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The Durability of Immigration-Related Barriers to Health Care Access for Hispanics Across Generations

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Abstract

Conventional manners of operationalizing generational status in studies of health care access in the United States implicitly assume that individuals assimilate into U.S. culture by the 3rd generation. This limits understandings of immigrant health care access as it remains unknown if disparities persist beyond the 3rd generation. Survey data from caretakers of Hispanic schoolchildren in El Paso (Texas, USA; n = 1,568) were utilized in generalized linear models to analyze relationships between immigrant generational status and access to health care. Results showed that higher immigrant generations had better access to care. The greatest disparities between consecutive generational groups occurred between 1st generation noncitizens/naturalized citizens, the 2.5/3rd generations, and the 3rd/4th generations. Results reveal greater durability of barriers in access to health care than has previously been documented.

Keywords

access to care, immigration, generational status, Hispanic/Latino, El Paso, Texas

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Introduction

Myriad studies demonstrate that immigrant children face barriers to accessing health care, including a lack of citizenship and low socioeconomic status (Avila & Bramlett, 2013; Goldman, Smith, & Sood, 2005; Huang, Yu, & Ledsky, 2006; Jaacks et al., 2012; Javier, Wise, & Mendoza, 2007). These barriers are unlikely to resolve under the United States's Patient Protection and Affordable Care Act (also known as "Obamacare"), especially for undocumented immigrant children whose marginalization will worsen as they become ineligible for any type of health insurance. Citizenship/legal residency will unlock access to additional insurance coverage for those who can afford it as lawfully present immigrants will be permitted to purchase insurance during the 5-year waiting period for Medicaid, the United States's public insurance program for the poor (Stevens & Artiga, 2013). However, improved access to health insurance for some U.S. residents does not guarantee adequate access to health care at a population level due to continued financial, transportation, continuity of care, and language barriers, among others.

To date, little is known about the intergenerational persistence of access to care barriers for immigrant groups in the United States. Studies addressing immigrant generational status in children's health care access have not extended beyond the 3rd generation. This is surprising given that scholarship on the reproduction of social inequality has documented the durability of the social hierarchy over time (Bourdieu, 1986). The neglect of possibly more extended intergenerational health disparities in prior scholarship stems from the implicit assumptions that immigrant groups experience relatively rapid intergenerational assimilation and that acquisition of equitable access to health care follows. This framing has limited our understanding of immigrant health disparities. We seek to address this limitation through application of an expanded immigrant generational cohort framework to health care access disparities experienced by Hispanic children using social survey data collected in an El Paso (Texas, USA) school district.

While it has not been included in all but a few previous immigrant generational cohort frameworks, citizenship is perhaps the most important correlate of access to health care among immigrant groups in the United States because of its tight association with eligibility requirements for insurance programs. Noncitizen children (poor and near poor alike) cannot qualify for U.S. government assistance programs (e.g., State Children's Health Insurance Program [SCHIP] and Medicaid) until they have spent 5 years as legal U.S. residents, which severely reduces their access to medical care (Goldman et al., 2005). Nationally, a lack of U.S. citizenship is a key reason behind the low rates of

insurance coverage among Hispanics. Noncitizen children with noncitizen parents are significantly less likely to have insurance and a usual source of care than are both citizen children with noncitizen parents and citizen children with citizen parents. Low rates of coverage are linked with poor access to health care for Hispanics (Granados, Puvvula, Berman, & Dowling, 2001; Ku & Matani, 2001; Padilla, Dalton Radley, Hummer, & Kim, 2006; Ziol-Guest & Kalil, 2012).

While citizenship is critically important to health care access, it is less of a factor after the 1st generation as all children born in the United States are granted U.S. citizenship. Generational status, however, persists as an influence in access to care. Higher immigrant generations, with deeper familial roots in the United States, are more likely to have health insurance and a usual source of care than are lower immigrant generations (Avila & Bramlett, 2013; Burgos, Schetzina, Dixon, & Mendoza, 2005; Granados et al., 2001; Huang et al., 2006).

One explanation for the gains in health care access that accompany deeper familial rootedness in the United States is the acquisition of cultural and social capital useful in the health field. Pierre Bourdieu (1986) asserted that to understand the persistence of the social hierarchy, analysts must consider the uneven distribution and interaction of interrelated forms of capital (including cultural, social, and economic capital) with wider societal structures in the reproduction of inequalities. Cultural capital, based on Bourdieu's conception, includes operational skills, values, norms, and linguistic styles that individuals accrue through education and lifelong occupation of their social positions (Abel, 2008). Cultural capital, like other forms of capital, requires time to accumulate and "contains a tendency to persist in its being" (Bourdieu, 1986, pp. 241-242). Of relevance to health-related research, it includes culture-based resources that are available to aid people in acting in favor of their health (Abel, 2008). Cultural health capital (CHC), a term used to refer to the context of patient-provider interactions, is mobilized in largely unconscious, habitual schemes of perception, thought, and action that are embodied through experience and socialization and that are deeply stratified (Shim, 2010).

Following Bourdieu, social capital relates to the power inherent in one's social connections, including the depth and breadth of one's interpersonal networks, and the volume of material resources held by people in those networks (Morrow, 1999). It denotes "contacts and group memberships which, through the accumulation of exchanges, obligations and shared identities, provide actual or potential support and access to valued resources" (Bourdieu, 1993, p. 143). Relevant social capital in the health care field can include informal relationships with doctors, nurses, and other health care

professionals (Grineski, 2009). Economic capital, which includes income, wealth, and other material resources, is also important as over a century of research has demonstrated its tight association with health outcomes and health care access (Abel, 2008). It follows then that intergenerational gains in capital will be accompanied by better access to health care.

Conceptualizing Immigrant Generational Status

Children's immigrant generational status has usually been conceptualized based on a combination of the child's and primary caretaker's nativity. Most studies use a three-group generational framework, which includes the 1st generation (i.e., foreign-born children), 2nd generation (i.e., U.S.-born children with at least one foreign-born parent), and the 3rd plus generation (i.e., U.S.-born children with both parents U.S. born) (Avila & Bramlett, 2013; Burgos et al., 2005; DeCamp & Bundy, 2011; Granados et al., 2001; Su & Wang, 2012). This three-group framework is based on the classical immigrant assimilation model, which posits that all immigrant groups gradually adopt the norms, values, and behaviors of the dominant cultural group (White Anglos in the U.S. context) over time, with linear increases in assimilation occurring progressively across successive generations (Gordon, 1964). Data collection plans for studies of immigrant health care access have typically neglected to cull information that would enable specification of subjects' membership within more extended multigenerational immigrant cohorts (Kao, 2009). This is likely due to implicit adherence by scholars to the classical assumption of linear and relatively rapid intergenerational assimilation.

More recent models seek to account for alternative immigrant assimilation paths by expanding on the three-group framework. Some have disaggregated the 2nd generation by separating out a 2.5 generation, which includes those children who are U.S. born with one foreign-born parent and one U.S.-born parent (Kao, 2009; Ramakrishnan, 2004). Others have refined consideration of 1st generation children by accounting for both nativity and citizenship (Huang et al., 2006; Ku & Matani, 2001). Although the roles of citizenship and immigrant generational status in access to health care have been examined, the current literature lacks consideration of a 4th generation or those who are U.S. born with both U.S.-born parents and all U.S.-born grandparents. This study extends from the premise that continuing to adhere to the assumption that immigrant groups share similar experiences of relatively rapid generational assimilation and acquisition of health care access may limit our understanding of immigrant health disparities. Specifically, aggregating all higher generational cohorts within a "3rd plus" generation may mask significant differences between successive generational cohorts,

especially among immigrant groups with substantial racial/ethnic minority composition (i.e., groups that have not generally experienced a linear process of assimilation into dominant U.S. culture across generations).

The general aim of this study is to advance knowledge of immigrant health care access by using an innovative, more nuanced immigrant generational cohort framework. This framework incorporates a novel element as well as facets of previous approaches by distinguishing a 4th generation from the 3rd generation, the 2.5 generation from the 2nd and 3rd generations, and 1st generation noncitizens from 1st generation naturalized citizens. Based on this framework, the study addresses three questions using data from a population-based sample of fourth and fifth graders in the El Paso Independent School District (EPISD; Texas, USA): (1) What proportions of Hispanic children in this population have access to health care (based on multiple access metrics), and how do those levels of health care access compare with figures for Hispanic children nationally? (2) What is the relationship between immigrant generational status, in combination with citizenship status, and Hispanic children's health care access, adjusting for relevant covariates? (3) Do immigrant intergenerational disparities in health care access persist beyond the 3rd generation to the 4th generation? We focus on Hispanic children because they comprise over 80% of our sample and because Hispanics are the most rapidly growing racial/ethnic group in the United States; furthermore, the U.S. Hispanic population has been augmented by a historically continuous immigrant stream, and it includes substantial population composition across a broad range of generational cohorts.

Method

Study Context

All surveyed caretakers resided in El Paso County, Texas, which is located on the border with Mexico, and had an estimated population of 827,398 in 2012. According to the U.S. Bureau of the Census, in 2011, 81% of residents were Hispanic (compared with 17% for the United States and 38% for Texas), while smaller percentages were non-Hispanic White (14%) and non-Hispanic Black (4%). El Paso County had a lower median household income (2011 US$36,333) than the State of Texas (2011 US$49,391) and the United States (2011 US$50,502) with a poverty rate of 24%, which is higher than the national rate (16%). In 2011, just 26% of El Paso County residents spoke only English, while 72% spoke Spanish. Furthermore, 27% of the county's Spanish-speaking households did not speak English very well, 26% of county residents were foreign-born, and 15% were not U.S. citizens.

These characteristics make El Paso an ideal laboratory in which to examine inequalities within an immigrant population due to the fact that it has substantial numbers of long-term, multigenerational Hispanic families as well as many new immigrants. This dynamic is less present in other U.S. cities outside of the U.S. Southwest, Florida, New York City, and Chicago. El Paso's demographics provide a preview for how U.S. cities will look in decades to come, making it a relevant context for this study.

Data

Data were collected through a cross-sectional, population-based mail survey that was approved by our university's Institutional Review Board. The closed-ended questionnaire was sent to all primary caretakers (parents and guardians) of fourth and fifth graders attending school in the EPISD. Surveys were conducted using the tailored design method (TDM) to obtain the highest achievable response rates by personalizing communication, following up with nonrespondents, and offering incentives (Dillman, Smyth, & Christian, 2009). All survey materials were provided to households in English and Spanish. Mailings were sent in three waves during May of 2012. The first mailing consisted of the survey packet, which included a consent letter and the survey (in both English and Spanish); a US$2 incentive; and a postage-paid return envelope. A week later, we mailed a bilingual reminder postcard. One week after that, we resent the survey packet to all nonrespondents (again with US$2 and a postage-paid return envelope).

In total, 6,295 primary caretakers received surveys at their home address and 1,904 surveys were returned for a 30.2% response rate. Respondents, who we will refer to as parents, were primarily mothers (82%), with the next largest shares being fathers (10%) and grandparents (4%). We selected the 1,568 Hispanic children for analysis. Research indicates that similar and substantially lower survey response rates can yield representative samples (Curtin, Presser, & Singer, 2000; Holbrook, Krosnick, & Pfent, 2008; Keeter, Kennedy, Dimock, Best, & Craighill, 2006). Descriptive statistics indicate that the sample is generally representative of the EPISD student population in terms of males (49.9% vs. 51.4% in EPISD), Hispanics (82.2% vs. 82.6% in EPISD), and economically disadvantaged students (60.4% vs. 71.1% in EPISD, 2013).

Measures

Health care access. We operationalized health care access by creating five variables using eight yes/no (coded 1/0) questions: (1) Has the child had

health insurance coverage continuously for the past 12 months? (2) Does the child have a regular doctor or a clinic where he or she goes to for routine medical care? (3) Is this child currently covered by at least one of the following types of health insurance or health coverage plans: private insurance, Medicaid/SCHIP/government assistance, Medicare/Supplemental Security Income (SSI), Tricare/military insurance, or another type of health insurance? (4) Has the child attended a routine medical checkup in the last 12 months? (5) Has the fear of deportation ever kept your family from seeking the services of health care providers for the child? (6) Have any problems with transportation ever kept your family from seeking health care services for the child? (7) Does your family ever postpone or not seek medical treatment for your child because of concerns about the cost? (8) When the child is taken for medical treatment (or other health care services), do you (or the adult taking the child) have any problems with language differences?

In order to evaluate children's general health care access, we created a Health Care Access Scale that is the sum of the eight questions above (after reverse-coding questions 5-8 so that "1" corresponded to better as opposed to worse access). The scale is coded from 1 to 9 with 1 corresponding to the lowest and 9 to the highest health care access. The additional access variables analyzed here are derived from questions 1 (continuous coverage), 2 (regular doctor), 7 ([not] postponing care), and 8 ([no] language barriers). The other access questions (1, 3-6) were not considered independently because of small cell sizes or similarity with other indicators.

Immigrant generational status. To operationalize each Hispanic child's immigrant generational status, we used nativity (born inside/outside the United States) for the child, the child's parents, and for the child's four grandparents, as well as U.S. citizenship status for the child.[1] Our measure of children's immigrant generational status includes six categories: 1st generation noncitizen (foreign-born noncitizen), 1st generation naturalized citizen (foreign-born naturalized U.S. citizen), 2nd generation (U.S. born with two foreign-born parents), 2.5 generation (U.S. born with one U.S.-born parent and one foreign-born parent), 3rd generation (U.S. born with both parents U.S. born), and 4th generation plus (U.S. born with all parents and grandparents U.S. born).

Control variables. Four control variables were included based on a prior study (Huang et al., 2006): child's sex (coded 1 = male, 0 = female), household poverty, child's health status, and parent's education. Household poverty (1 = poor, 0 = not poor) was constructed using federal guidelines for income and household size (U.S. Department of Health and Human Services, 2011).

Child's health status (coded 1 = very poor to 6 = excellent) and parent's education (1 = 1 year elementary school to 21 = 21 years graduate degree) were treated as continuous variables.

Analysis

We conducted univariate, bivariate, and multivariate analyses. We began by calculating means or proportions for the entire sample and then for each immigrant generation for all independent and dependent variables. Next, the significance of mean differences in each outcome variable between the six immigrant generational groups was determined using ANOVA testing for scale variables and chi-square for categorical variables.

Lastly, generalized linear models (GLMs) were used to examine relationships between immigrant generational status and health care access while adjusting for the four controls. In contrast to linear regression models, which assume normally distributed dependent variables, GLMs support analysis of non-normal distributions and for multiple link functions (Nelder & Wedderburn, 1972). The GLM thus supports many nontraditional regression models. Using GLM, we implemented gamma regression with a log link for the Health Care Access Scale variable and binary logistic models for the four binary dependent variables. Gamma with a log link is a model for a positive scale dependent variable skewed toward larger positive values and a logarithmic link function; the binary logistic models specify a binomial distribution with a logit link function (Nelder & Wedderburn, 1972).

We ran each GLM five times because we have six immigrant generational groups and analyzing all comparisons required running separate models employing five of the six groups as reference categories. IBM SPSS Version 21 was used to conduct all analyses. As SPSS software does not perform multicollinearity diagnostic tests with the GLM procedure, ordinary least squares regression was used to examine possible multicollinearity among the analysis variables included in each model. According to variance inflation factor, tolerance, and condition index criteria (Belsley, Kuh, & Welsch, 1980), inferences from GLM results were not affected by multicollinearity problems. We also conducted a sensitivity analysis by running the GLM analyses on all children, irrespective of their race/ethnicity (n = 1,904). Had the data set allowed it, we would have conducted the analysis on the non-Hispanic White subgroup (the second largest racial/ethnic group in our sample) as well, but there were not enough cases in each generational cohort group to permit this statistically.

Multiple imputation (MI) of missing values. To address nonresponse bias, the missing values of all analysis variables were multiply imputed prior to running the GLM. MI is currently a best practice for addressing missing data in statistical analysis. MI involves creating multiple sets of values for missing observations using a regression-based approach. It is used to avoid the bias that can occur when missing values are not missing completely at random (Penn, 2007) and is appropriate for self-reported survey data (Enders, 2010). In IBM SPSS Version 21, 20 imputed data sets were specified to increase power and 200 between-imputation iterations were used to ensure that the resulting imputations were independent of each other (Enders, 2010). Using 20 data sets is the current "rule of thumb" in MI as it maximizes power (as opposed to using 3-5 data sets, which used to be the convention) and improves the validity of multiparameter significance tests (Enders, 2010). MI was only employed for the GLMs. Univariate and bivariate analyses utilized original data. Table 1 displays the percent missing for each analysis variable.

Results

Sample Characteristics

Related to Research Question 1, Table 1 reports descriptive statistics (using the nonimputed data) in terms of health care access and the control variables. On a scale of 1 to 9, the children had an average score of 8. In addition, 73% of parents had no problems with cost and 80% had no problems with language when seeking medical care for the child; 91% of children had a regular doctor and 84% were continuously insured for the past 12 months. The results of the remaining questions on the health care access scale are as follows: 90% had insurance at the time of survey, 89% had a checkup in the past 12 months, 98% of the parents did not have a fear of deportation when seeking medical care for the child, and 95% of parents did not have transportation problems when seeking medical care for the child.

Bivariate Analysis

In relation to Research Question 2, Table 1 also reports the results of the ANOVA and chi-square tests for the associations between generational cohort and all other variables. All variables are significantly different between the cohorts with the exception of sex. The overall trend is that higher generations experience increased access to health care.

Table 1. Descriptive Statistics of the Sample of Hispanic Children in El Paso (Texas, USA).

Variable	Total sample (n = 1,568)	1st generation noncitizen (n = 88)	1st generation. citizen (n = 60)	2nd generation (n = 610)	2.5 generation (n = 284)	3rd generation (n = 379)	4th generation (n = 147)	Test statistic	Significance	% missing
Health care access scale	8.03	5.34	7.88	8.04	8.13	8.31	8.52	73.27[a]	<.001	11.3
No problems with cost	0.73	0.40	0.75	0.76	0.75	0.72	0.83	56.92[b]	<.001	2.8
No problems with language	0.80	0.53	0.67	0.69	0.85	0.96	0.96	171.97[b]	<.001	3.7
Regular doctor	0.91	0.45	0.91	0.93	0.90	0.95	0.97	206.12[b]	<.001	4.0
Continuously insured for the past 12 months	0.84	0.32	0.82	0.86	0.86	0.88	0.94	171.08[b]	<.001	3.8
Male[c]	0.49	0.39	0.50	0.50	0.48	0.49	0.50	3.50[b]	.623	5.20
Health status	5.00	4.67	5.05	4.81	5.16	5.13	5.30	13.02[a]	<.001	2.60
Parent education	12.83	10.60	13.35	11.49	13.46	14.11	14.74	35.65[a]	<.001	12.00
Poverty	0.47	0.76	0.49	0.62	0.37	0.36	0.25	117.90[b]	<.001	12.60

[a]*F* statistic.
[b]Pearson chi-square.
[c]Reference category is female.

Generalized Linear Model Results

In response to Research Questions 2 and 3, Table 2 reports the parameter estimates from the GLMs analyzing the immigrant generational status and control variables as predictors of the five health care access variables. In terms of the Health Care Access Scale (Table 2, column A), compared with 1st generation noncitizens, all higher generations experienced significantly higher scores. Compared with 1st generation naturalized citizens, the 3rd and 4th generations experienced significantly higher scores. Compared with the 2nd and 2.5 generations, the 3rd and 4th generations experienced significantly higher scores. Finally, in comparison with the 3rd generation, being in the 4th generation was associated with a significant increase on the Health Care Access Scale.

In terms of having no problems with cost when seeking medical care (Table 2, column B) compared with 1st generation noncitizens, all higher generations were significantly more likely to not have problems with cost. There were two additional significant findings. Compared with the 2.5 generation, 4th generation children were 69% more likely to not have problems with cost. Compared with the 3rd generation, 4th generation children were 82% more likely to not have problems with cost. There were no significant differences in the models when using the 1st generation naturalized citizens or the 2nd generation as reference groups in terms of not having cost problems.

Regarding not having problems with language when seeking medical care (Table 2, column C), compared with 1st generation noncitizens, all higher generations except 1st generation naturalized U.S. citizens were significantly more likely to not have problems with language. For example, 4th generation children were 14 times more likely to not have problems with language than 1st generation noncitizens. Compared with 1st generation naturalized citizens, all higher generations except the 2nd generation were significantly more likely to have no problems with language. Lastly, compared with the 2nd and 2.5 generations, all higher generations were significantly more likely to have no problems with language. There were no significant differences between the 3rd and 4th generations in terms of having language problems.

With respect to having a regular doctor (Table 2, column D), all higher generations were significantly more likely to have a regular doctor than 1st generation noncitizen children. For example, 4th generation children were over 29 times significantly more likely to have a regular doctor than 1st generation noncitizens. Compared with the 2.5 generation, the 3rd and 4th generations were significantly more likely to have a regular doctor. There were no significant differences when using the 1st generation naturalized citizens,

Table 2. Results of Generalized Linear Models: Predicting Health Care Access Among Hispanic Children Using Generational Status.

	A. Access Scale	B. No problems with cost	C. No problems with language	D. Child has regular doctor	E. Child was continuously insured for the last 12 months
	Gamma with log link	Binary logistic	Binary logistic	Binary logistic	Binary logistic
Generational status	β (CI)	OR (CI)	OR (CI)	OR (CI)	OR (CI)
(ref 1st gen noncitizen)					
1cit	0.35 [0.24, 0.45]*	4.79 [1.95, 11.72]*	1.29 [0.57, 2.90]	10.25 [3.07, 34.14]*	7.16 [2.91, 17.56]*
2	0.38 [0.28, 0.47]*	4.86 [2.81, 8.38]*	1.91 [1.14, 3.18]*	12.35 [6.89, 22.13]*	10.82 [6.20, 18.87]*
2.5	0.38 [0.28, 0.47]*	4.54 [2.51, 8.18]*	3.66 [2.01, 6.63]*	8.80 [4.41, 17.54]*	9.61 [5.02, 18.37]*
3	0.41 [0.31, 0.50]*	4.22 [2.35, 7.58]*	13.56 [6.63, 27.71]*	21.08 [10.17, 43.70]*	11.89 [6.38, 22.12]*
4	0.43 [0.33, 0.52]*	7.67 [3.88, 15.11]*	14.00 [5.39, 36.33]*	29.39 [10.27, 84.04]*	22.95 [9.72, 54.19]*
(ref 1st gen citizen)					
2	0.03 [−0.02, 0.08]	1.02 [0.48, 2.14]	1.49 [0.74, 2.98]	1.20 [0.38, 3.76]	1.51 [0.68, 3.32]
2.5	0.03 [−0.02, 0.08]	0.95 [0.44, 2.04]	2.84 [1.36, 5.94]*	0.86 [0.24, 2.97]	1.34 [0.56, 3.18]
3	0.06 [0.00, 0.11]*	0.89 [0.41, 1.89]	10.55 [4.40, 25.26]*	2.06 [0.60, 6.96]	1.66 [0.73, 3.76]
4	0.08 [0.02, 0. 13]*	1.61 [0.70, 3.68]	10.89 [3.77, 31.44]*	2.87 [0.69, 11.82]	3.21 [1.17, 8.78]*
(ref 2nd gen)					
2.5	0.00 [−0.02, 0.03]	0.94 [0.65, 1.33]	1.91 [1.28, 2.84]*	0.71 [0.40, 1.26]	0.89 [0.56, 1.41]
3	0.03 [0.01, 0.05]*	0.87 [0.63, 1.19]	7.09 [3.98, 12.61]*	1.71 [0.92, 3.14]	1.10 [0.71, 1.68]
4	0.05 [0.02, 0.07]*	1.58 [0.96, 2.58]	7.32 [3.12, 17.16]*	2.38 [0.89, 6.30]	2.12 [1.02, 4.40]*
(ref 2.5 gen)					
3	0.03 [0.00, 0.05]*	0.93 [0.64, 1.34]	3.71 [1.98, 6.96]*	2.40 [1.27, 4.49]*	1.24[.76, 2.00]
4	0.05 [0.02, 0.07]*	1.69 [1.00, 2.84]*	3.84 [1.56, 9.40]*	3.34 [1.24, 8.95]*	2.39 [1.12, 5.06]*
(ref 3rd gen)					
4	0.02 [0.00, 0.04]*	1.82 [1.10, 2.99]*	1.04 [0.38, 2.76]	1.39 [0.50, 3.85]	1.93 [0.93, 4.00]

Note. Models adjust for child sex, household poverty, child's general health status and parent's education. CI = confidence interval; OR = odds ratio; ref = reference category.
*$p < .05$.

the 2nd generation, or the 3rd generation as reference groups in terms of having a regular doctor.

In regard to the child being continuously insured the last 12 months (Table 2, column E), compared with 1st generation noncitizens, all higher generations were significantly more likely to be continuously insured. Children of the 4th generation were significantly more likely to be continuously insured than were 1st generation naturalized citizens, the 2nd generation, and the 2.5 generation. The difference between the 3rd and 4th generations in terms of being continuously insured was nearly significant ($p < .10$).

Results of the sensitivity analysis show that GLM results for the total sample were generally similar to those of the Hispanic subgroup, which is not surprising given that the sample reflects the demographics of the study community (i.e., 80% of cases were Hispanic). All findings were in the same direction between the two analyses. In the "access scale" and "no problems with cost" models, two findings dropped in significance from $p < .05$ to $p < .10$ when all children were analyzed instead of just Hispanic children. As compared with the Hispanic subgroup models, there was one additional significant finding ($p < .10$ changed to $p < .05$) in both the "regular doctor" and the "continuous insurance" models when all children were used.

Discussion and Conclusion

In terms of Research Question 1, compared with national surveys of Hispanic children's health care access, children in our sample were more likely to have a regular doctor and continuous insurance coverage (91% vs. 84% nationwide and 85% vs. 82% nationwide; National Survey of Children's Health [NSCH], 2011/2012). They were more likely to experience cost-related barriers to health care; 74% had no problems with cost, while 89% of Hispanic children nationwide were not forced to delay medical care because of cost (NSCH, 2011/2012).

For Research Question 2, results support previous findings that higher generational groups generally experience better health care access outcomes (Avila & Bramlett, 2013; Burgos et al., 2005; DeCamp & Bundy, 2011; Granados et al., 2001; Su & Wang, 2012). However, there are important nuances and complexities that run counter to a stepwise trend. For the access scale and no problems with cost, regular doctor, and continuous coverage, the general pattern of access disparities was defined by three thresholds. The first occurred with the acquisition of citizenship, the second with the presence of two U.S.-born parents (2.5-3), and the third with the addition of all U.S.-born grandparents and parents (3-4). It follows that the acquisition of citizenship entitles the child to programs like Medicaid, which is why citizenship is pivotal in

determining access, regardless of whether the child was naturalized or born in the United States. The latter two thresholds are more surprising, given that few studies have included the 2.5 and none the 4th generation. While previous studies have found the 2.5 generation to be distinct from the 2nd and 3rd generations in terms of access to care (Kao, 2009; Ramakrishnan, 2004), our results suggest that the shift from 2.5 to 3rd generation was more important in determining access to care than was the shift from 2nd to 2.5 generation.

The language outcome followed a different pattern than the other outcomes. The child gaining citizenship or being born in the United States was not a factor in the family having fewer language-related barriers when seeking health care. The significant thresholds were having one U.S.-born parent as opposed to two foreign-born parents (2-2.5) and then having both U.S.-born parents as opposed to one U.S.-born parent (2.5-3). In contrast to the other health care access variables, disparities in language-related barriers did not persist into the 4th generation. This conforms more to the classical model of assimilation, and suggests that by the 3rd generation, the process of basic English-language acquisition is complete (Portes & Hao, 2002).

In answer Research Question 3, this study demonstrated that health care access disparities continue into the 4th generation even when adjusting for socioeconomic status. To our knowledge, no study has examined immigrant disparities beyond the 3rd generation due to an implicit assumption that by the 3rd generation, descendants of immigrants have fully assimilated. Yet, a cultural capital perspective suggests that immigrant health disparities may be more durable and persistent across generations. As Bourdieu (1986) stated, "the transmission of cultural capital is no doubt the best hidden form of hereditary transmission of capital" (p. 246). This suggests that it would take several generations for descendants of an immigrant family to fully gain cultural power (capital) in the health care arena. It would likely take longer for racial/ethnic minority families to achieve these gains due to the pervasiveness of White privilege (Lipsitz, 2008; Rothenberg, 2008), and the fact that lighter skin color is cultural capital in a society dominated by White Anglos (Grineski, 2009).

People with great stocks of cultural capital have formal and informal knowledge related to navigating the health care system to achieve better access and outcomes. This includes knowledge of medications and health conditions, the ability to communicate that knowledge efficiently (Dubbin, Chang, & Shim, 2013; Shim, 2010), knowledge of how to solve health care–related problems, and the inclination to command access to a range of health care options (Grineski, 2009). Deployment of this sort of cultural capital is facilitated by social capital and a sense of entitlement regarding the sort of care that one deserves (Grineski, 2009). Therefore, cultural capital for health care access is more than being able to speak English or have employer-provided

health insurance coverage, although those two characteristics are desirable. And while Hispanic immigrants may have extensive social networks comprised of coethnics (Almeida, Molnar, Kawachi, & Subramanian, 2009), not all social connections are equally powerful (Carpiano, 2007). To most successfully navigate the health care arena, one needs powerful people in one's network and this closely articulates with cultural power (Grineski, 2009).

Our results also suggest the hypothesis that intergenerational trajectories of cultural and social capital accumulation are not shared equally across all groups. The classical assimilation model, which assumed incorporation into mainstream U.S. culture in three generations, was largely based on White ethnics' experiences (Gordon, 1964). In contemporary U.S. society, there may be barriers to accumulating relatively high levels of cultural and social capital for people from disadvantaged racial/ethnic minority groups, such that the highest levels of health care access are difficult to achieve in three or four generations. Indeed, we hypothesize that the generation at which such intergenerational disparities dissolve for people of Hispanic ancestry may correspond with the point at which Hispanic or Latino/a identity becomes symbolic, that is, when a high proportion of generational cohort members cease to self-identify or be identified by others first and foremost as "Hispanic" or "Latino/a."

A future question to answer is what inhibits these disenfranchised higher generational cohorts from accumulating specific forms of cultural and social capital that are particularly instrumental in the health field. This question is important as our analysis demonstrates the persistence of barriers to health care for children, even after a Hispanic family has been in the United States for three generations. To improve on this study and further understanding of intragenerational disparities in access to health care, future research should differentiate between Hispanic country-of-origin subgroups, examine other age cohorts besides elementary-aged children and geographical locations beyond the U.S.-Mexico border, disaggregate undocumented noncitizens from legal resident noncitizens, examine disparities in quality of care, account for ethnic identity, and collect data on nativity of great grandparents to allow for examination of disparities between 4th and 5th generations.

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Note

1. In determining the 1st through 3rd generations, grandparents' nativity was not needed.

References

Abel, T. (2008). Cultural capital and social inequality in health. *Journal of Epidemiology and Community Health*, *62*(7), e13.

Almeida, J., Molnar, B., Kawachi, I., & Subramanian, S. V. (2009). Ethnicity and nativity status as determinants of perceived social support: Testing the concept of familism. *Social Science & Medicine*, *68*, 1852-1858.

Avila, R. M., & Bramlett, M. D. (2013). Language and immigrant status effects on disparities in Hispanic children's health status and access to health care. *Maternal and Child Health Journal*, *17*, 415-423.

Belsley, D., Kuh, E., & Welsch, R. (1980). *Regression diagnostics: Identifying influential data and sources of collinearity*. Hoboken, NJ: Wiley.

Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York, NY: Greenwood.

Bourdieu, P. (1993). *Sociology in question*. London, England: Sage.

Burgos, A. E., Schetzina, K. E., Dixon, L. B., & Mendoza, F. S. (2005). Importance of generational status in examining access to and utilization of health care services by Mexican American children. *Pediatrics*, *115*, 322-330.

Carpiano, R. M. (2007). Neighborhood social capital and adult health: An empirical test of a Bourdieu-based model. *Health & Place*, *13*, 639-655.

Curtin, R., Presser, S., & Singer, E. (2000). The effects of response rate changes on the index of consumer sentiment. *Public Opinion Quarterly*, *64*, 413-428.

DeCamp, L. R., & Bundy, D. G. (2011). Generation status, health insurance, and public benefit participation among low-income Latino children. *Maternal and Child Health Journal*, *16*, 735-743.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, Mail, and Mixed-Mode Surveys: The Tailored Design Method*. Hoboken, NJ: John Wiley.

Dubbin, L. A., Chang, J. S., & Shim, J. K. (2013). Cultural health capital and the interactional dynamics of patient-centered care. *Social Science & Medicine*, *93*, 113-120.

El Paso Independent School District. (2013). *District information*. El Paso, TX: Author. Retrieved from http://www.episd.org/_district/

Enders, C. K. (2010). *Applied missing data analysis*. New York, NY: Guilford Press.

Goldman, D. P., Smith, J. P., & Sood, N. (2005). Legal status and health insurance among immigrants. *Health Affairs*, *24*, 1640-1653.

Gordon, M. (1964). *Assimilation in American life*. New York, NY: Oxford University Press.

Granados, G., Puvvula, J., Berman, N., & Dowling, P. T. (2001). Health care for Latino children: Impact of child and parental birthplace on insurance status and access to health services. *American Journal of Public Health*, *91*, 1806-1807.

Grineski, S. (2009). Parental accounts of children's asthma care: The role of cultural and social capital in health disparities. *Sociological Focus*, *42*, 107-132.

Holbrook, A., Krosnick, J., & Pfent, A. (2008). The causes and consequences of response rates in surveys by the News Media and Government Contractor Survey Research Firms. In J. M. Lepkowski et al. (Eds.), *Advances in telephone survey methodology* (pp. 499-528). New York, NY: Wiley.

Huang, Z. J., Yu, S. M., & Ledsky, R. (2006). Health status and health service access and use among children in U.S. immigrant families. *American Journal of Public Health*, *96*, 634-640.

Jaacks, L. M., Oza-Frank, R., D'agostino, R., Jr., Dolan, L. M. R., Dabelea, D., Lawrence, J. M., . . .Mayer-Davis, E. J. (2012). Migration status in relation to clinical characteristics and barriers to care among youth with diabetes in the US. *Journal of Immigrant and Minority Health*, *14*, 949-958.

Javier, J. R., Wise, P. H., & Mendoza, F. S. (2007). The relationship of immigrant status with access, utilization, and health status for children with asthma. *Ambulatory Pediatrics*, *7*, 421-430.

Kao, D. (2009). Generational cohorts, age of arrival, and access to health services among Asian and Latino immigrant adults. *Journal of Health Care for the Poor and Underserved*, *20*, 395-414.

Keeter, S., Kennedy, C., Dimock, M., Best, J., & Craighill, P. (2006). Gauging the impact of growing nonresponse on estimates from a national RDD telephone survey. *Public Opinion Quarterly*, *70*, 759-779.

Ku, L., & Matani, S. (2001). Left out: Immigrants' access to health care and insurance. *Health Affairs*, *20*, 247-256.

Lipsitz, G. (2008). The possessive investment in whiteness. In P. S. Rothenberg (Ed.), *White privilege: Essential readings in the other side of racism* (pp. 67-90). New York, NY: Worth.

Morrow, V. (1999). Conceptualizing social capital in relation to the well-being of children and young people: A critical review. *Sociological Review*, *47*, 744-765.

National Survey of Children's Health. (2011/2012). *Data query from the Child and Adolescent Health Measurement Initiative*. Available from http://www.childhealthdata.org

Nelder, J. A., & Wedderburn, R. W. M. (1972). Generalized linear models. *Journal of the Royal Statistical Society, Series A*, *135*, 370-384.

Padilla, Y. C., Dalton Radley, M., Hummer, R. A., & Kim, E. (2006). The living conditions of U.S.-born children of Mexican immigrants in unmarried families. *Hispanic Journal of Behavioral Sciences*, *28*, 3331-3349.

Penn, D. A. (2007). Estimating missing values from the general social survey: An application of multiple imputation. *Social Science Quarterly*, *88*, 573-584.

Portes, A., & Hao, L. (2002). The price of uniformity: Language, family, and personality adjustment in the immigrant second generation. *Ethnic and Racial Studies*, *25*, 889-912.

Ramakrishnan, S. K. (2004). Second-generation immigrants? The "2.5 generation" in the United States. *Social Science Quarterly*, *85*, 380-399.

Rothenberg, P. S. (2008). *White privilege: Essential readings in the other side of racism*. New York, NY: Worth.

Shim, J. K. (2010). Cultural health capital: A theoretical approach to understanding health care interactions and the dynamics of unequal treatment. *Journal of Health and Social Behavior*, *51*, 1-15.

Stevens, J., & Artiga, S. (2013). *Key facts on health coverage for low-income immigrants today and under the affordable care act*. The Henry J. Kaiser Family Foundation. Retrieved from http://kaiserfamilyfoundation.files.wordpress.com/2013/03/8279-02.pdf

Su, D., & Wang, D. (2012). Acculturation and cross-border utilization of health services. *Journal of Immigrant and Minority Health*, *14*, 563-569.

U.S. Department of Health and Human Services. (2011). *The 2011 HHS poverty guidelines*. Retrieved from http://aspe.hhs.gov/poverty/11poverty.shtml

Ziol-Guest, K. M., & Kalil, A. (2012). Health and medical care among the children of immigrants. *Child Development*, *83*, 1494-1500.

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