Does Health of Hispanic Immigrants Follow the Segmented Assimilation Process in the United States?

Daesung Choi[a*], Gabriela Sanchez-Soto[a]
[a]Department of Demography, University of Texas at San Antonio

Introduction

To date, the assimilation theory provides theoretical and empirical frameworks for understanding the process of incorporation of new immigrants in the U.S. The classic assimilation theory argues that diverse ethnic groups gradually accept the new values and behaviors of mainstream society in the host country over time (Zhou 1997). Assimilation is one of four acculturation strategies which take place when individuals abandon their cultural identity and have a positive attitude toward mainstream culture (Dona and Bery 1994). In general, however, empirical studies usually use assimilation and acculturation interchangeably to explain how immigrants in the United States adapt American values and customs.

As the Hispanic population increases rapidly in the United States, the growing literature on immigrant integration applies the assimilation perspective to understand the life experiences and health status of Latinos (Landale 1999). Although the explanation of classical assimilation claims that immigrants and their offspring improve their lives over time as their living conditions get better (Rumbaut 1997), after the 1900s some immigrant groups experienced worse health outcomes as they assimilated (Zhou 1997) which is referred to as "negative assimilation effect." That is, Hispanic immigrants show favorable health outcomes compared to native-born Americans at the initial stage of migration, however, these health advantages deteriorate as immigrants spend time in the U.S (Cho and Hummer 2001; Frisbie et al. 2001). A general explanation for this is that Latino immigrants have strong cultural ties and support from the country of origin led them to have abnormally healthier outcomes, yet they lose support that provides protective health behaviors as they spend time in the host country. This pattern has been observed with various health indicators. For instance, previous studies on outcomes like health behaviors (i.e., smoking and drinking) (Johnson et al. 2002), mortality (Singh and Siahpush 2002), morbidity (Grant et al., 2004) and birth outcomes (i.e. infant mortality and low birth weight) (Landale et al. 1999), support the idea that the process of assimilation itself has a negative effect on the health of immigrants (Finch et al. 2007).

Although these studies suggest there is evidence of the adverse effect of assimilation, studies usually reached this conclusion by examining Hispanic immigrants as a single group, regarding them as an undifferentiated population. This perception may derive from the fact a majority of Hispanic immigrants incorporate into the under-class and are more likely to live in areas where poverty is concentrated, which should decrease their opportunities to achieve a more "positive" assimilation experience. This perspective ignores the experiences of Hispanics who incorporate to higher SES groups. Socioeconomic homogeneity is not only assumed of Hispanics, in comparisons with other racial groups, non-Hispanic Whites and Blacks are also considered as monolithic groups, with little recognition of their inherent within-group SES heterogeneity.

Unlike classic assimilation theory, segmented assimilation theory suggests the possibility of diverse health destinies of Hispanic immigrants, and acknowledges the possibility of differentiated destinies for immigrants of different socioeconomic characteristics. Portes and Zhou (1993) describe three possible assimilation pathways for new immigrants and their offspring, 1) immigrants integrate into white middle-class, 2) immigrants integrate downwardly into the American underclass, and 3) immigrants do not integrate and stay within their ethnic community. In addition, they point out that poverty levels play a central role in determining the variant of assimilation among contemporary immigrants (Portes and Zhou

1993). Given that one's health and health behaviors are strongly related to social class, the diversity in adaptation outcomes defined by the segmented assimilation theory offers the possibility of different health trajectories for Hispanic immigrants. That is, although the Hispanic immigrants who assimilate into the under-class may have deteriorating health due to low educational attainment and limited socioeconomic resources, we may expect that Hispanic immigrants with higher SES do not integrate into the under-class and thus may have more favorable health status than immigrants and natives with lower SES. Furthermore, given the fact that assimilation itself has a negative impact on immigrant health (Finch et al. 2007), the association between immigrant's health and assimilation would be even more dynamic since the rate of acceptance of mainstream values varies across individuals.

Regarding this, although existing studies have raised questions about differences in health outcomes among Hispanic immigrants depending on their various assimilation paths (Landale and Oropesa 1995; Finch et al. 2007), little information is available about sources of this variation, as well as the mechanisms behind it. As noted above, most explanations have defined Hispanic immigrants and other races as one single group in terms of SES, and focus exclusively on the difference of the magnitude of effect of assimilation on health, failing to suggest the extent to which assimilation operates differently by divergent assimilation pathways. Furthermore, studies mostly focus on individual level SES and pay little attention to the neighborhood characteristics. When Hispanic immigrants settle into neighborhoods with high poverty and less social support, their downward mobility to underclass would be accelerated (Portes and Rumbaut 2001). Thus, considering contextual socioeconomic characteristics is particularly important to understand the diverse assimilation pathways.

In this study we examine the divergent health trajectories of Hispanic immigrants in the U.S. with special attention on both individual and neighborhood poverty status. Using survival analysis, our investigation focuses on differences in the hazard ratio of death between Hispanic immigrants, Hispanics born in the U.S. and other native-races by both individual and neighborhood poverty status.

Method

This study uses the Third National Health and Nutrition Examination Survey (NHANES III) Linked Mortality Files conducted by the National Center for Health Statistics between 1988 and 1994, and America Community Survey 2009. NHANES III Linked Mortality File contains death certificate information from the National Death Index and followed-up the respondents of the survey from the date of survey thorough December 2006. ACS 2009 data are used for constructing the County-level variables including poverty rate and immigrant concentration. We included individuals aged 20 and older and excluded observations with missing information, resulting in the final sample size of 14,484. Our dependent variable is death from all causes in NHANES III. To measure respondent's poverty status, we used the NHANES' Poverty index at a cut point of 1.30, the same one used for eligibility for the USDA Supplemental Nutrition Assistance Program. Following previous studies, we use the survey item 'primary language spoken at home' to capture the rate of assimilation of immigrants (Mazur et al. 2003), define respondents are more assimilated if they use English in the household than those who use Spanish or other. To examine the risk of dying over time, we estimated parametric survival models based on the Weibull distribution using STATA. Independent variables include sex, age (time-varying), race/ethnicity and immigration status (Hispanic immigrant/Hispanic born in the U.S./Non-Hispanic White/Non-Hispanic Black), marital status at the time of survey (Married/ Divorced, widowed/Never married), education (Less than 12 grade/13 grade or higher), type of occupation and employment status (White collar/Blue collar/Never worked), language use in the household (English/Spanish or other), insurance coverage (Yes/No), residence type (Urban/Rural) and poverty (Poverty index of lower than 1.30/ higher than 1.31). Since NHANES III employed a complex sampling design, appropriate weight was applied. With regard to neighborhood characteristics, NHANES III provide 'County-FIPS code' that allow us match the individual to county-level poverty status. Yet, 'County-FIPS code' for individuals who reside

in Counties less than 500,000 population is available only in the restricted data in NHANES III. We are in the process of requesting access to the restricted data. The results presented below are based on our individual level analyses and future work will include the proposed models accounting for neighborhood effects.

Results

The person-year data file has 920,771 observations and 4,282 deaths. Of the total sample, the person years contributed by Hispanic immigrants, Hispanic born in the U.S., non-Hispanic White and non-Hispanic Black are 11.2%, 12.2%, 50.9 and 25.6% respectively. About 30% of the samples are below the poverty index, and Hispanic immigrants have the highest proportion below the poverty threshold (59%). Among Hispanics, 60.7% report that they use Spanish in the household. Table 1 presents results of the Weibull survival analysis controlling for all covariates, estimates are expressed in hazard ratios. Results from model 1 show that Hispanics born in the U.S and Blacks have a higher risk of death than Hispanic immigrants, but there is no significant difference between non-Hispanic Whites and Hispanic immigrants. In model 2 we separate the racial/ethnic groups by poverty status and several interesting results stand out. Compared to poor Hispanics, U.S.-born Hispanics living in poverty and non-Hispanic Blacks (poor or non-poor) have a higher hazard of dying. No significant differences are found between the reference group, and non-Hispanic Whites (both under and above poverty index) and non-poor U.S.-born Hispanics. Model 3 uses Hispanic immigrants above the poverty level as the reference category. While model 2 shows insignificant differences between poor Hispanic immigrants and Whites, model 3 shows that non-poor Hispanic immigrants have a lower hazard of dying compared to poor Non-Hispanic Whites. Also, the hazard ratios for U.S.-born Hispanics living below poverty and Blacks higher than those of in model 2, indicating that Hispanic immigrants have an even lower risk of dying when they are not in poverty (Fig 1). Next, we explore whether there is a relationship between the rate of assimilation and poverty status (Table 2). In here, we use language spoken at a home to measure the degree and rate of assimilation among Hispanics. To address to this, we only include Hispanics (both immigrants and born in the U.S) in the model with interaction term between Spanish use in the household and poverty status and new time-varying variable that indicates whether respondents in the U.S. We found a significant interaction effect and this indicates that the effect of being in poverty is not as strong for those who less assimilated than those who are more assimilated.

Our study advances the literature in several ways. First, we found that the commonly used explanations for the impact of assimilation on health have limitations. The existing framework says that immigrants are relatively healthy upon arrival, but as they spend more time in the U.S., their health deteriorates at the same rate and becomes similar or worse than the health of non-Hispanic Whites. Our research shows that Hispanics may have a more heterogeneous path to assimilation, and these results in different health outcomes for non-poor immigrants compared to their poor counterparts. Second, we found that the negative assimilation Hispanic immigrants face varies by their poverty status, showing the importance immigrants' SES in understanding an association between assimilation and immigrant health. The next step in our analysis is to consider the impacts of poverty at the neighborhood level on the health of immigrants from different SES backgrounds and degrees of assimilation.

Table 1. Hazard Ratio Estimates from Weilbull Model to Predict Probability of Death, NHANES III

	Model 1[a]		Model 2[a]		Model 3[a]	
Group Characteristics (Model 1)	ref=Hispanic Immigrant					
Hispanics born in the U.S	1.26	**	-		-	
Non-Hispanic White	1.09		-		-	
Non-Hispanic Black	1.57	**	-		-	
Group Characteristics (Model 2 and 3)			ref=Hispanic Immigrant Below poverty		ref=Hispanic Immigrant Above poverty	
Hispanics born in the U.S below poverty	-		1.38	**	1.61	**
Hispanics born in the U.S above poverty line	-		0.98		1.14	
Non-Hispanic White below poverty line	-		1.08		1.26	*
Non-Hispanic White above poverty line	-		0.96		1.18	
Non-Hispanic Black below poverty line	-		1.50	**	1.73	**
Non-Hispanic Black above poverty line	-		1.44	**	1.68	**
Socioeconomic Status						
Poverty(ref=Poverty index>1.30)						
Poverty index<=1.30	1.13	**	- -		- -	
Education (ref=Less than high school)						
High school or higher	0.89	**	0.88	**	0.87	**
Occupation (ref=White-Collar)						
Blue Collar	1.28	**	1.25	**	1.25	**
Never Worked	1.23	**	1.21	**	1.23	**
Insurance coverage (ref=No)						
Yes	0.44	**	0.43	**	0.41	**
p	5.3		5.7		5.6	
Number of person-years (Number of death)	909,346 ()		867,482()		848,952()	

* $p < 0.5$, ** $p < 0.0,1$ [a]Models controlled demographic characteristics: time-varying age, sex, residence type, marital status, language use in a household

Table 2. Hazard Ratio Estimates from Weilbull Model to Predict Probability of Death (Only Hispanics), NHANES III

	Model 4[a]	
Group Characteristics (ref=Hispanic Immigrant)		
Hispanics born in the U.S	0.83	**
Socioeconomic Status		
Poverty(ref=Below Poverty)		
Above Poverty	1.85	**
Language Use (ref=English)		
Spanish or other	1.14	
Poverty (ref=Below Poverty) X Language (ref=English)		
Poverty (ref=Below Poverty) X Language (ref=Spanish)	0.66	**
Education (ref=Less than high school)		
High school or higher	1.23	**
Occupation (ref=White-Collar)		
Blue-Collar	1.35	**
Never Worked	1.54	**
Insurance coverage (ref=No)		
Yes	0.63	**
p	1.4	
Number of person-years	160,572 (625)	

* $p < 0.5$, ** $p < 0.0,1$ [a]Models controlled demographic characteristics: time-varying age, sex, residence type, marital status, language use in a household
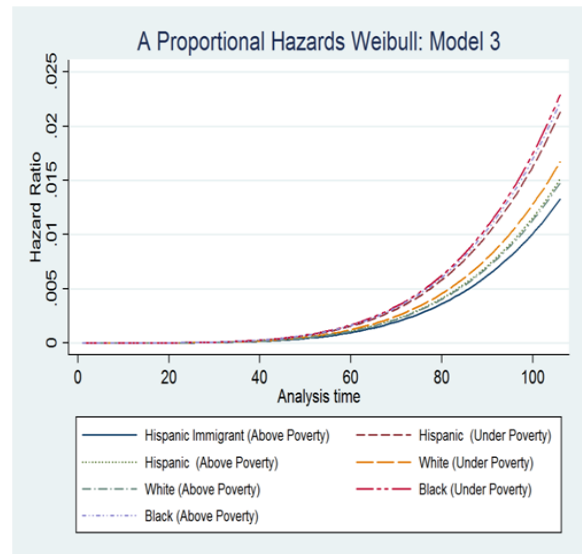

Figure 1 Hazard Ratio of dying in model 3