Race/Ethnic and Nativity Differentials in Mid-Life and Late-Life Disability in the United States

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Abstract

Very little research has investigated detailed race/ethnic and nativity differences in disability among U.S. adults. This study examines race/ethnic and nativity differences in functional disability during middle and late life for men and women across ten major sub-groups of the population. We also assess the extent to which educational attainment helps to explain group differences in disability. We use ten years of data from the National Health Interview Survey to make these detailed comparisons. Results indicate that while middle-aged foreign-born individuals in every sub-group experience relatively low rates of disability, this pattern is reversed in late life for both men and women. Moreover, most minority groups have significantly higher disability relative to non-Hispanic whites in both middle and late life, even net of education, with women reporting the highest rates. The differences we report have important implications for health service and policy geared toward the rapidly diversifying aging population.

Introduction

Life expectancy for Americans continued to rise during the first decade of the 21st century. In 2007, life expectancy at birth was just over 75 years for men and 80 years for women, and predicted to continue increasing for all race/ethnic groups through the end of the

decade (Arias, 2010). However, with longer life expectancy and additional years spent in old age, a host of new challenges has been revealed. Among these are the incidence of disease and disability, which can cause reductions in healthy life expectancy at older ages. Although individuals in the U.S. are living more years, and more healthy years than ever before (Arias, 2010), empirical research also consistently points to differentials in overall life expectancy and healthy life expectancy by race/ethnicity and nativity. In particular, a growing body of literature on disability indicates that not everyone is enjoying health benefits alongside decreased mortality and longer life expectancies (Seeman, et al., 2010; Schoeni et al., 2005; Hayward, et al., 2011). For many, longer life can equate to additional years spent functionally limited or disabled, a pattern recently documented for Hispanic immigrants in particular (Hayward, et al., 2011).

Indeed, immigration is an important component of overall population growth in the United States. Over the next twenty years the proportion of older immigrants in particular is expected to increase by somewhere between 30 and 50 percent (Arias, 2010. This will change both the demographic makeup of the older population in the U.S., as well as reveal new and emerging trends in health patterns of older adults. As a growing proportion of the immigrant population enters mid and late life, recent research also finds that the incidence of disability is rising for U.S. individuals in mid and early late life (Seeman, 2010). Thus, a clearer picture of how disability rates for foreign born individuals compare to individuals born in the U.S., not only for the elderly but also for those in middle age, is necessary to help us better gauge the impact of race/ethnic and nativity differences in disability status over the life course. In addition, because health is influenced and shaped by socioeconomic (SES) factors, and education in particular is closely associated with health outcomes, including disability

(Hayward et al., 2000), we examine the extent to which educational attainment helps to explain race/ethnic and nativity differences in adult disability. To that end, this research addresses the following three questions: 1.) How do functional disability rates differ by race/ethnic/nativity status in both mid- and late-life? 2.) Does the healthy immigrant advantage extend to both mid and late life? 3.) To what extent does educational attainment help to explain group differences in disability? We use data from ten years of the National Health Interview Survey (NHIS) to make these comparisons. The NHIS is a national household survey that collects data on demographics, socioeconomic status, morbidity, and health behaviors of individuals living in the U.S. and thus allows for a detailed documentation of race/ethnic and nativity differentials in disability rates for U.S. adults.

Literature Review

Most research on race/ethnic differences in functional disability has either been limited to differentials between blacks and non-Hispanic whites or focuses almost exclusively on Hispanics and the healthy immigrant hypothesis (Hummer & Chinn, 2011; Hayward, 2010; Arias, 2010). This large and well established body of research documents how both race/ethnicity and nativity shape disability rates and health outcomes. For example, blacks experience higher rates of disability at older ages while Hispanics fare comparably to whites on many measures of health, including cancer, heart disease and all-cause mortality (Hummer et al. 1999; Palloni and Arias, 2004). The latter phenomenon is known as the Hispanic Paradox, and generally refers to the pattern of foreign-born Hispanic immigrants displaying health and mortality outcomes comparable to their more economically and socially privileged white counterparts. Although less is known about how Hispanics spend the last decades of

their relatively longer lives, specifically whether they experience higher rates of disability and functional limitations than their white counterparts, new research reveals that the Hispanic Paradox does not extend to disability patterns and, in fact, older Hispanic immigrants experience much higher disability than whites in particular (Hayward et al., 2011). Further research in this area using Census data found that both men and women of Hispanic origin report higher disability than non-Hispanic whites, with Hispanic women of foreign born status exhibiting exceptionally higher disability rates than non-Hispanic women (Markides et al., 2007). It is important to note that these studies focus on older Hispanics, and no studies to date have investigated earlier onset of disability, particularly in middle age.

Researchers have consistently found significant health differences between black and white Americans. In general, black individuals have a higher incidence of disease, lower self-rated health, and higher mortality rates than whites and live substantially more years with functional disabilities (Hummer, 1996; Hayward & Heron, 1999). However, there is very little research on how native born black individuals fare compared to their foreign-born counterparts. Elo, Mehta and Huang (2011) highlight the differences between black immigrant subgroups and U.S. born blacks and their findings demonstrate that black immigrants experience better health, lower disability, and other advantages in comparison to non-Hispanic blacks born within the U.S. Because such limited research exists on foreign born non-Hispanic black individuals, even with increasing numbers of black immigrants entering the U.S. from the Caribbean and Africa, we fill this gap in the literature by analyzing how foreign-born black individuals compare not only to non-Hispanic whites, but also with U.S. born blacks, as well as three additional subgroups.

Research on Asian American disability rates is quite limited. Of the few studies conducted to date, two reported relatively low disability rates for Asian Americans compared to their non-Hispanic white counterparts (Hummer et al., 2004; Hayward and Heron, 1999). More recent research using Census data for the year 2000 compared foreign-born and native born Asian American men and women and found that foreign-born Asian Americans experienced higher disability than U.S. born Asian American men and women (Markides et al., 2007). Very little new research has appeared on Asian American disability rates, although by 2010, 5.6% of the total U.S. population identified as being of Asian descent (U.S. Census Bureau, 2010). The current study will expand on existing literature in this area to provide a detailed picture of how Asian Americans fit into the overall pattern of disability within the U.S. population.

In addition, a growing body of research points toward an increase in disability among U.S. adults in mid-life, with sharper increases among non-white individuals in particular (Hayward, et al, 2010; Martin, et al, 2010). Within this research, a number of studies have uncovered an increase in disability and functioning for younger cohorts of adults presently approaching old age (Ladkawalla et al., 2004; Fuller-Thompson et al., 2009; Crimmins and Beltran-Sanchez, 2010). And although trend studies conducted over the past twenty years have found overall decreases in functional limitations for individuals over the age of 70 (Seeman et al., 2010), the increase in disability rates for younger Americans who have recently entered mid-life indicates that overall rates of disability are a cause for concern, especially since the fastest growing segment of the population is non-white and middle aged. Our empirical findings will expand the knowledge available on the prevalence of disability among adults in mid-life, and provide further details on race/ethnicity, nativity, and gender.

Although numerous studies in this literature focus on comparing whites and blacks, less scholarship to date has focused on comparing several broad race/ethnic groups, along with making distinctions by nativity status. Further, even fewer studies have examined race/ethnic and nativity differentials while taking into account both gender and age sub-groups. However, a better understanding of a wide range of race/ethnic/nativity groups throughout the adult life course will illuminate specific patterns both within and across race/ethnic and nativity groups and will increase our understanding of how disability patterns may change as race/ethnic minority groups grow larger and move toward middle and late life. To that end, we examine ten race/ethnic/nativity groups throughout both mid and late life with the aim of better understanding patterns of disability across groups for United States individuals who are at least 45 years of age. We include the early midlife ages because of recently documented concerns about the growing prevalence of disability among individuals approaching retirement age. The analysis is further specified by gender, with the expectation that U.S. men and women will exhibit differential prevalence throughout the adult ages (Read and Gorman, 2006).

Data and Methods

To study race/ethnicity/nativity differentials in disability among U.S. adults by both age and gender, we use aggregated individual level data from the National Health Interview Survey (NHIS) spanning 2000 to 2009. The NHIS is a cross sectional, nationally representative survey, conducted each year via in-person and phone interviews by the National Center for Health Statistics. The NHIS uses a multistage probability design and is a representative sample of civilian, non-institutionalized households in the United States. The

NHIS data we used are downloaded from the Integrated Health Interview Series (IHIS), which is constructed by the University of Minnesota and contains integrated variables for NHIS- collected data across many years. Our study focuses on disability patterns for adults over the age of 44 years. For the ten year period we studied, this included a sample of 373,403 cases for our analysis. Disability is measured through two indicators: Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs). The first disability related question NHIS respondents are asked is, "Because of a physical, mental, or emotional problem, does anyone in the family need the help of others with personal care needs, such as eating, bathing, dressing, or getting around inside the house?" These personal care needs comprise the ADLs and are further specified into six different activities: bathing or showering, dressing, eating, using the toilet, getting around in the home, and getting in our out of bed or chairs. If a respondent answered yes to any of the six questions, they were coded as having an ADL disability. IADL disabilities were obtained through the following question, asked after the ADL question: "Because of any impairment of health problem, does anyone in the family need the help of other persons in handling routine needs, such as everyday household chores, doing necessary business, shopping, or getting around for other purposes?" For purposes of our analysis, any answer of yes to one or more of the six ADL categories or to any of the single IADL indicators results in that person being considered as having a functional disability. Thus, individuals who have either an ADL or IADL are grouped together in our analysis as having a disability, while all others are considered to not have a disability. The NHIS questions we used were consistent for all ten years of the sample data.

Because we are interested in disability patterns as early as mid-life as well as patterns of change by age, all individuals age 45 or over were included in our analytic sample. To

capture how disability patterns change by age, we include five categories that encompass early middle through late life: 45-54, 55-64, 65-74, 75-84, and 85 years and older.

Race/ethnicity and nativity are self-reported. All individuals who self-identified as Hispanic, regardless of race, were classified as Hispanic. These individuals were then asked to identify as Puerto Rican, Cuban, Dominican, Mexican, Chicano, Central/South American, or multiple/other Hispanic groups. Because many of these groups had a very small sample size, we classified individuals who identified as Hispanic as either Mexican or "other Hispanic" origin. The other groups we include are Asian Americans, non-Hispanic blacks, and non-Hispanic whites. Respondents were also asked whether they were born in the United States and this indicator was used to determine nativity. Each race/ethnic group, then, is further subdivided by nativity. All respondents who answered unknown for race/ethnicity or nativity were dropped from the analysis.

Since disability prevalence tends to increase as individuals grow older, we control for age in all models. We further consider whether another important explanatory variable, educational attainment, helps in understanding group differences in disability. Because education is generally acquired early in the life course it is not as likely to be directly impacted by health status, while high rates of morbidity and disability could in fact cause other indicators of socioeconomic status (such as income and wealth) to decrease. Controlling for education is expected to reduce and possibly eliminate race/ethnic and nativity differences in disability prevalence. We categorize educational attainment as less than high school, high school, and thirteen or more years of schooling. We further include a missing indicator for individuals who did not report their level of education.

Analytically, we first assess the proportion of individuals with disability by race/ethnic/nativity, age group and gender. Chi-squared tests were used to determine whether disability rates differ by race/ethnicity/nativity for each age group (e.g., 45-54) of adults, with the reference category specified as non-Hispanic white. After comparing disability prevalence among all ten race/ethnic/nativity subgroups, logistic regression models were estimated to the weighted NHIS data to better understand race/ethnicity/nativity differentials in disability, net of single-year age effects and then education. All results from the logistic regression models are reported as odds ratios and all models are stratified by gender. The complex survey design of the NHIS necessitated the use of person weights and the addition of design variables (PSU and Strata) which are included in the IHIS data for each year we used.

Results

Descriptive Analysis

Table 1 presents the proportion of individuals with either an ADL or IADL disability for each race/ethnic group, further divided by nativity. As expected, the proportion of individuals with an ADL/IADL disability increases with age for all groups. Within race/ethnic groups, the proportion of women with a disability exceeds that of men in nearly every age-specific comparison. Interestingly, as compared with their U.S. born counterparts, Mexican, other Hispanic, and Asian foreign born individuals experience the sharpest increases in disability at the oldest age group, 85 years or older. At every age group, U.S. born blacks report higher disability than most other groups, with very high proportions of disability for black females at the oldest ages (e.g., .53 among black women aged 85 and above). This finding is consistent with previous studies that found a significant black-white disability gap

before socioeconomic factors were adjusted for, with black individuals reporting a much higher rate of Activities of Daily Living (ADL) in middle and late life (Hayward, et al., 2000).

Table 2 reports rate ratios of disability using the rates documented in Table 1. The rate ratios are calculated in an age-specific fashion, with the reference category in each age/gender group specified as U.S.-born non-Hispanic whites. Table 2 shows a sizable immigrant advantage for most race/ethnic groups at ages 45-54. That is, foreign born individuals at these ages are less likely to experience disability than their U.S. native-born counterparts. For example, foreign-born Mexican Origin women have a 51 percent lower rate of disability compared to U.S.-born, non-Hispanic white women. Moreover, aged 45-54 foreign-born Mexican Origin women have a far lower disability rate than their U.S.-born Mexican Origin counterparts. At ages 45-54, immigrant men in every race/ethnic/nativity group also experience lower disability rates than U.S. born non-Hispanic whites. This pattern continues at ages 55-64 as well. Conversely, at older ages, specifically 65 and above, we see this immigrant advantage largely disappear and for some groups, become a disadvantage. For example, Mexican foreign-born men and women at ages 65-74, 75-84, and 85 plus experience 47 to 62 percent higher rates of disability than their U.S.-born non-Hispanic white counterparts. Among the U.S. born, individuals of Mexican, other Hispanic and black descent have higher disability than non-Hispanic whites in every age group. Overall, U.S.-born Asian Americans exhibit lower rates of age-specific disability compared to non-Hispanic Whites in most comparisons, while foreign-born Asian Americans face significantly higher rates of disability at the very oldest ages compared to U.S.-born non-Hispanic whites.

Multivariate Analysis

This section utilizes logistic regression models to examine gender-specific race/ethnic and nativity differences in disability, controlling first for age (Model 1 in each table) and then for education (Model 2 in each table). Table 3 includes males and females aged 45-64 to capture patterns of disability in mid life, while Table 4 captures patterns in late life.

Mid Life Models of Disability

In Table 3, we first examine race/ethnic and nativity differences between sub-populations of women in mid to late mid-life (between the ages of 45 -64), net of age effects. Model 1 for females controls only for age and shows evidence of the healthy immigrant hypothesis. Relative to U.S. born non-Hispanics, foreign born Mexicans, blacks, and whites have comparable and in some cases lower odds of disability than U.S.-born whites. Both U.S.- and foreign-born Asians exhibit lower odds of disability than non-Hispanic whites, with less than half the likelihood of ADL/IADL disability in mid-life. Consistent with research on non-white mid-life disability (Hayward, et al, 2010; Martin, et al, 2010), U.S.-born Mexicans and other Hispanics are around 60% more likely and blacks over twice as likely to suffer from disability as Non-Hispanic whites. Controlling for education in model 2 modestly reduces the race/ethnic differences from model 1, but they remain wide. For example, net of age and education, U.S.-born blacks exhibit 88 percent higher odds of disability than U.S.-born whites and U.S.-born Mexican Americans exhibit 30 percent higher odds of disability than U.S.-born whites. Interestingly, net of age and education, foreign-born Mexican women (model 2) exhibit 57% lower odds of disability than U.S.-born white women in this age group. In general, educational attainment also exhibits substantial effects on the odds of disability; for example, women aged 45-64 who attain less than a high school education are 2.84 times more likely to experience disability than their more highly educated counterparts.

Results for men in mid-life (right hand side of Table 3) also illustrate the protective effects of foreign-born status in every race/ethnic group (Mexican, black, Asian, white, and other Hispanic). That is, immigrant men display odds of disability comparable to or significantly lower than the odds of disability among U.S.-born non-Hispanic whites. Similar to the pattern among women in this same age group, U.S. born blacks show over twice the odds of disability as U.S.-born whites, and both U.S.-born Mexican and other Hispanics exhibit significantly higher levels of disability than U.S.-born non-Hispanic whites. Consistent with earlier research (Hummer et al., 2004; Hayward and Heron, 1999), Asian American men are characterized by substantially low rates of disability than U.S.-born non-Hispanic whites, regardless of their nativity status.

Net of education (model 2 for men), foreign-born Mexican men have much lower odds of disability than U.S.-born non-Hispanic white men. Controlling for education also reduces the odds ratio for foreign-born blacks to .18, the lowest of any group for men or women in mid-life. The overall effect of education is stronger for men than for women in mid-life, with men who lack high school diplomas exhibiting over four times the odds of disability compared to their highly educated counterparts. However, even net of educational differences, U.S.-born black men and other Hispanic men still show significantly higher odds (odds ratios of 1.93 and 1.68, respectively) of disability than U.S.-born non-Hispanic white men.

Late Life Models of Disability

Table 4 focuses on adults 65 years of age and older. Model 1 in Table 4 shows large race/ethnic and nativity differences in disability for women age 65 and older. Specifically, Mexican immigrants as well as U.S.-born women of Mexican descent have over twice the odds of disability compared to U.S.-born non-Hispanic White women. As expected, black

women born in the U.S. also experience nearly two and a half times the odds of disability than non-Hispanic white females. Interestingly, both foreign-born black and Asian women have disability rates 1.71 and 1.81 higher, respectively, than Non-Hispanic whites as well. Individuals of other Hispanic origin have lower disability than Mexican Origin individuals, but still significantly higher rates than whites. These findings support prior studies which find that the Hispanic Paradox in mortality does not extend to old-age disability patterns (Hayward et al., 2011; Markides et al., 2007). On the contrary, older Mexican and other Hispanic women exhibit nearly two and a half times the odds of disability than U.S.-born white women, which is similar to the high odds of disability found among U.S.-born black women. In contrast, U.S.-born Asian American women are the only minority group with disability rates comparable to non-Hispanic white females in this age range.

With the addition of education for women in model 2, disability differences decrease for every group except for Asian American women, who continue to appear comparable to whites. However, the decreases with the control of education are not substantial, indicating that for individuals currently in late life, education does not "level the playing field" for minority women relative to U.S.-born non-Hispanic white women. Consistent with earlier studies (Hummer, 1996; Hayward & Heron, 1999), U.S.-born black women are again at the greatest disadvantage compared with every other group, with over twice the likelihood of disability compared to non-Hispanic white females, even net of educational attainment. Mexican Origin women of both foreign-born and native born descent also show nearly twice the odds of disability net of education compared to non-Hispanic white women as well. Thus, while the higher educated have lower disability rates, controlling for education does not full

explain the high disability rates experienced by Mexicans and blacks of both foreign born and native origin, as well foreign-born Asians and other Hispanics.

Patterns of disability for men aged 65 and above are very similar to those of women. For example, both foreign-born and U.S. born Mexicans, blacks, and other Hispanics experience odds of disability nearly twice as high as those for non-Hispanic whites.

Education appears to have even less of a leveling effect for older men, with disability differences for every minority group relative to U.S.-born non-Hispanic white men showing only a very small decrease net of educational attainment. Furthermore, men with a high school education are only slightly more likely to experience disability than men with at least some college or a college degree. Although much research supports the importance of education for mediating race/ethnic differences in health outcomes, education seems to play only a relatively modest role in explaining race/ethnic and nativity differences in older men's disability rates.

Discussion

- For foreign-born individuals in mid-life, our results reflect the findings of prior research that documents better health outcomes for immigrants in general and Mexican immigrants in particular as compared to native born whites (Hummer et al., 1999). Moreover, education has a significant effect on disability for foreign-born male and female Mexicans in mid-life. It is possible that this is due to Mexican immigrants' considerably lower access to education and other forms of life course capital.
- Even before controlling for education, the foreign-born experience disability rates comparable to non-Hispanic whites in mid-life. Consistent with prior research, it is

likely that these younger immigrants are relatively new to the U.S. as compared to the elderly foreign born and have not experienced the negative health effects of the acculturation process.

- In contrast, U.S. born minorities at older ages suffer much higher functional disability, except for Asians who have remarkably low disability rates. This finding supports literature on negative health outcomes experienced by black individuals as compared to whites (Hummer, 1996; Hayward & Heron, 1999).
- In late life, foreign-born women of Asian and other Hispanic descent, along with both immigrant and U.S.-born Mexicans and blacks are at a great disadvantage even after controlling for education.
- Consistent with prior research (Hayward et al., 2011; Markides et al., 2007), Mexican and black immigrant women have much higher rates of disability than men over the age of 65 in almost every subgroup. This may be explained by women's higher incidence of morbidity throughout the life course and especially at older ages, which causes elderly women to be especially prone to disability.
- Our findings answer our first research question with empirical data that illustrates how nativity status plays an important role in disability for race/ethnic groups in mid-life. The evidence also clearly suggests that the healthy immigrant advantage documented in mid-life does not extend to late life for foreign-born men or women.
- Although education plays an important role in helping to explain over race/ethnic and nativity differences in disability, it does not completely level differences in mid-life disability and shows an even more modest effect in later-life.

Next Steps

We will continue to incorporate additional literature and refine our analyses further as we progress toward the 2012 PAA meeting. For example, we will add geographic region to our models to examine whether this indicator controls for some of the group disparities, since specific racial/ethnic groups are more likely to reside in areas of the U.S. (e.g., the South) that historically report higher rates of disability. Our regression models will also need to be separately specified by nativity, because of the very different educational levels and effects for foreign-born individuals compared to U.S.-born individuals. We will also further develop the discussion section and bridge any gaps between existing literature and our findings. And lastly, we will address limitations of our study and point to suggestions for future research.

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Table 1: Proportion Reporting a Disability by Race/Ethnicity/Nativity, Age, and Gender, U.S. Adults, 2000-2009

Females

Age	Mexican FB	Mexican US	Other Hispanic FB	Other Hispanic US	Asian FB	Asian US	Black FB	Black US	White FB	White US
45-54	0.02	0.03	0.03	0.04	0.01	0.02	0.02	0.06	0.02	0.03
55-64	0.05	0.08	0.05	0.09	0.02	0.03	0.05	0.09	0.04	0.05
65-74	0.12	0.12	0.09	0.08	0.06	0.07	0.07	0.15	0.08	0.07
75-84	0.26	0.24	0.20	0.24	0.21	0.15	0.26	0.29	0.18	0.17
85+	0.64	0.55	0.49	0.49	0.53	0.27	0.39	0.53	0.43	0.41
Unweighted N	7,325	6,099	8,258	1,956	5,887	1,045	2,136	20,759	6,442	105,862

Males

Age	Mexican FB	Mexican US	Other Hispanic FB	Other Hispanic US	Asian FB	Asian US	Black FB	Black US	White FB	White US
45-54	0.01	0.03	0.02	0.04	0.01	0.02	0.01	0.05	0.01	0.02
55-64	0.03	0.05	0.03	0.05	0.02	0.02	0.03	0.07	0.03	0.04
65-74	0.07	0.08	0.05	0.07	0.04	0.03	0.04	0.09	0.07	0.05
75-84	0.16	0.12	0.16	0.13	0.13	0.08	0.16	0.18	0.12	0.11
85+	0.44	0.37	0.37	0.36	0.50	0.29	0.19	0.34	0.30	0.27
Unweighted N	7,062	5,071	6,306	1,490	4,859	995	1,786	14,736	5,299	94,111

Source: Integrated Health Interview Survey, 2000-2009

Table 2: Rate Ratios of Reported Disability by Race/Ethnicity/Nativity, Age, and Gender, U.S. Adults, 2000-2009

Females

AGE	Mexican FB	Mexican US	Other Hispanic FB	Other Hispanic US	Asian FB	Asian US	Black FB	Black US	White FB	White US
45-54	0.49**	1.06	0.94	1.34*	0.37*	0.45**	0.51**	1.75**	0.57**	1.00
55-64	0.92	1.56**	1.08	1.79**	0.39*	0.65*	0.92	1.99**	0.75*	1.00
65-74	1.60**	1.67**	1.16	1.12	0.87*	0.83*	0.98	1.96**	1.01	1.00
75-84	1.54**	1.40*	1.20*	1.41*	1.22*	0.86	1.53**	1.68**	1.02	1.00
85+	1.58**	1.34*	1.19*	1.19*	1.30*	0.66*	0.96	1.29*	1.03	1.00

Males

AGE	Mexican FB	Mexican US	Other Hispanic FB	Other Hispanic US	Asian FB	Asian US	Black FB	Black US	White FB	White US
45-54	0.51**	1.42*	0.74*	1.65**	0.53**	0.94	0.26**	1.96**	0.6*	1.00
55-64	0.72*	1.50**	0.74*	1.45**	0.50**	0.48**	0.93	1.91**	0.74*	1.00
65-74	1.50**	1.55**	1.09	1.42*	0.78*	0.68*	0.85	1.96**	1.38*	1.00
75-84	1.47**	1.19*	1.53*	1.25*	1.21*	0.75*	1.54*	1.75**	1.15	1.00
85+	1.62*	1.39*	1.36*	1.33*	1.84**	1.09	0.70*	1.27*	1.11	1.00

* Indicates p-value of less than or equal to. 05
** indicates p-value of less than or equal to .01
Source: Integrated Health Interview Survey, 2000-2009

Table 3: Odds Ratios of Disability for U.S. Adults Ages 45-64

	Females		Males	
	Model 1	Model 2	Model 1	Model 2
Race/Ethnicity/Nativity				
Mexican Origin, foreign -born	0.81	0.43**	0.83	0.38**
Mexican Origin, US -born	1.66**	1.30*	1.49*	1.13
Other Hispanic, foreign -born	1.07	0.77	0.89	0.60**
Other Hispanic, US -born	1.61*	1.42	1.82*	1.68*
Asian, foreign -born	0.38**	0.34**	0.66	0.65
Asian, US-born	0.45	0.50	0.40	0.49
Black, foreign-born	0.71	0.63*	0.30*	0.18**
Black, US-born	2.17**	1.88**	2.38**	1.93**
White, foreign-born	0.99	0.96	1.05	1.06
White, US-born (ref)	ref	ref	ref	ref
Age	1.06**	1.05**	1.05**	1.04**
Education				
<12		2.84**		4.01**
12		1.28**		1.58**
Missing		1.44*		2.39**
Ref (13+)		ref		ref

*p < 0.05 **p < 0.01

Source: Integrated Health Interview Survey, 2000-2009

Table 4: Odds Ratios of Disability for U.S. Adults Ages 65+

	Females		Males	
	Model 1	Model 2	Model 1	Model 2
Race/Ethnicity/Nativity				
Mexican Origin, foreign -born	2.43**	1.83**	1.76**	1.37*
Mexican Origin, US -born	2.27**	1.90**	1.66**	1.43*
Other Hispanic, foreign -born	1.64**	1.38**	1.93**	1.69*
Other Hispanic, US -born	1.51*	1.35	1.79*	1.68*
Asian, foreign -born	1.71**	1.48**	1.31*	1.25
Asian, US-born	0.90	0.94	0.98	1.00
Black, foreign-born	1.81**	1.51*	1.72*	1.50
Black, US-born	2.40**	2.11**	1.68**	1.45**
White, foreign-born	1.27*	1.19	1.54**	1.47**
White, US-born (ref)	ref	ref	ref	ref
Age	1.13**	1.13**	1.12**	1.11**
Education				
<12		1.72**		1.60**
12		1.18**		1.20*
Missing		2.65**		2.54**
Ref (13+)		ref		ref

*p < 0.05 **p < 0.01

Source: Integrated Health Interview Survey, 2000-2009