socioeconomic status for a native-born Hispanic than it would for a foreign-born Hispanic.

To explore this further, we modeled the ENI within each of these two subgroups as a function of these predetermined and contemporaneous characteristics, $x_j$, using ordinary least squares regression:

$$ENI_i = \alpha + \sum_j \beta_j x_{ij} + \epsilon_i, \tag{2}$$

where the $x_j$ include the language and education variables along with a gender indicator variable. Although the model is statistically problematic because of simultaneity in the $y$ variable and some of the $x$'s, we believe its results can still offer useful perspectives from agnostic prediction.

Table 3 shows regression output obtained by estimating equation (2) separately for native and foreign-born Hispanics in the 2006 cross section of HRS.

Signs are often the same across the two subgroups, shown here across the two columns, but magnitudes and significance both tend to be different in revealing ways. Speaking English at home is predictive of lower ENI for native Hispanics but not for the foreign born. Conducting interviews in Spanish predicts higher ENI for both groups, but the magnitude of the effect is almost three times higher for native-born Hispanics. Among foreign-born Hispanics, there is no independent predictive power of maternal education for the ENI. For native Hispanics, each additional year of mother's schooling is associated with a reduction of 0.018 in the ENI, or about 6 percent of a standard deviation.

## 2.4 Summary: Differences among Hispanics by nativity

Hispanic first names provide an interesting new measure of Hispanic identity that is correlated with language usage and socioeconomic status in ways that one might expect. More subtly, the Hispanic Ethnic Name Index that we derive appears to capture these characteristics rather differently among Hispanics depending on their nativity.

Among native-born Hispanics, a distinctively Hispanic first name more strongly reflects language habits, education, and parental and specifically maternal education. Although people can change their first names, what we see in the data suggests that many native Hispanics with distinctively Hispanic names probably stuck with the language their parents spoke and the names their parents gave them. Native Hispanics whose names are less distinctively Hispanic are more likely to speak English at home and conduct their HRS interviews in English. Probably most striking is the predictive power of mother's education is determining a less Hispanic first name, which seems unlikely to operate through any channel other than the mother's socioeconomic status and what it says about her preferences and beliefs.

Distinctively Hispanic names among foreign-born Hispanics appear to be much less reflective of important qualities of the individual or of the parent. It is telling that the $R^2$ of a linear model predicting the ENI among foreign-born Hispanics is about half what it is among native-born Hispanics, with the

same covariates and a slightly larger sample size. In particular, the ENI is less tightly correlated with language and education, and it is much less correlated with parental education. An Hispanic immigrant with a more Hispanic first name does not necessarily have a less educated mother, while the connection between those two characteristics appears to be stronger among native-born Hispanics.[8]

Given what we know about the determinants of health, these patterns suggest that the explanatory power of the Hispanic ENI for health and mortality is likely to take different forms for Hispanics depending on nativity. As we show later, our analytical approach will be to model health and mortality holding education constant, which will remove some of the underlying differences in socioeconomic status that we are seeing between the two groups. But we anticipate that the residual information conveyed by the ENI will likely be different according to nativity.

# 3 The Hispanic Paradox in the HRS

Before proceeding, it is helpful to show how the Hispanic Health Paradox manifests itself in the measures of mortality and health that HRS data provide. We adopt a single, parsimonious linear model of mortality and health to examine this question:

$$H_i = \alpha + \beta_H \cdot Hispanic_i + \sum_j \beta_j x_{ij} + \epsilon_i, \tag{3}$$

where $H_i$ is an index of bad health or mortality for individual $i$, the $x$'s are standard covariates including education, and the coefficient of interest is $\beta_H$,

[8]To be sure, the split regression results allow for the mean ENI to be higher among foreign-born Hispanics, so this statement should really be about deviations from the average ENI and from the average maternal education within each sample. We also ran a composite model on the 1,216 Hispanics and interacted the foreign-born indicator with all variables (and the constant). We are able to reject a Chow test of structural homogeneity in the constant and slopes. We also found significant, equal in size, and thus offsetting coefficients on maternal education and its interaction with the foreign-born indicator. We view this auxiliary analysis as additional evidence that a high ENI reflects low maternal education among native Hispanics but not among foreign-born Hispanics.

the marginal effect associated with being Hispanic, here measured by a dichotomous indicator. When education is included in the covariates, as it is here, then we will confirm an Hispanic Health Paradox when we find $\hat{\beta}_H < 0$. That is, when we compare an Hispanic respondent to a non-Hispanic respondent holding education and other demographics like age constant, $\beta_H < 0$ means that being Hispanic is associated with a protective effect that reduces mortality or bad health.[9]

Table 4 presents estimates of $\beta_H$ for a wide range of mortality and health indicators measured among respondents to the 2006 wave of the HRS. We tried several models of mortality including Cox and Gompertz survival models utilizing the full information on the timing of death with the panel that the HRS investigators have provided. We ultimately found that a simple and parsimonious modeling of the probability of death by wave 12 in 2014, conditional on being alive and interviewed in the 2006 wave, provided sufficiently revealing qualitative results.

The first row of Table 4 shows an Hispanic Health Paradox in mortality in this cross section of respondents, which appears here as a 4.7 percentage point reduction in the probability of dying within the 8 year followup period that is associated with being Hispanic. Consistent with the HHP, this is large enough to wipe out the effect of the roughly 4 year difference in education between Hispanics and non-Hispanics in this sample, which was shown in Table 1. The marginal effect of each year of education in the mortality regression shown in the top row of Table 4 is $-0.012$ (not shown).

Subsequent rows in Table 4 reveal that the Hispanic Health Paradox is present in some but not all measures of bad health. Consistent with the literature, Hispanics actually report poorer self-rated health, by 0.218 point on a five point Likert scale ranging from 1 for excellent to 5 for poor. This is striking given that self-reported health status is correlated with and predic-

[9] A more common form of the HHP especially in mortality studies is that when the model controls only for demographic differences and not for SES, it labels a zero or insignificant coefficient on the Hispanic indicator as evidence of the HHP. These two forms of the hypothesis are consistent with one another because the average Hispanic has less education than the average non-Hispanic.

tive of mortality in general for this age group, but earlier work suggests that linguistic and cultural factors are likely at work in the divergence.

Patterns in the commonly used CESD scale of mental health also mostly suggest an Hispanic disadvantage. Two exceptions out of the 8 measures that form the CESD scale were the lack of extra restless sleep and reduced likelihood of feeling unable to "get going." These findings are certainly reasonable in light of how we believe that self-reported health status is likely to reflect mental as well as physical health. If Hispanics were physically more healthy but mentally less healthy, that would be consistent with what we see. But cultural or linguistic differences might also be causing these patterns

Hispanics appear to suffer somewhat more physical disability than other respondents, all else equal. The index of IADL disabilities, usually considered less dire than ADL disabilities, does not appear to be significantly different for Hispanics. But the index of ADL disabilities appears to be 0.082 units higher, which is an addition of about 20 percent above the average level of the index in the sample. Higher rates of disability for Hispanics are consistent with the findings of Hayward et al. (2014).

Self-reports of doctors' diagnoses are generally lower for Hispanics, except in the case of diabetes. This is prima facie consistent with the Hispanic Health Paradox, but a challenge with interpreting these measures is that conditions might be present but not yet diagnosed. Hispanics report less coverage by health insurance and less utilization of health care in these data (not shown), for example. Patterns in the physical measures collected by HRS do not seem to reveal much evidence consistently supporting either the HHP or the reverse. Systolic blood pressure appears to be elevated by 1.595 mmHg for Hispanics, but that is not a large margin. For comparison, systolic BP among African Americans was 5.789 higher in this regression (not shown). Grip strength is worse by 2.335 kg, but the ability to stay balanced is better by 1.4 percentage points. Height and weight are both lower, leading to no significant difference in BMI.[10] And the probability of self-reported back problems or pains is lower

[10]In our preliminary analysis, we also modeled self-reported height, weight, and BMI. Previous research has revealed differences between subjective and objective measures of height

for Hispanics by 7.6 percentage points.

As previous literature has revealed, the Hispanic Health Paradox in mortality appears to be a robust phenomenon, while patterns in health status are mixed. Beyond the well-known pattern in self-reported health that are at odds with the mortality result, it also appears that mental health might be worse among Hispanics while disability might be elevated, and physical measures might effectively register no differences. Given the heterogeneity within the Hispanic subpopulation, however, it is worth asking whether the story might change once we are able to separate different types of Hispanics. We turn next to this task using our Hispanic Ethnic Name Index as well as the dichotomous measure of nativity that we have in the HRS.

# 4 The Hispanic ENI and Hispanic health

## 4.1 Narrowing the meaning of the ENI

The Hispanic ENI is defined for all respondents in the HRS, whether they are Hispanic or not, and we observe dynamics in the Hispanic ENI among non-Hispanic respondents. Such variation reflects how certain non-Hispanics have less distinctly non-Hispanic names than others, while some share names with Hispanics. These distinction between types of non-Hispanics are likely meaningful, but we argue it is best to set that variation aside if we are to focus on the ENI as a measure of Hispanicity, while still working in the full dataset with non-Hispanics present. Another option would be to limit our analysis to just Hispanics alone. But if we were to do so, we would lose the ability to discuss the Hispanic Health Paradox altogether, and we would also lose most of the sample.

Instead we elect to redefine the Hispanic ENI in the following way, zeroing

and weight and functions of them both (Weir, 2007; Edwards, 2018). But we discovered that the systematic bias in subjective measures appeared to be uncorrelated with Hispanic background, nativity, or the ENI. So we report results using objective measures only.

it out for non-Hispanics:

$$ENI_i^H = \begin{cases} 0 & \text{if } i \text{ is not Hispanic} \\ ENI_i & \text{if } i \text{ is Hispanic} \end{cases} \tag{4}$$

Recast in this way, the new $ENI_i^H$ is an index only of the "Hispanic content" or "sameness" in the name of an Hispanic respondent. While a higher value in $ENI_i$ could reflect a non-Hispanic whose name was shared by Hispanics, $ENI_i^H$ is zero for such respondents.

## 4.2 The ENI and the Hispanic Paradox in Health

In the first investigation we conducted, we simply inserted $ENI_i^H$ as an additional regressor into equation (3):

$$H_i = \alpha + \beta_E \cdot ENI_i^H + \beta_H \cdot Hispanic_i + \sum_j \beta_j x_{ij} + \epsilon_i, \tag{5}$$

If health status does not vary appreciably with the Hispanicity of the first name, we would expect to find $\hat{\beta}_E = 0$ and the same $\hat{\beta}_H$ as before. If instead the Hispanicity of the name provides additional explanatory power, we would expect to find that the slope term $\hat{\beta}_E$ has the same sign that $\beta_H$ had originally, meaning that having a more Hispanic name is associated with more of the health outcome associated with being Hispanic; and that the new intercept $\hat{\beta}_H$ might even switch sign.

Table 5 shows an interesting mix of these two results. The top row shows that the Hispanic Health Paradox in mortality appears to be better described as a slope effect in the Hispanic ENI than a level effect, at least in these data. We find $\hat{\beta}_E = -0.058$, which is lightly larger in magnitude than $\hat{\beta}_H$ was in Table 4. This is consistent with an average protective effect associated with being Hispanic around 5 percentage points, with a larger effect for those with more distinctively Hispanic first names. Results for self-reported health and indexes of mental health within the CESD score also generally follow this pattern, although patterns in the overall CESD score are better described as

level differences between Hispanics and non-Hispanics.

Doctors' diagnoses appear to follow the latter pattern, by and large, with elevated levels of diabetes among all Hispanics regardless of the ENI and reduced levels of lung and heart problems. Results for arthritis are the exception, with a slope effect in the ENI and no sign of a level effect. By contrast, physical measures of health, shown in the bottom half of Table 5, seem generally not to react to the ENI, except for peak expiratory flow. Self-reported back problems or pain, shown in the bottom row, appear to fall with the ENI while the level effect associated with being Hispanic is insignificant.

## 4.3 Nativity, the ENI, and health

As our preliminary analysis revealed, there are interesting differences between foreign and native born Hispanics, especially as concerns the ENI, and our ultimate goal is to examine how the ENI might mean something different for health depending on nativity. In our next set of models, we first examined how natives and immigrants differed in terms of a level effect, by inserting an indicator variable for being foreign born, $FB_i$, into our regression equation:

$$H_i = \alpha + \beta_E \cdot ENI_i^H + \beta_H \cdot Hispanic_i + \beta_{FB} \cdot FB_i + \sum_j \beta_j x_{ij} + \epsilon_i. \quad (6)$$

Given how some researchers appear to view the HHP as primarily driven by an immigrant health advantage (Markides and Eschbach, 2011), we anticipate that the inclusion of a level effect for the foreign born might change the story considerably.

Table 6 shows this is largely true, but it also shows that controlling for nativity does not nullify all the associations between the ENI and health. One effect that is zeroed out is for mortality, shown in the first row. Controlling for nativity results in its absorbing the entire magnitude and statistical significance of the marginal effects previously ascribed to being Hispanic and then the ENI in Tables 4 and 5. Given the focus on mortality in the literature on the HHP, this result is consistent with the perspective that the HHP reflects

an immigrant health advantage.

A striking result is how in the self-reported health regression in the second row, the size and significance of the coefficient on the ENI remains virtually unchanged. The estimate of the effect of foreign born in this model is zero, and the Hispanic indicator remains effectively zero and insignificant. Some of the mental health metrics also follow this pattern, but most of them appear to respond more strongly to the foreign born indicator.

That also appears to be the case with the doctors' diagnoses in the middle of Table 6; being foreign born is what appears most tightly linked with lower levels of these diagnosed diseases. Diabetes is elevated for Hispanics, which is consistent with earlier findings, and Hispanics are also significantly less likely to have a diagnosis of lung disease like chronic bronchitis or emphysema; or of heart problems like heart attack, coronary heart disease, angina, or congestive heart failure.

In the physical measures, we also see significance of the foreign-born indicator in many cases, while we find no evidence that the ENI is associated with increased or decreased measures. It is striking that blood pressure and pulse are not associated with any of the covariates of interest.

## 4.4 Interacting nativity and the ENI

Native-born and foreign-born Hispanics are roughly equal in number within this sample, and a salient question is whether and how the Hispanic ENI may mean different things in terms of health for these two groups. Our initial explorations of the ENI suggest this might be the case. If the coefficient on the ENI had the same sign within each subgroup, we should have picked up the average effect across them in the regressions in Table 6. But in an extreme case where the marginal effect of the ENI took on opposite signs across the two subgroups, we might have seen a zero average effect for the ENI in Table 6 even though the true effects for these groups were nonzero. To test this, we

include the interaction between the ENI and foreign born:

$$\begin{aligned} H_i &= \alpha + \beta_E \cdot ENI_i^H + \beta_{EF} \cdot ENI_i^H \cdot FB_i \\ &\quad + \beta_H \cdot Hispanic_i + \beta_{FB} \cdot FB_i + \textstyle\sum_j \beta_j x_{ij} + \epsilon_i. \end{aligned} \tag{7}$$

If the ENI means the same thing for foreign-born Hispanics that it does for native Hispanics, we expect to find that we cannot reject $\hat{\beta}_{EF} = 0$.

Table 7 shows that roughly half of the interactions terms are significant at the 10 percent level, and a third are significant at the 5 percent level. But some results are not much changed from Table 6, including the top two rows that show models of mortality and self-reported health. We find again that mortality appears to be an immigrant health advantage in these data. By contrast, self-reported health appears to worsen only with the Hispanic ENI, and equally so for both native and foreign-born Hispanics.

For the CESD score and its components, all the interaction coefficients ($\beta_{EF}$) are negative, while the coefficients on the ENI ($\beta_E$) are either positive or insignificant. Here and elsewhere in the table, we see a bifurcation across nativity in the association between health and the Hispanic ENI that we were unable to measure before running the interaction. Although the effects on the Hispanic and foreign born indicators are sometimes enough to outweigh the total effect of the ENI, we still find a very remarkable result here: a more Hispanic first name is generally associated with better mental health for the foreign born. For the native born, we see no such association. To be sure, the interaction coefficients are also negative for the two elements of the CESD that appear at the bottom, both of which indicate good mental health: reporting being happy or reporting enjoying life much of the time over the past week.

As was the case in Table 7, a clear story about disability is rather elusive, unless it is that practically none of these variables matters. The one significant coefficient here is on the interaction term, revealing that more Hispanic names are associated with less IADL disability.

Patterns in doctors' diagnoses remain broadly similar as before, with continued evidence of an immigrant health advantage and reduced levels among Hispanics. What patterns we see here on the ENI coefficients are generally

not significant, but they are often of opposite signs. This suggests some net disadvantage for native Hispanics with more ethnic names that vanishes for foreign-born Hispanics.

We also see those patterns in the physical measures, where the coefficients on the ENI and the interaction term are more statistically significant. Peak flow and grip strength are both increasing in the Hispanic ENI among foreign-born Hispanics, while they are decreasing with the ENI among native-born Hispanics. Patterns in height and weight mirror this story, with a higher ENI predictive of greater height among the foreign born but shorter stature among the native born.

To be sure, the level effects here, by which we mean $\beta_H$ and $\beta_{FB}$, are still important for understanding absolute differences between groups in these left-hand side variables. A foreign-born Hispanic with an ENI at the subsample average of 0.92, for example, is estimated to be 0.050 meter shorter than a non-Hispanic native, while a native-born Hispanic at that level of ENI is estimated to be 0.047 m shorter, or in other words, 0.3 cm taller than the foreign-born counterpart. Once we account for how an average native-born Hispanic has an ENI of 0.69, the absolute difference widens to 0.6 cm in favor of the native. That is, the regression results are most interesting not for what they tell us about absolute inequalities, but for what they reveal about the implications of more Hispanic names, which tend to be opposite for native-born versus foreign-born Hispanics.

## 4.5 Behaviors, health care, and family background

In an observational study, we are naturally limited in drawing inferences about the causes of the interesting and variable associations between the Hispanic content of the first name and health outcomes. To shed some light on possible mechanisms, we next examine how the ENI is associated with healthy and unhealthy behaviors, with patterns of health insurance coverage and usage, and with family structure in the HRS. The top of Table 8 models self-reported smoking, drinking, and exercise in the HRS sample as a function of covariates

including the ENI, its interaction with the foreign born indicator, an Hispanic indicator, and the foreign born indicator. Averages of these left-hand side variables are shown at far right.

As was often the case before, we find that these models attach strong explanatory power to being foreign born, which is associated with reduced smoking, increased drinking, and mostly with increased exercise. We also find some interesting associations between these three behavioral variables and the ENI, but these are much less stark. A higher Hispanic ENI is associated with less smoking, and there is no evidence of an asymmetry by nativity. It is also associated with less drinking, with some evidence that the quantity of drinking might be especially lower among foreign-born Hispanics with high ENI. There is little to report here concerning patterns in exercise and the ENI. Overall, there is no evidence that patterns between these behaviors and Hispanic names match the patterns we see in health outcomes.

The story with preventive health checkups, shown in the middle of Table 8, is more promising. Foreign-born Hispanics with higher ENI appear to report more frequent screens, focused among screens specific to females but also including unisex cholesterol screens. Those are practically the only significant findings in this part of the table.

Patterns in health insurance coverage and health care usage in the next set of rows appear to reveal universal disadvantage here among Hispanics and the foreign born that rises with the ENI. Three of the four interaction terms are signed to indicate offsetting advantage, but size and significance is not enough to neutralize the disadvantage for foreign-born Hispanics with high ENI. Here too there is not much evidence that appears to be consistent with improved health outcomes among foreign-born Hispanics with higher ENI.

The bottom rows in Table 8 explore patterns in family and kinship. They reveal the well-known pattern that Hispanics have larger families, with more children and more siblings, and the foreign-born have more siblings as well. These rows also reveal that the ENI is associated with more children, but that the effect is attenuated for the foreign born. And for the latter group, the ENI is associated with fewer living siblings. Finally, there are no significant

patterns in marriage rates.

In summary, while patterns in preventive checkups are interesting and fit the earlier results qualitatively, there is a distinct lack of a smoking gun here. Models of healthy and unhealthy behaviors, health care, and family structure reveal very little that would appear to explain why foreign-born Hispanics with higher ENI appear to be better off, while native-born Hispanics with a higher ENI are worse off. Although the HRS does not measure everything that is important for health, with diet being a notable omission, it has become increasingly difficult to reject the alternative hypothesis that inherently unmeasurable characteristics like health endowments may be driving earlier results.

# 5 Discussion

First names that are distinctively Hispanic are a new measure that conveys useful and interesting information about Hispanic health at older ages. After constructing an Hispanic ethnic name index (ENI) using restricted information on first names and Hispanic ethnicity in the U.S. Health and Retirement Study (HRS), we find that the ENI is strongly correlated with important characteristics including own and parental levels of education, in addition to language. Further, we find that the ENI appears to be more strongly correlated with own and parental education, and thus with a broad measure of socioeconomic status (SES), for native-born Hispanics as opposed to foreign-born Hispanics.

Given these connections between how distinctively Hispanic the first name is and SES, it should come as no surprise that the Hispanic ENI is also correlated with health outcomes at older ages. We find that the ENI can fully explain the Hispanic Health Paradox in mortality in HRS data, meaning that a dichotomous variable indicating Hispanic is strongly negative (protective) in a mortality regression where we control for education, but then it becomes a precise zero when we also control for the Hispanic ENI. The variable Hispanic content of the name is a better fit of the changing mortality risk than a level shift for all Hispanics. But a dichotomous indicator of nativity, if included, will

still win out in a horse race of these variables in the HRS dataset, tempering the salience of this result. Thus we find that the Hispanic Health Paradox in mortality appears to be an immigrant health advantage in these data.

For other dimensions of health, the ENI is often a more robust covariate, retaining significance in some form even when the covariates include foreign born. This is true most notably for self-reported health, which we find to be inversely associated with the ENI for all Hispanics. We also find that some components of mental health move with the ENI for all Hispanics even when nativity is controlled.

Patterns connecting the ENI to these other health outcomes were less clear until we allowed the marginal effect of the ENI to vary by nativity. We found that in many instances, a rising Hispanic ENI meant opposite things for the health of native-born versus foreign-born Hispanics, meaning that in a regression where we did not distinguish between them, the average marginal effect netted out to zero, obscuring interesting patterns beneath.

When we allowed the ENI to matter differently for foreign-born Hispanics, we found that in most cases, having a more distinctly Hispanic name was a good thing for health outcomes among the foreign born, while it was a bad thing for native-born Hispanics. One of the more noteworthy examples of this was height. We found that a higher Hispanic ENI was predictive of taller height among foreign-born Hispanics, while it was correlated with shorter height among native-born Hispanics. On net, these two effect canceled out, leaving only the level effects associated with being Hispanic and foreign born.

The most consistent of such findings were the generally protective associations of the Hispanic ENI for the foreign born among the indexes of mental health. We also found that IADL limitations rose with the ENI for the native born but fell for the foreign born, and several of the physical measures like peak flow and grip strength also followed this pattern.

These patterns were striking and did not appear to have an obvious explanation other than the alternative hypothesis of an inherent and otherwise unmeasurable healthiness associated with a more Hispanic name among the foreign born. In other words, our findings were consistent with an augmented

version of the immigrant health advantage, in which "more Hispanic" immigrants were healthier still for some unknown reason. We did not find any obvious signs of a smoking gun among our measures of healthy and unhealthy behaviors, among health insurance coverage and usage of health care, nor among indexes of family structure. These indicators revealed reduced current and lifetime smoking and a general disadvantage in terms of insurance coverage and utilization of care among Hispanics and also among the foreign born. But the only measures that appeared to rise with the Hispanic ENI for the foreign born were a few indexes of preventive care. Although it is hard to rule out the importance of these, we are suspicious they matter very much for explaining the dynamics that we see in health outcomes. Preventive care is believed to be worthwhile, but empirical studies of the benefits often encounter difficulty revealing such an advantage with much precision.

In addition to the possibility that the Hispanic content of the name reflects inherently better immigrant health capital, we are cognizant of at least two other possibilities. One is that although we are examining individuals within a restricted age range, namely 50 and over, it is likely still the case that birth cohort and immigrant generation are correlated to some extent, given the developments in U.S. immigrant law over the past 50 years. This means that controlling for age or birth cohort might not be sufficient to compare apples with apples, and that part of what we see might be Hispanic names that mean different things for different immigrant cohorts. But in our HRS sample, the foreign-born share actually does not fluctuate mightily by year of birth, instead fluctuating randomly around about 50 percent for cohorts born between 1920 and 1960. Still, we admit this question remains somewhat open for the interpretation of our results, although we do not believe it to be demonstrably important.

Another potential channel here, and another story of an inherently unmeasurable property of an individual that is relevant for status in general and health in particular, has to do with the meaning of the name itself. We are skeptical that any other variable in the dataset adequately captures these dimensions. An Hispanic name for a native tells us either that parents chose a

name that was linked to the lineage and the individual kept it, or the individual switched to a name that was linked to the lineage. A less Hispanic name for a native means either that the parents wanted a degree of assimilation for their child, or the individual wanted it himself or herself. By contrast, an Hispanic name for an Hispanic immigrant could mean virtually nothing; he or she was born abroad and named according to the local customs in addition to lineage. But a less Hispanic name for an Hispanic immigrant probably means that assimilation was deemed to be valuable or vital for productivity or survival. In other words, an immigrant who kept his or her Hispanic name did so because he or she could do so, implying some kind of status or potency that may not be indexed well by education or other traditional SES metrics. For native Hispanics, something akin to the reverse story seems reasonable; adopting or keeping an Hispanic name might be a rejection of assimilation because there is less to lose. Ultimately this is what the data appear to support, but a more complete understanding why this story may be right awaits further study.

# References


Antecol, Heather and Kelly Bedard. 2006. "Unhealthy Assimilation: Why Do Immigrants Converge to American Health Status Levels?" *Demography* 43(2):337–360.

Arias, Elizabeth. 2010. "United States life tables by Hispanic origin." Vital and Health Statistics Reports, Series 2, No. 152. Washington, DC: National Center for Health Statistics.

Arias, Elizabeth. 2014. "United States life tables, 2010." National Vital Statistics Reports, Vol. 63, No. 7. Washington, DC: National Center for Health Statistics.

Arias, Elizabeth, William S. Schauman, Karl Eschbach, Paul D. Sorlie and Eric Backlund. 2008. "The Validity of Race and Hispanic Origin Reporting on Death Certificates in the United States." Vital and Health Statistics Reports, Series 2, No. 148. Washington, DC: National Center for Health Statistics.

Beltrán-Sánchez, Hiram, Alberto Palloni, Fernando Riosmena and Rebeca Wong. 2016. "SES Gradients Among Mexicans in the United States and in Mexico: A New Twist to the Hispanic Paradox?" *Demography* 53(5):1555–1581.

Crimmins, Eileen M., Jung Ki Kim, Dawn E. Alley, Arun Karlamangla and Teresa Seeman. 2007. "Hispanic Paradox in Biological Risk Profiles." *American Journal of Public Health* 97(7):1305–1310.

Edwards, Ryan D. 2018. "If My Blood Pressure Is High, Do I Take It to Heart? Behavioral Implications of Biomarker Collection in the Health and Retirement Study." *Demography,* forthcoming.

Elo, Irma T., Cassio M. Turra, Bert Kestenbaum and B. Reneé Ferguson. 2004. "Mortality among Elderly Hispanics in the United States: Past Evidence and New Results." *Demography* 41(1):109–128.

Fenelon, Andrew. 2013. "Revisiting the Hispanic mortality advantage in the United States: The role of smoking." *Social Science & Medicine* 82:1–9.

Fryer, Roland G. and Steven D. Levitt. 2004. "The Causes and Consequences of Distinctively Black Names." *Quarterly Journal of Economics* 119(3):767–805.

Goldman, Noreen, Rachel T. Kimbro, Cassio M. Turra and Anne R. Pebley. 2006. "Socioeconomic Gradients in Health for White and Mexican-Origin Populations." *American Journal of Public Health* 96(12):2186–2193.

Goldstein, Joshua R. and Guy Stecklov. 2016. "From Patrick to John F.: Ethnic Names and Occupational Success in the Last Era of Mass Migration." *American Sociological Review* 81(1):85–106.

Hayward, Mark D., Robert A. Hummer, Chi-Tsun Chiu, César González-González and Rebeca Wong. 2014. "Does the Hispanic Paradox in U.S. Adult Mortality Extend to Disability?" *Population Research and Policy Review* 33(1):81–96.

Hummer, Robert A., Daniel A. Powers, Starling G. Pullum, Ginger L. Gossman and W. Parker Frisbie. 2007. "Paradox found (again): Infant mortality among the Mexican-origin population in the United States." *Demography* 44(3):441–457.

Lariscy, Joseph T., Robert A. Hummer and Mark D. Hayward. 2015. "Hispanic Older Adult Mortality in the United States: New Estimates and an Assessment of Factors Shaping the Hispanic Paradox." *Demography* 52(1):1–14.

Lee, Sunghee and Norbert Schwartz. 2014. "Question Context and Priming Meaning of Health: Effect on Differences in Self-Rated Health Between Hispanics and Non-Hispanic Whites." *American Journal of Public Health* 104(1):179–185.

Markides, Kyriakos S. and Jeannine Coreil. 1986. "The Health of Hispanics in

the Southwestern United States: an Epidemiologic Paradox." *Public Health Reports* 101(3):253–265.

Markides, Kyriakos S. and Karl Eschbach. 2005. "Aging, migration, and mortality: Current status of research on the Hispanic paradox." *Journals of Gerontology: Social Sciences* 60B(Special Issue II):68–75.

Markides, Kyriakos S. and Karl Eschbach. 2011. Hispanic paradox in adult mortality in the United States. In *International handbook of adult mortality*, ed. Richard G. Rogers and Eileen M. Crimmins. New York: Springer pp. 227–240.

Palloni, Alberto and Elizabeth Arias. 2004. "Paradox Lost: Explaining the Hispanic Adult Mortality Advantage." *Demography* 41(3):385–415.

Riosmena, Fernando, Bethany G. Everett, Richard G. Rogers and Jeff A. Dennis. 2015. "Negative Acculturation and Nothing More? Cumulative Disadvantage and Mortality during the Immigrant Adaptation Process among Latinos in the United States." *International Migration Review* 49(2):443–478.

Riosmena, Fernando, Rebeca Wong and Alberto Palloni. 2013. "Migration Selection, Protection, and Acculturation in Health: A Binational Perspective on Older Adults." *Demography* 50(3):1039–1064.

Rosero-Bixby, Luis and William H. Dow. 2016. "Exploring why Costa Rica outperform the United States in life expectancy: A tale of two inequality gradients." *Proceedings of the National Academy of Sciences USA* 113(5):1130–1137.

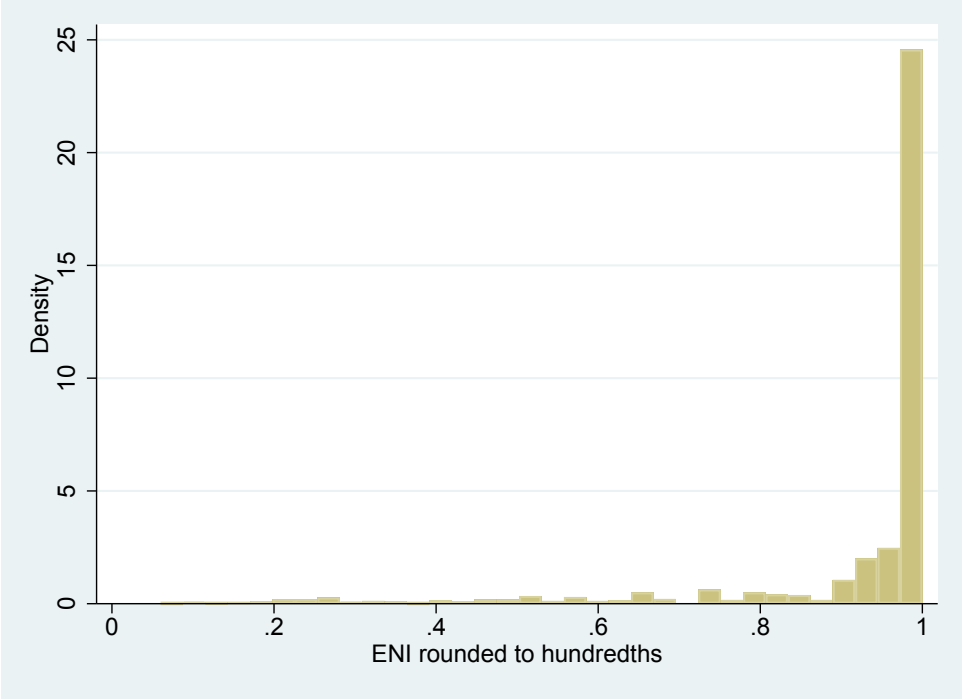
Sue, Christina A. and Edward E. Telles. 2007. "Assimilation and Gender in Naming." *American Journal of Sociology* 112(5):1383–1415.

Turra, Cassio M. and Irma T. Elo. 2008. "The Impact of Salmon Bias on the Hispanic Mortality Advantage: New Evidence from Social Security Data." *Population Research and Policy Review* 27:515–530.

Turra, Cassio M. and Noreen Goldman. 2007. "Socioeconomic Differences in Mortality Among U.S. Adults: Insights Into the Hispanic Paradox." *Journals of Gerontology: Series B* 62(3):S184–S192.

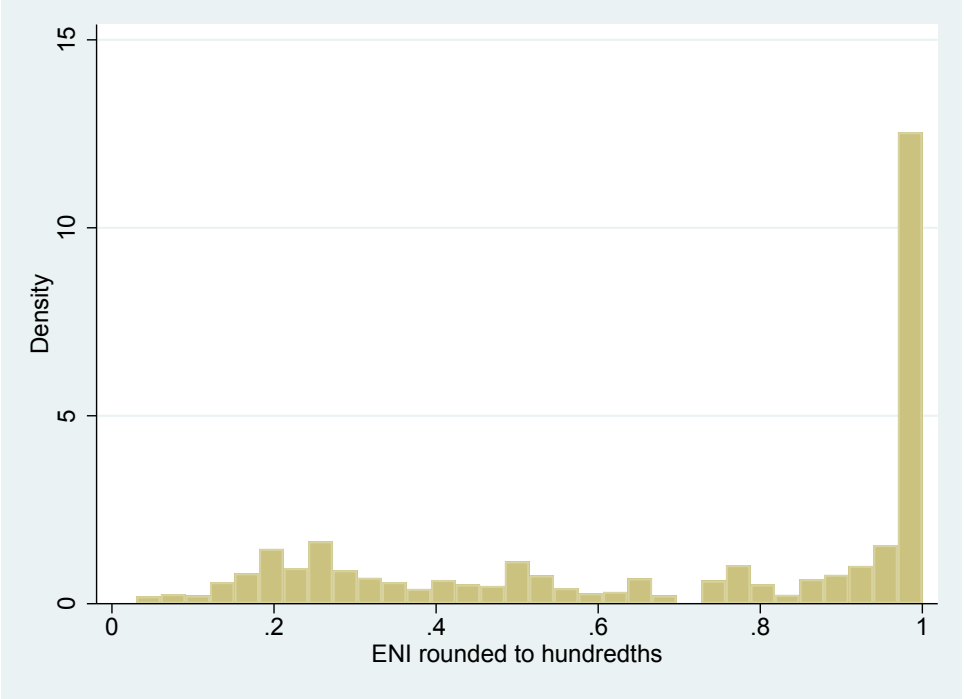
Weir, David. 2007. Elastic Powers: The Integration of Biomarkers into the Health and Retirement Study. In *Biosocial Surveys*, ed. Maxine Weinstein, James W. Vaupel and Kenneth W. Wachter. Washington: National Academies Press chapter 4, pp. 78–95.

Figure 1: The Hispanic Ethnic Name Index among foreign-born Hispanics in the HRS



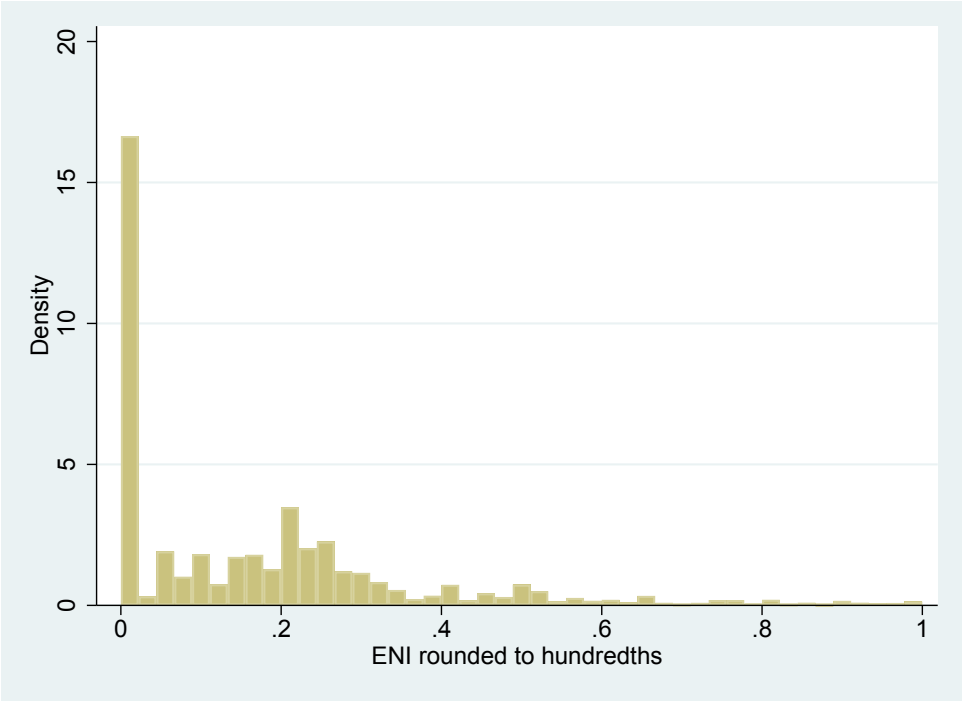

**Notes:** The average ENI among these 2,522 foreign-born Hispanics in the entire HRS dataset is 0.92 with a SD of 0.18.

Figure 2: The Hispanic Ethnic Name Index among native-born Hispanics in the HRS




**Notes:** The average ENI among these 1,670 native-born Hispanics in the entire HRS dataset is 0.69 with a SD of 0.33.

Figure 3: The Hispanic Ethnic Name Index among non-Hispanics in the HRS




**Notes:** The average ENI among these 33,228 non-Hispanics in the entire HRS dataset is 0.17 with a SD of 0.20.

Table 1: Summary statistics of Hispanics by nativity and non-Hispanics in HRS

| | Foreign-born Hispanic | Native-born Hispanic | Non-Hispanic |
|---|---|---|---|
| Hispanic ENI | 0.92 | 0.69 | 0.17 |
| | [0.17] | [0.32] | [0.20] |
| Share usually speaking English at home | 0.21 | 0.75 | 0.98 |
| | [0.41] | [0.43] | [0.14] |
| Share of interviews in Spanish | 0.78 | 0.15 | 0.00 |
| | [0.37] | [0.32] | [0.03] |
| Age in 2006 | 64.7 | 65.6 | 68.3 |
| | [11.5] | [10.6] | [11.1] |
| Share female | 0.61 | 0.59 | 0.59 |
| | [0.49] | [0.49] | [0.49] |
| Share black | 0.03 | 0.01 | 0.15 |
| | [0.16] | [0.11] | [0.36] |
| Years of education | 7.8 | 10.2 | 12.7 |
| | [4.8] | [3.9] | [2.9] |
| Maternal years of education | 4.9 | 6.0 | 9.9 |
| | [4.2] | [4.2] | [3.2] |
| Paternal years of education | 5.6 | 6.1 | 9.6 |
| | [4.6] | [4.2] | [3.6] |
| N | 952 | 755 | 16,758 |

**Notes:** Standard deviations are shown in brackets. The underlying data are drawn from the 8th wave (2006) of the U.S. Health and Retirement Study. The Hispanic ENI measures how uniquely Hispanic the respondent's first name is in the HRS dataset; an ENI of 1 means the name is uniquely Hispanic, while an ENI of 0 means the name is not found among any Hispanics. The share of interviews in Spanish is a cumulative proportion measured over all HRS interviews by that respondent.

Table 2: Correlation matrices within Hispanic subpopulations in the 2006 wave of the HRS

Panel A: Native-born Hispanics (N = 552)

| | Hispanic ENI | Usually speaks English at home | Share of interviews in Spanish | Years of education | Maternal years of education | Paternal years of education |
|---|---|---|---|---|---|---|
| Hispanic ENI | 1.00 | | | | | |
| Usually speaks English at home | -0.30 | 1.00 | | | | |
| Share of interviews in Spanish | 0.33 | -0.55 | 1.00 | | | |
| Years of education | -0.30 | 0.51 | -0.57 | 1.00 | | |
| Maternal years of education | -0.31 | 0.27 | -0.28 | 0.42 | 1.00 | |
| Paternal years of education | -0.22 | 0.22 | -0.25 | 0.36 | 0.71 | 1.00 |

Panel B: Foreign-born Hispanics (N = 664)

| | Hispanic ENI | Usually speaks English at home | Share of interviews in Spanish | Years of education | Maternal years of education | Paternal years of education |
|---|---|---|---|---|---|---|
| Hispanic ENI | 1.00 | | | | | |
| Usually speaks English at home | -0.13 | 1.00 | | | | |
| Share of interviews in Spanish | 0.22 | -0.47 | 1.00 | | | |
| Years of education | -0.21 | 0.20 | -0.43 | 1.00 | | |
| Maternal years of education | -0.16 | 0.13 | -0.26 | 0.50 | 1.00 | |
| Paternal years of education | -0.18 | 0.15 | -0.29 | 0.53 | 0.74 | 1.00 |

**Notes:** Statistics are Pearson correlations across the measures in a subsample with all measures present. The underlying data are drawn from the 8th wave (2006) of the U.S. Health and Retirement Study. The Hispanic ENI measures how uniquely Hispanic the respondent's first name is in the HRS dataset; an ENI of 1 means the name is uniquely Hispanic, while an ENI of 0 means the name is not found among any Hispanics. The share of interviews in Spanish is a cumulative proportion measured over all HRS interviews by that respondent.

Table 3: Regression models of the Hispanic Ethnic Name Index (ENI)

| Dependent variable: Hispanic ENI | Native-born Hispanics | Foreign-born Hispanics |
|---|---|---|
| Usually speaks English at home | -0.086 ** | -0.014 |
| | (0.037) | (0.017) |
| Share of interviews in Spanish | 0.191 *** | 0.059 *** |
| | (0.053) | (0.021) |
| Years of education | -0.004 | -0.004 ** |
| | (0.004) | (0.002) |
| Maternal years of education | -0.018 *** | -0.001 |
| | (0.004) | (0.002) |
| Paternal years of education | 0.003 | -0.002 |
| | (0.004) | (0.002) |
| Male | -0.002 | 0.038 *** |
| | (0.026) | (0.013) |
| Constant | 0.837 *** | 0.910 *** |
| | (0.051) | (0.026) |
| $R^2$ | 0.173 | 0.084 |
| N | 552 | 664 |

**Notes:** Each column shows OLS regression coefficients and their standard errors from a separate regression. Asterisks denote statistical significance at the 10% (*), 5% (**), and 1% (***) levels. The underlying data are drawn from the 8th wave (2006) of the U.S. Health and Retirement Study. The Hispanic ENI measures how uniquely Hispanic the respondent's first name is in the HRS dataset; an ENI of 1 means the name is uniquely Hispanic, while an ENI of 0 means the name is not found among any Hispanics. The share of interviews in Spanish is a cumulative proportion measured over all HRS interviews by that respondent.

Table 4: The Hispanic Health Paradox in the 2006 wave of the U.S. Health and Retirement Study

| Dependent variable | Coefficient on Hispanic | | | Average of independent variable | $R^2$ | N |
|---|---|---|---|---|---|---|
| Died by wave 12 in 2014 | -0.047 | *** | Advantage | 0.260 | 0.224 | 18,120 |
| Self-reported health | 0.218 | *** | *Disadvantage* | 2.884 | 0.125 | 18,415 |
| CESD Score | 0.308 | *** | *Disadvantage* | 1.537 | 0.066 | 17,170 |
| Felt depressed | 0.085 | *** | *Disadvantage* | 0.167 | 0.055 | 17,156 |
| Felt everything was an effort | 0.040 | *** | *Disadvantage* | 0.263 | 0.073 | 17,138 |
| Sleep was restless | 0.002 | | | 0.295 | 0.023 | 17,161 |
| Felt lonely | 0.073 | *** | *Disadvantage* | 0.177 | 0.042 | 17,155 |
| Felt sad | 0.075 | *** | *Disadvantage* | 0.201 | 0.039 | 17,149 |
| Could not get going | -0.059 | *** | Advantage | 0.216 | 0.029 | 17,139 |
| Was happy | -0.048 | *** | *Disadvantage* | 0.864 | 0.011 | 17,128 |
| Enjoyed life | -0.044 | *** | *Disadvantage* | 0.916 | 0.015 | 17,146 |
| Sum of 5 ADL's | 0.082 | *** | *Disadvantage* | 0.393 | 0.085 | 18,431 |
| Sum of 3 IADL's | 0.000 | | | 0.177 | 0.089 | 18,428 |
| Ever had doctor diagnosis of: | | | | | | |
| High blood pressure | 0.003 | | | 0.620 | 0.038 | 18,408 |
| Diabetes | 0.079 | *** | *Disadvantage* | 0.225 | 0.019 | 18,420 |
| Cancer | -0.048 | *** | Advantage | 0.155 | 0.020 | 18,424 |
| Lung problems | -0.090 | *** | Advantage | 0.128 | 0.007 | 18,419 |
| Heart problems | -0.111 | *** | Advantage | 0.293 | 0.043 | 18,420 |
| Stroke | -0.023 | ** | Advantage | 0.093 | 0.024 | 18,425 |
| Psychiatric problems | -0.026 | * | Advantage | 0.217 | 0.021 | 18,419 |
| Arthritis | -0.088 | *** | Advantage | 0.651 | 0.056 | 18,421 |
| Systolic blood pressure | 1.595 | ** | *Disadvantage* | 131.249 | 0.071 | 13,890 |
| Diastolic blood pressure | -0.168 | | | 79.116 | 0.023 | 13,890 |
| Pulse | 0.077 | | | 70.154 | 0.027 | 13,890 |
| Peak flow | -3.732 | | | 355.454 | 0.432 | 13,896 |
| Grip strength | -2.335 | *** | *Disadvantage* | 31.382 | 0.619 | 13,854 |
| Able to hold semi-tandem balance | 0.014 | ** | Advantage | 0.953 | 0.045 | 13,174 |
| Walking distance (m) per 10 seconds | -0.556 | | | 7.885 | 0.012 | 8,505 |
| Waist circumference | -0.147 | | | 39.681 | 0.076 | 13,758 |
| Objective height (m) | -0.046 | *** | *Disadvantage* | 1.655 | 0.541 | 13,849 |
| Objective weight (kg) | -4.126 | *** | Advantage | 80.003 | 0.198 | 13,450 |
| Objective BMI ($kg/m^2$) | 0.105 | | | 29.151 | 0.038 | 13,351 |
| Reports back problems | -0.076 | *** | Advantage | 0.364 | 0.0131 | 16,464 |

**Notes:** Each row shows an OLS regression coefficient and its standard error from a separate regression. Asterisks denote statistical significance at the 10% (*), 5% (**), and 1% (***) levels. The underlying data are drawn from the 8th wave (2006) of the U.S. Health and Retirement Study, and the universe is all respondents in the 2006 wave. Each regression includes controls for the following variables: black or African American, years of education, gender, and age in 2006. The Hispanic ENI measures how uniquely Hispanic the respondent's first name is in the HRS dataset; an ENI of 1 means the name is uniquely Hispanic, while an ENI of 0 means the name is not found among any Hispanics. Physical measures were collected of half the sample in 2006 and the other half in 2008; we combine physical measures from those two waves here.

Table 5: The Hispanic ENI and the Hispanic Health Paradox in the HRS

| Dependent variable | Coefficient on ENI | Coefficient on Hispanic |
|---|---|---|
| Died by wave 12 in 2014 | -0.058 * | -0.001 |
| Self-reported health | 0.268 *** | 0.004 |
| CESD Score | 0.019 | 0.293 ** |
| Felt depressed | 0.072 ** | 0.028 |
| Felt everything was an effort | -0.094 ** | 0.114 *** |
| Sleep was restless | -0.033 | 0.028 |
| Felt lonely | 0.069 ** | 0.018 |
| Felt sad | 0.010 | 0.067 ** |
| Could not get going | -0.111 *** | 0.029 |
| Was happy | -0.020 | -0.032 |
| Enjoyed life | -0.082 *** | 0.020 |
| Sum of 5 ADL's | 0.068 | 0.028 |
| Sum of 3 IADL's | 0.000 | 0.000 |
| Ever had doctor diagnosis of: | | |
| High blood pressure | 0.074 | -0.056 |
| Diabetes | -0.004 | 0.082 ** |
| Cancer | -0.002 | -0.046 |
| Lung problems | -0.010 | -0.082 ** |
| Heart problems | 0.017 | -0.125 *** |
| Stroke | -0.004 | -0.020 |
| Psychiatric problems | -0.009 | -0.019 |
| Arthritis | -0.143 *** | 0.026 |
| Systolic blood pressure | 0.672 | 1.066 |
| Diastolic blood pressure | -0.896 | 0.538 |
| Pulse | 0.336 | -0.188 |
| Peak flow | -24.169 ** | 15.229 * |
| Grip strength | -0.387 | -2.029 *** |
| Able to hold semi-tandem balance | -0.011 | 0.023 |
| Walking distance (m) per 10 seconds | -0.769 | 0.058 |
| Waist circumference | -0.583 | 0.312 |
| Objective height (m) | -0.011 | -0.037 *** |
| Objective weight (kg) | -2.022 | -2.531 * |
| Objective BMI (kg/$m^2$) | -0.497 | 0.497 |
| Reports back problems | -0.117 *** | 0.017 |

**Notes:** Each row shows two OLS regression coefficients and their standard errors from a separate regression. Asterisks denote statistical significance at the 10% (*), 5% (**), and 1% (***) levels. The underlying data are drawn from the 8th wave (2006) of the U.S. Health and Retirement Study, and the universe is all respondents in the 2006 wave. Each regression includes controls for the following variables: black or African American, years of education, gender, and age in 2006. The Hispanic ENI measures how uniquely Hispanic the respondent's first name is in the HRS dataset; an ENI of 1 means the name is uniquely Hispanic, while an ENI of 0 means the name is not found among any Hispanics. Physical measures were collected of half the sample in 2006 and the other half in 2008; we combine physical measures from those two waves here.

Table 6: The Hispanic ENI, Nativity, and the Hispanic Health Paradox in the HRS

| Dependent variable | Coefficient on ENI | Coefficient on Hispanic | Coefficient on Foreign Born |
|---|---|---|---|
| Died by wave 12 in 2014 | -0.016 | -0.006 | -0.059 *** |
| Self-reported health | 0.259 *** | 0.008 | 0.000 |
| CESD Score | -0.035 | 0.288 * | 0.084 |
| Felt depressed | 0.053 | 0.030 | 0.025 ** |
| Felt everything was an effort | -0.094 ** | 0.116 *** | -0.001 |
| Sleep was restless | -0.019 | 0.026 | -0.019 |
| Felt lonely | 0.055 | 0.015 | 0.024 ** |
| Felt sad | -0.013 | 0.070 ** | 0.028 ** |
| Could not get going | -0.076 * | 0.020 | -0.041 *** |
| Was happy | 0.007 | -0.034 | -0.038 *** |
| Enjoyed life | -0.059 ** | 0.019 | -0.034 *** |
| Sum of 5 ADL's | 0.092 | 0.025 | -0.037 |
| Sum of 3 IADL's | 0.005 | -0.001 | -0.006 |
| Ever had doctor diagnosis of: | | | |
| High blood pressure | 0.108 | -0.061 | -0.050 *** |
| Diabetes | 0.021 | 0.077 ** | -0.031 ** |
| Cancer | 0.009 | -0.047 | -0.017 |
| Lung problems | 0.015 | -0.086 ** | -0.036 *** |
| Heart problems | 0.058 | -0.133 *** | -0.053 *** |
| Stroke | 0.026 | -0.035 | -0.023 ** |
| Psychiatric problems | 0.018 | -0.023 | -0.038 ** |
| Arthritis | -0.066 | 0.011 | -0.101 *** |
| Systolic blood pressure | 1.247 | 0.879 | -0.717 |
| Diastolic blood pressure | -0.443 | 0.394 | -0.476 |
| Pulse | 0.465 | -0.178 | -0.234 |
| Peak flow | -10.197 | 12.804 | -16.903 *** |
| Grip strength | 0.278 | -2.115 *** | -0.919 *** |
| Able to hold semi-tandem balance | -0.015 | 0.023 | 0.006 |
| Walking distance (m) per 10 seconds | -2.135 | 0.298 | 1.853 *** |
| Waist circumference | 0.531 | 0.214 | -1.622 *** |
| Objective height (m) | 0.004 | -0.039 *** | -0.021 *** |
| Objective weight (kg) | 1.721 | -2.969 ** | -5.173 *** |
| Objective BMI ($kg/m^2$) | 0.413 | 0.392 | -1.276 *** |
| Reports back problems | -0.078 * | 0.012 | -0.054 *** |

**Notes:** Each row shows three OLS regression coefficients and their standard errors from a separate regression. Asterisks denote statistical significance at the 10% (*), 5% (**), and 1% (***) levels. The underlying data are drawn from the 8th wave (2006) of the U.S. Health and Retirement Study, and the universe is all respondents in the 2006 wave. Each regression includes controls for the following variables: black or African American, years of education, gender, and age in 2006. The Hispanic ENI measures how uniquely Hispanic the respondent's first name is in the HRS dataset; an ENI of 1 means the name is uniquely Hispanic, while an ENI of 0 means the name is not found among any Hispanics. Physical measures were collected of half the sample in 2006 and the other half in 2008; we combine physical measures from those two waves here.

Table 7: Separate effects of the Hispanic ENI by nativity and the Hispanic Health Paradox in the HRS

| Dependent variable | Coefficient on ENI | Coefficient on ENI x Foreign Born | Coefficient on Hispanic | Coefficient on Foreign Born |
|---|---|---|---|---|
| Died by wave 12 in 2014 | -0.007 | -0.013 | -0.008 | -0.056 *** |
| Self-reported health | 0.269 ** | -0.014 | 0.005 | 0.004 |
| CESD Score | 0.107 | -0.197 | 0.247 | 0.133 * |
| Felt depressed | 0.059 | -0.009 | 0.028 | 0.027 ** |
| Felt everything was an effort | -0.009 | -0.119 *** | 0.090 *** | 0.029 * |
| Sleep was restless | 0.040 | -0.082 ** | 0.009 | 0.001 |
| Felt lonely | 0.092 ** | -0.052 * | 0.004 | 0.037 *** |
| Felt sad | 0.001 | -0.020 | 0.066 ** | 0.033 ** |
| Could not get going | -0.056 | -0.028 | 0.014 | -0.034 ** |
| Was happy | 0.047 | -0.056 ** | -0.046 * | -0.024 ** |
| Enjoyed life | -0.023 | -0.050 ** | 0.009 | -0.021 ** |
| Sum of 5 ADL's | 0.113 | -0.030 | 0.019 | -0.030 |
| Sum of 3 IADL's | 0.060 | -0.076 ** | -0.017 | 0.013 |
| Ever had doctor diagnosis of: | | | | |
| High blood pressure | 0.118 * | -0.015 | -0.064 | -0.047 ** |
| Diabetes | 0.067 | -0.065 * | 0.064 | -0.015 |
| Cancer | 0.005 | 0.005 | -0.046 | -0.019 |
| Lung problems | -0.025 | 0.055 * | -0.074 ** | -0.050 *** |
| Heart problems | 0.046 | 0.016 | -0.130 *** | -0.057 *** |
| Stroke | 0.094 *** | -0.095 *** | -0.055 ** | 0.001 |
| Psychiatric problems | 0.021 | -0.004 | -0.024 | -0.037 ** |
| Arthritis | -0.106 * | 0.056 | 0.023 | -0.114 *** |
| Systolic blood pressure | 3.359 | -2.934 * | 0.273 | -0.009 |
| Diastolic blood pressure | 0.257 | -0.972 | 0.194 | -0.241 |
| Pulse | -0.162 | 0.872 | 0.002 | -0.445 |
| Peak flow | -25.125 ** | 20.789 ** | 17.097 * | -21.939 *** |
| Grip strength | -0.746 | 1.433 ** | -1.819 *** | -1.268 *** |
| Able to hold semi-tandem balance | -0.040 | 0.034 * | 0.030 | -0.002 |
| Walking distance (m) per 10 seconds | -0.329 | -2.440 | -0.221 | 2.371 *** |
| Waist circumference | -0.131 | 0.927 * | 0.402 | -1.847 *** |
| Objective height (m) | -0.014 * | 0.026 *** | -0.034 *** | -0.027 *** |
| Objective weight (kg) | -0.896 | 3.638 *** | -2.219 | -6.063 *** |
| Objective BMI ($kg/m^2$) | 0.192 | 0.308 | 0.455 | -1.351 *** |
| Reports back problems | -0.066 | -0.017 | 0.008 | -0.049 *** |

**Notes:** Each row shows four OLS regression coefficients and their standard errors from a separate regression. Asterisks denote statistical significance at the 10% (*), 5% (**), and 1% (***) levels. The underlying data are drawn from the 8th wave (2006) of the U.S. Health and Retirement Study, and the universe is all respondents in the 2006 wave. Each regression includes controls for the following variables: black or African American, years of education, gender, and age in 2006. The Hispanic ENI measures how uniquely Hispanic the respondent's first name is in the HRS dataset; an ENI of 1 means the name is uniquely Hispanic, while an ENI of 0 means the name is not found among any Hispanics. Physical measures were collected of half the sample in 2006 and the other half in 2008; we combine physical measures from those two waves here.

Table 8: Models of inputs to health and the Hispanic ENI by nativity in the HRS

| Dependent variable | Coefficient on ENI | Coefficient on ENI x Foreign Born | Coefficient on Hispanic | Coefficient on Foreign Born | Average of independent variable |
|---|---|---|---|---|---|
| Smokes now | -0.071 ** | -0.024 | 0.006 | -0.049 *** | 0.138 |
| Smoked ever | -0.075 | -0.037 | 0.005 | -0.085 *** | 0.571 |
| Drinks now | -0.113 ** | 0.036 | 0.023 | 0.031 ** | 0.496 |
| Drinking days | -0.038 | -0.134 | -0.334 ** | 0.289 *** | 1.088 |
| Drinks when drinking | 0.208 | -0.218 ** | -0.137 | 0.008 | 0.648 |
| Frequency of activity (1 = every day, 5 = never) | | | | | |
| Light exercise | 0.061 | -0.088 | 0.062 | 0.086 ** | 2.616 |
| Moderate exercise | 0.070 | -0.056 | 0.042 | -0.139 *** | 2.925 |
| Vigorous exercise | 0.222 * | 0.055 | -0.154 | -0.126 *** | 4.084 |
| Has had preventive checkup since last interview | | | | | |
| Cholesterol screen | 0.014 | 0.043 ** | -0.034 | -0.002 | 0.908 |
| Flu shot | -0.050 | -0.022 | 0.021 | -0.034 ** | 0.710 |
| Breast exam | 0.031 | -0.022 | 0.004 | -0.012 | 0.668 |
| Mammogram | -0.052 | 0.104 *** | 0.016 | -0.006 | 0.808 |
| Pap smear | -0.059 | 0.081 ** | 0.102 ** | 0.014 | 0.673 |
| Prostate exam | 0.037 | 0.031 | -0.067 | -0.004 | 0.836 |
| Number of health insurance plans | -0.120 ** | 0.056 | -0.141 *** | -0.074 *** | 0.668 |
| Has no health insurance | 0.093 ** | -0.037 | 0.143 *** | 0.059 *** | 0.373 |
| Visited a doctor in past 2 years | -0.009 | 0.027 * | -0.015 | 0.011 | 0.948 |
| Number of doctor visits in past 2 years | -4.382 ** | -0.059 | 4.619 *** | -0.367 | 10.617 |
| Children ever born | 0.744 *** | -0.301 ** | 0.288 ** | -0.038 | 2.785 |
| Living children, R+S | 0.732 *** | -0.250 * | -0.037 | -0.130 * | 3.210 |
| Living siblings | 0.333 | -0.733 *** | 1.179 *** | 0.282 *** | 2.619 |
| Married | -0.028 | 0.017 | -0.016 | 0.021 | 0.652 |

**Notes:** Each row shows four OLS regression coefficients and their standard errors from a separate regression. Asterisks denote statistical significance at the 10% (*), 5% (**), and 1% (***) levels. The underlying data are drawn from the 8th wave (2006) of the U.S. Health and Retirement Study, and the universe is all respondents in the 2006 wave. Each regression includes controls for the following variables: black or African American, years of education, gender, and age in 2006. The Hispanic ENI measures how uniquely Hispanic the respondent's first name is in the HRS dataset; an ENI of 1 means the name is uniquely Hispanic, while an ENI of 0 means the name is not found among any Hispanics. Physical measures were collected of half the sample in 2006 and the other half in 2008; we combine physical measures from those two waves here. Preventive checkups were asked every other wave; here, we combine measures in waves 8 and 9 like for physical measures. Gender-specific prevention was asked only of that gender.