

Education and the Context of Immigration¹

An Analysis of Second Generation Immigrants

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Abstract

Recent economic literature on immigration and ethnic enclaves suggests that immigrant communities play a critical role in the assimilation process. Though immigrants are traditionally viewed as assimilating individually in an anonymous labor market, a recent study has sought to combine the literature on immigrant assimilation with the literature on ethnic enclaves to suggest that assimilation occurs at a group or communal level. Here I explore to what extent the children of immigrants assimilate as a community in terms of educational outcomes. Using data from the U.S. Census on grade retention and enrollment, I find that the outcomes of the children of immigrants closely follow the outcomes of immigrant peers from the same source country and that this effect is increasing in the size of the immigrant community. In addition, I present the surprising result that the children of immigrants from long-assimilated communities may actually be at a disadvantage relative to immigrants from recent but large immigrant communities.

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below the portion in the native population as of 2010. These two contrasting patterns indicate that some second-generation immigrant groups are assimilating to natives across time, while other groups do not change over time and do not differ significantly from natives.

Explaining the variation in the educational outcomes of the children of immigrants across groups is the primary motivation of this paper. The methodology of this paper follows a two-step approach to considering this problem. First, I explore cross-sectional variation across immigrant groups. By examining the size and structure of immigrant communities, I seek to explain why some immigrant communities have similar outcomes to natives while others have outcomes significantly below natives. I find that the size and structure of immigrant communities matter for educational outcomes. Using city-level data from 1960 to 2010, I develop a model that tests the impact of ethnic immigrant enclaves on education. I find that educational outcomes for students in larger immigrant groups are more affected by the immigrant community. This fact helps to explain why relatively small immigrant groups have educational outcomes that are comparable to natives while immigrants from large immigrant groups such as Mexicans are performing at significantly different levels from natives.

Second, I explore why the educational outcomes of particular immigrant communities are changing across time while those of other communities remain relatively constant. For this analysis, I draw upon the findings of Hatton and Leigh (2007) who find that the history of immigrant communities in the United States matter for labor market outcomes. Here I consider the extent to which immigration history affects the educational outcomes of the second generation. While I find no significant effect of immigration history

To test this interactive relationship between immigrant community and host society, Leigh and Hatton (2007) consider how the history of immigration may impact an immigrant community's ability to assimilate. They find that immigrant earnings are positively influenced by the history of immigration in the ethnic community. Immigrants from long-established communities are thus at an advantage relative to immigrants from recent immigrant groups. Their approach captures that assimilation is a multi-generational process whereby each successive generation integrates into and is accepted by the U.S. labor market. With each successive generation, immigrants develop inroads into more diverse sectors of the economy as prejudice against the group fades away.

The economic literature on ethnic enclaves offers significant justification for an analysis of immigrant communities and the impact of immigration history. The cultural and economic differences between natives and immigrants do not simply disappear as a melting pot model of immigration would suggest. Differences in appearance, religion, customs, and language persist. Immigrants may differ in the food they eat, the languages they speak, the services they use, their customs and their social structures. Rather than seeking to dispel or minimize these differences, many immigrants receive unique benefits from their immigrant or ethnic community. The benefits that the community provides can be as tangible as the clothes they wear and as intangible as social interaction or spiritual fulfillment. From an economic perspective, these market and non-market benefits are called "ethnic goods" and result in consumption behavior not shared with the host population. As a result of shared demand for ethnic goods, immigrants tend to form enclaves, or concentrated immigrant communities where individuals can easily access ethnic goods (Chiswick 2005). As more immigrants arrive in the community, the immigrant

such as ours, entire groups of people are ordered in terms of desirability for preferred jobs, with skill-relevant characteristics as additional weights" (Waldinger 1996, page 18). Thus, full immigrant assimilation is a two-way street. The individual immigrant must develop the skills to thrive in the host society, but the host society must also come to accept individuals from the immigrant's ethnic background. In this way, immigrant assimilation is both an individual and a communal process. While immigrants in the early waves of immigration benefit from the support of a close and concentrated community, they may also be at a disadvantage because they will develop cultural and linguistic skills more slowly and may not be fully accepted by the host population. Later immigrants, however, are affected by lower amounts of ethnic support and higher acceptance by the host population. They thus develop language skills quickly and have access to a wider variety of economic sectors.

Although Hatton and Leigh consider the outcomes of first-generation immigrants, an alternative way to assess immigrant assimilation is to consider the second generation. The success of the children of immigrants has been increasingly viewed as a key benchmark of immigrant assimilation (Card 2005) and has been given particular consideration for two reasons. In the first place, the assimilation of adults is often determined by education or work experience that predates immigration, whereas the great majority of the children of immigrants were born in the United States.³ Their education and workplace credentials are thus gained while they are in the U.S., a fact that suggests that their outcomes are a more accurate depiction of the impact of immigration. In the second place, the children of immigrants have a significant long-term impact on the economy. Representing about 10% of the school-age population, nearly all of the children of immigrants will remain in the

³ Using a 2010 3-year sample of the American Community Survey, I estimate that 91% of the school-age children of immigrants were born in the United States.

generation remains a critical group for economic studies of the assimilation of immigrant groups.

Though sample selection bias limits the implications of studies of the first generation, samples selection affects the second generation less. Following the Roy model, individuals who immigrate may have human capital advantages over those who do not immigrate or they may have the most to gain from such a move. One reason for such a bias is that individuals who immigrate may be more motivated to improve their situation. Since immigration is a challenging process, those that attempt it may be more motivated and thus have an unobserved human capital advantage over the native population (Chiswick 1978). This selection bias may overestimate their economic assimilation and how they have been received in the host country. Such selection biases are an issue for the first generation but are not as much an issue for the second generation beyond any disposition that may be passed from parent to child. Since the second generation was born in the host society, the immigration decision is exogenous to any of its characteristics.

Another advantage of studying the second generation is that it allows for an analysis of immigration's impact on educational attainment. Analyzing the first generation in terms of education is difficult. Even if an immigrant quantifiably has the same education as a native, foreign education systems are different and are often of lower quality in countries from which a large number of immigrants come (Bratsberg and Terrell 2002). As a result, their ability to perform certain jobs may be overstated by their educational attainment. This fact may help to explain why immigrants experience lower returns to education (Chiswick 1978). As the children of immigrants attend similar school to native children, this difference in educational quality is not as great a concern for the second generation.

These gains in the second generation are indicative of two important elements of economic assimilation. First, measures of the performance of the second generation give an optimistic view of the assimilation of immigrant groups. The second generation converges or even outperforms natives in the labor market. Second, education plays a central role in economic assimilation. Education is the critical element of assimilation that allows the second generation to converge to natives.

3. Data

Data from the U.S. Census allows for analysis of the educational outcomes of the children of immigrants to the U.S. between 1960 and 2010. For census years from 1960 to 2000, I use data from the U.S. Census that takes place every ten years, while for 2010 I use the combined 3-year sample from the American Community Survey which combines observations from 2008, 2009 and 2010 to take advantage of a larger sample size. As individuals are identified by household in these surveys, children under 18 who live in the same household as their parents can be easily matched to their parents' characteristics. The birthplace of parents of the majority of children is thus identifiable in the dataset, a feature of the data that allows me to identify native students and the second-generation of immigrants by the country of origin of their parents. I use a subset of this data that includes the children of immigrants ages 6 to 17 who were born in the United States.

Three common indicators of educational progress in the literature are grade-for-age, enrollment at age 6, and enrollment at age 17. Grade-for-age measures whether students are "on-time" in their educational progress by comparing their enrolled grade to students in the same age cohort (Page & Oreopoulos 2002). Though this measure is usually

U.S. Census allows for a comparison of individuals in these particular cohorts for 1960, 1970, 1980 and 2010. The U.S. Census did not collect information on grade currently attending in the 1990 census. Although it collected such data in 2000, grade levels are grouped together and so the exact grade level of the student is not observed. Grade-for-age is constructed by first calculating the median grade for students born in a particular birth quarter in each state for each year. As would be expected, most students are heavily concentrated about the median, indicating that most students are at a comparable grade level to their cohort peers. Any student whose grade level is at or above the cohort median has a value 1 for grade-for-age. In this paper, grade-for-age is thus a positive indicator as it indicates that a student is "on time" in their educational progress and did not repeat a grade. Any student whose grade is below the median receives a value 0 for this binary variable.

Enrollment at age 6 is a similar measure of educational attainment. In previous research, it has been interpreted as an indication that parents have successfully enrolled their children and are thus well aware of the normal progress of education. Within the context of immigration, immigrant parents who enroll their children at this early age are aware of and committed to the educational expectations of the host society. Enrollment at age 17 is an indication that the student has remained in school until the age of 17. It is thus another positive indicator of educational progress because the individual has not dropped out by this age and is continuing their education. Since a child is only matched to his or her parents when they are in the same household, this measure of dropout rates is not ideal because dropping out is associated with moving out of the household of the parents (Page & Oreopoulos 2006). The sample of second-generation immigrants for this specification

For the majority of this analysis, immigration history Z_{jrt} is estimated by the mean of immigrant stock per 100 population over the 100 years prior to the observation year (t). It is calculated as follows for an observation in year t :

$$Z_t = 10 \sum_{k=t-110}^{t-10} M_k \quad (3.1)$$

4. Empirical Methodology

4.A Immigrant Enclave Model

The first research question examined in this paper is the impact of ethnic origin enclaves on the educational outcomes of second-generation immigrants. The following model considers the effect of the size of the immigrant community on educational progress. It also reports the extent to which a student's progress is predicted by his or her immigrant peers. Since each of the three binary indicators of educational progress that I use are concentrated near 1, a probit model is the preferred estimation method given the structure of this data. I estimate the following model:

$$E_i = x_i^T \beta = \alpha + \beta_1 M_{jct} + \beta_2 E_{jct} + \beta_3 M_{jct} E_{jct} + X_i \Gamma_i + j + c + t + \varepsilon_{jct} \quad (4.1)$$

In this model, E_i is the predicted probability of a positive educational outcome for an individual second-generation immigrant (i). In this context, it represents grade-for-age (grade retention status) and enrollment status at age 6 (early enrollment) and enrollment

family and whether a language other than English is primarily spoken in the home. The vectors j , c , and t control for fixed effects for the immigrant group, the city of residence and the census year, respectively.

In a non-linear regression model such as probit, the coefficients cannot be interpreted as partial effects. I instead present the marginal effects at the mean of this model implied by the probit coefficients (Table 3). These allow for an interpretation that is similar to the interpretation of a coefficient in a linear OLS estimate. The marginal effect at the mean is an approximation of the change in the probability that the educational outcome is 1 given a unit change in the explanatory variable while holding other explanatory variables at their means. However, an interaction effect such as the one in this model is difficult to interpret in a non-linear model and has frequently been misinterpreted in applied econometrics (Ai & Norton 2003). While this may be a concern in some contexts, I use the standard method of calculating marginal effects in this paper and model my interpretation off DeLeire (2000) in which the coefficient on a similar interaction term is correctly interpreted.

4.B History of Immigration Models

Motivated by the hypothesis that immigrants assimilate as communities, I move to an analysis of aggregated outcomes at the state and national levels. Educational progress is a group outcome in this framework. I examine the impact of the size of the immigrant community and immigration history on the educational progress of the second-generation immigrants in an immigrant community. I estimate the following model of relative immigrant educational outcomes:

other environmental influences may vary largely by state and may thus have a significant effect on outcomes. The vector (t) captures variation across census years.

4.C Individual-level model for immigration history

Given the potential impact of individual characteristics on educational outcomes and their potential correlation with immigration status, I also model educational progress for individuals. The following model is analogous to the baseline specification for the aggregate-level model of immigration history presented in the previous section. As each of the binary indicators of educational progress that I use is concentrated at 1, a probit model is again the preferred estimation method. However, the dependent variable is simply a binary educational outcome for the individual rather than a relative measure for the group. The effects of past and present immigration on the individual are estimated as follows:

$$E_i = x_i^T \beta = \alpha + \beta_1 M_{jrt} + \beta_2 M_{jrt}^2 + \beta_3 Z_{jrt} + \beta_4 Z_{jrt}^2 + X_i \Gamma_i + j + s + t + \varepsilon_{jst} \quad (4.3)$$

The marginal probability effects at the mean of this model are reported in Table 6. The principle covariates of interest are the same as in the national and state models presented previously except that immigrant populations are now calculated at the regional level (r). While the samples of certain immigrant groups in some states are small, considering the immigrant population in the nine census regional divisions allows for consistently large sample sizes for even small immigrant groups. Estimates are thus more accurate at the regional level than at the state level. Though regions are significantly larger than states, regional data captures much of the differences in immigration populations across the

America, and Mexico appear to be converging to natives over the past five decades. Most dramatically, Mexicans had educational progress fully 20% below natives in 1970, while in 2010 they had educational progress only 5% below natives. With the exception of Southern Europe, immigrants from these regions represent the largest growing proportion of the immigrant stock in the United States. While Mexicans accounted for 6.4% of the foreign-born population in 1960, they represented 28.8% of the foreign-born population in 2000 (Table 1). The most recent immigrant groups are thus the groups that have demonstrated the largest change in grade-for-age.

5.B Immigrant Enclaves: Density and the Relationship of Immigrant Peer Outcomes to Own Outcomes

Table 3 reports the marginal effects at the mean of the size of the immigrant community and average peer outcome on three indicators of educational progress. The net effect of the size of the immigrant community is positive on all three educational outcomes as indicated in Columns (I) and (II). Holding other terms at their means, a percentage point increase in the size of the immigrant community beyond the mean increases the probability that a student from that immigrant group is in the right grade for his or her age by 0.39%.

The large and positive coefficient on the interaction term suggests that immigrants closely follow the outcomes of peers their community, especially when the community is large. This fact helps to explain why relatively small immigrant groups have educational outcomes that are comparable to natives while immigrants from large immigrant groups such as Mexicans are performing at significantly different levels from natives. The interaction term is positive and significant for grade-for-age. This coefficient indicates a

does not offer conclusive evidence for the effect of immigration history, the sign and magnitude of the effect offers some insight into how education is affected by past immigration. The sign is negative, a result that suggests that immigrants from communities without an extensive legacy in the United States may actually be at an advantage. Still, the magnitude of these effects is small relative to the effect of past immigration found on education in previous research. Ultimately, however, this model does not offer conclusive evidence on the effect of immigration history. Immigration history may therefore not be a significant driver of variation in educational outcomes of entire immigrant communities.

Following these insignificant results, I consider whether a longer history of immigration has a more significant impact on education. I do this by considering the magnitude and significance of the coefficient on past immigration in only particular years in the past. I compare the effects of immigration history 30 years, 70 years, and 100 years prior to the observed period. Table 5b thus presents an analogous analysis to the one in Table 4 but with measures of immigration history that are particular to past years. Given the strong correlation in immigrant population stock across years as presented in Table 5a, including the past stock for multiple years in the same regression results in erratic changes in the coefficients due to multicollinearity. Instead of a single estimate, I present three separate estimates, one for immigrant stock in the three lagged time periods. I then compare the magnitude of the coefficients for these periods. For both grade-for-age and enrollment at age 17, the effect of the immigrant community 30 years ago is much stronger than the effect of immigration in the distant past. Although this coefficient is only significant for enrollment at 17, there is a large positive effect estimated for both grade-for-age and enrollment at 17. Holding all else equal, a 1 percentage point increase in the

individuals. Table 6 Column (1) reports the marginal probability effects of past and present immigrant stock on grade-for-age. As such, coefficients are interpreted as the implied marginal effects of unit changes at the mean. Even though marginal effects may be different at different values, in this case marginal effects at the mean are representative. The critical result is that a strong tradition of immigration is associated with lower probability of being on time in educational progress. When considering the effects of both the level and quadratic terms, the net effect of immigration history is negative. In precise terms, a percentage point increase of immigrant stock in the past 100 years beyond the mean 1.78% is associated with a 0.011 decline in the probability that a student from that immigrant group is in the appropriate grade for his or her age. This result suggests that the children of immigrants from well-established immigrant groups are actually at a disadvantage relative to other immigrants.

While educational progress is decreasing in immigration history, it is increasing in current immigration. In fact, for every one percentage point increase of current immigrant stock beyond the mean 3.44%, the probability that a student from that immigrant group is in the appropriate grade for his or her age increases by 0.012. While this finding appears to be consistent with my result that a larger immigrant enclave results in higher educational outcomes, this result is again surprising given Hatton and Leigh's result that coming from a large immigrant community negatively impacts economic outcomes for the first generation. To consider why the result is different in the context of education for the second generation, it is important to again consider the impact of immigrant enclaves. Students who come from large immigrant groups are at an advantage in the sense that they benefit from the support of their immigrant communities and from attending school with students

grade retention, early enrollment, and dropout rates. Moreover, immigrant outcomes closely follow those of their immigrant community. This effect is increasing in the size of the community; the larger the community, the closer are the outcomes of its members. This effect indicates that the second generation assimilates at a community rather than as individuals because the educational outcomes of the group are able to predict the outcomes of the individual. The finding thus opens the possibility for further exploration of the community assimilation of the second generation.

While aggregated results at the state and national level are insignificant, on the individual level I find that the immigration history of a community has a negative effect on educational outcomes such as grade retention, early enrollment and dropout rates. This effect is coupled with the finding that immigrant groups with currently large populations are at an advantage over smaller groups in terms of educational outcomes. These two findings suggest that coming from an established but smaller immigrant community may actually be a disadvantage in school performance. Although this outcome does not have the predictive power to explain why educational outcomes vary so greatly across immigrant groups, it is informative at the individual level.

Especially in light of Hatton and Leigh's 2007 result that immigration history exerts a positive impact on labor market outcomes, this result comes as a surprise since we would normally consider individuals from well-established immigrant communities to have an improved context of immigration. From this point of view, immigrants from such communities benefit from less discrimination from natives and less insular immigrant enclaves. The multifaceted literature on immigrant enclaves, however, may shed some light on how immigration history may be negatively impacting the educational progress of

vicinity of each other and attend the same schools allows schools to more directly address the educational concerns of immigrant students. Spanish and English bilingual education, a practice now common in parts of the country with large Latino populations, allows schools to address the challenge of language acquisition that is particular to second-generation immigrants. Of course, no such programs exist for immigrants from well-established immigrant groups because they do not represent a sufficiently sizeable portion of the population and they do not necessarily attend the same schools because they tend not to live in enclaves.

A third explanation relates to the structure of this model. Recall that grade-for-age compares students of the same age to others in the same state. Immigrants from more recent immigrant groups may make up a larger portion of the state population, and thus it is more likely that students from this immigrant group are at the median grade simply because this group represents a larger portion of the comparison group.

I hypothesize that this reversal in effect for the second generation is a reflection that education is a critical element of intergenerational assimilation. As Hatton and Leigh confirm, immigrant groups develop and converge to natives with each new generation of immigrants. Education may play a critical role in this convergence as it allows for the second generation to assimilate both culturally and economically. Though this hypothesis would have to be tested further, more recent immigrant groups are able to converge through the higher educational performance than older immigrant groups.

The reason for which more recent immigrant communities are outperforming older immigrant communities may be twofold. First, incentives drive the decisions of individual students and families. For more recent communities that are not well-established or are

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I collected data for this analysis using Integrated Public Use Microdata for harmonized data samples on people in the U.S. census and American Community Survey. Most of the data for my analysis was thus provided by the Minnesota Population Center (usa.ipums.org).

Table 1 Origin composition of U.S. immigrant stock (as percent of foreign-born)

Region of Origin	1950	1960	1970	1980	1990	2000
Mexico	7.0	6.4	9.3	17.3	22.9	28.8
Central America & Caribbean	1.8	3.0	9.0	13.0	15.0	15.3
South America	0.5	1.1	3.1	4.6	5.4	6.2
Northern Europe	20.2	18.2	15.0	8.9	5.9	3.8
Western Europe	3.4	4.0	3.9	2.5	1.9	1.3
Southern Europe	20.9	17.7	15.4	11.0	6.1	3.6
Central/Eastern Europe	31.1	32.6	26.4	15.6	10.8	7.6
Russian Empire	11.1	10.4	6.5	3.8	2.0	2.9
East Asia	1.4	2.7	4.9	7.9	10.5	9.5
Southeast Asia	0.6	1.4	2.4	7.6	10.8	10.3
India/Southwest Asia	0.1	0.2	1.0	3.2	4.3	5.6
Middle East/Asia Minor	1.5	1.7	1.8	2.3	2.1	1.9
Africa	0.2	0.3	0.9	1.5	1.8	2.6
Oceania	0.3	0.4	0.5	0.7	0.6	0.6
Totals	100.0	100.0	100.0	100.0	100.0	100.0

Source: Calculated from birthplace statistics from census data provided by IPUMS. Following the analysis of Hatton & Leigh, the totals exclude those born in Canada and U.S. territories.

Table 2 Summary Statistics for the Second Generation of Immigrants

Region of Origin	Portion of Sample	Grade-for-age (ages 7-15)		Enrollment at Age 6		Enrollment at Age 17	
		Mean	S.D.	Mean	S.D.	Mean	S.D.
Second-generation immigrants	1.000	0.741	0.438	0.961	0.194	0.810	0.392
<i>Origin of Parents</i>							
Mexico	0.289	0.718	0.450	0.964	0.185	0.872	0.339
Central America	0.037	0.770	0.420	0.961	0.193	0.914	0.280
Caribbean	0.069	0.778	0.416	0.971	0.161	0.923	0.266
U.K. & Ireland	0.085	0.828	0.378	0.969	0.174	0.917	0.277
Western European	0.026	0.835	0.371	0.973	0.162	0.937	0.243
East Asia	0.058	0.845	0.362	0.971	0.168	0.969	0.173
Below 125% poverty level	0.427	0.682	0.466	0.947	0.224	0.737	0.440
Mother has no high school credential	0.372	0.669	0.471	0.944	0.231	0.817	0.387
No. of Observations		899,884		173,993		214,482	

Table 4 Estimates for relative grade-for-age, enrollment at age 6, and enrollment at age 17

	National			State		
	Grade-for-age	Enrollment at age 6	Enrollment at age 17	Grade-for-age	Enrollment at age 6	Enrollment at age 17
	(I)	(II)	(III)	(IV)	(V)	(VI)
Average years since migration/100 (j, s, t)	-0.0039	0.0025	-0.0006	0.0039	0.0008	0.0048
Immigrant stock per 100 population (j, s, t)	-0.0142	-0.0084	-0.0087	-0.0033	-0.0023	(0.0026)*
Immigrant stock per 100 population squared/100 (j, s, t)	-0.1901	0.2816	-0.1392	-0.0166	-0.0007	-0.0196
Past stock per 100 (30, 70, 100 years ago) (j, s, t)	-0.508	-0.1747	-0.1818	-0.0165	-0.007	(0.0079)**
Past stock per 100 squared (30, 70, 100 years ago) (j, s, t)	1.5569	-0.1778	0.2568	0.003	0.0004	0.0024
Year	-1.4011	-0.2296	-0.2388	-0.0022	-0.0008	(0.0009)***
Parent birthplace State	4.3264	-1.1827	-0.2967	0.001	0.0026	-0.0022
R-squared	(1.7388)**	-0.8927	-0.9285	-0.0077	-0.0037	-0.0042
No. of Observations	-26.0426	8.5179	6.8915	-0.0001	-0.0003	0
	(14.4682)*	-6.1718	-6.4194	-0.0005	-0.0002	-0.0003
	X	X	X	X	X	X
	X	X	X	X	X	X
	X			X	X	X
R-squared	0.85	0.57	0.64	0.08	0.06	0.12
No. of Observations	48	80	80	2,047	2,821	2,647

* p<0.10; ** p<0.05; *** p<0.01

Table 6 Probit model for individual effects on grade-for-age, reporting marginal effects

	Sample sets	
	All second-generation immigrants	Family below 125% poverty level
	(I)	(II)
Immigrant stock per 100 (j, r, t)	0.0125 (0.0023)***	0.0368 (0.0055)***
Immigrant stock per 100 squared/10 (j, r, t)	-0.0002 (0.0002)	-0.0003 (0.00005)***
Past immigrant stock per 100 (j, r, t)	-0.0115 (0.0032)***	-0.0467 (0.0098)***
Past immigrant stock per 100 squared/10 (j, r, t)	0.0002 (0.00005)***	0.0008 (0.0002)***
Years since mother's immigration/100	0.0019 (0.0014)	0.0118 (0.0043)***
Mother completed high school	0.0375 (0.0023)***	0.3769 (0.0057)***
Family below 125% poverty level	-0.0534 (0.0026)***	(excluded)
Language other than English in home	-0.0008 (0.0026)	-0.0066 (0.0072)
Female	0.0505 (0.0019)***	0.0419 (0.0046)***
Age	X	X
Race and ethnicity	X	X
Year	X	X
Parent birthplace	X	X
State	X	X
Observed P	0.7943	0.7216
Predicted P (at x-bar)	0.8012	0.7273
No. Of Observations	177310	38950
Pseudo R-squared	0.0287	0.0276
Log likelihood	-87533.55	-22401.61

* p<0.10; ** p<0.05; *** p<0.01