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# Explaining the generational gap of migrant households

## ***** Presentation Paper *****

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**Abstract**

Quantitative work has demonstrated that among immigrant groups in the United States there are quite varied differences in inter-generational outcomes. This paper presents a qualitative examination as to what produces these differences. The underlying theory is that educational outcome differences are due to exogenous shocks that alter household educational investment choices. This paper finds that after controlling for shock, community characteristics, and household resources, being of Mexican or Asian ancestry continues to have a significant impact on educational outcomes. All other ancestries captured in this dataset are shown to be insignificant. The negative effect from being of Mexican ancestry appears only if one is raised in a household with low social economic resources. While, the positive effect of being of Asian Ancestry is only found for households with higher social economic resources.

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## 1 Introduction

The social-economic outcome of individuals tends to be highly deterministic to the location where one is born. Immigration has offered tens of millions the opportunity to escape unseen

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forces that keep future generations at similar perils in their home countries. The question that this paper seeks to address is why after migrating from a poor to a rich country, like the United States (US), do we still see large disparities in economic outcomes between say Hispanics and Asians. For instance, 17.1 percent of second generation Hispanics live at or below the poverty line versus 10.9 percent of second generation Asians[1]. It has been suggested that Asian communities tend to achieve better economic outcomes than other immigrant communities because they have stronger social networks. However, who is to say that Hispanics do not have the same strong social interdependent communities. Rather than to focus on the strength of social linkages the data offers a simpler explanation in that Asian's tend to have higher levels of first generation education than Hispanics[2]. This simplifies the analysis to one of economic and genetic resources. In the aggregate this may be what is in fact taking place.

Our task is to evaluate the micro foundations of these observations. In particular, one expects that new immigrants entering the US enjoy improved access to capital used to finance both personal consumption and inter-generational human capital investment. If this were the case then one expects to see 3rd generation Hispanics narrowing the achievement gap between themselves and Asians or Whites. Yet, this is not what the data suggests. According to figures in Rumbaut (2008), 25 year and older 3rd generation Hispanics have an incidence of completing a bachelor's degree of 11.3 percent compared to Asians 34.6 percent and Whites 26.1 percent in the 3rd generation. In fact, 3rd generation Hispanics tend to have relatively similar educational achievement outcomes as 3rd plus generation Blacks. This suggests that Blacks and Hispanics face similar challenges that prevent them from achieving their full potential.

[1]These figures are taken from table 1B in Rumbaut (2008) and are meant to capture 18 to 34 year olds in the US in 2006.

[2]Rumbaut (2008).

This paper proposes a theoretical explanation to the achievement gaps of these groups. In particular, it is our view that cultural characteristics play a small role at explaining these economic outcomes. In fact, work by Trejo (2003) shows that if one controls for educational achievement and work experience, then, by the third generation Mexican-Americans and Whites earn similar returns to education. That is to say, Blacks or Hispanics' realized economic outcomes are not a function of race. Rather, it is one of educational attainment. We argue that at the micro level, educational investment choices and other resource allocations are influenced by negative shocks such as crime and the risk of deportation that prevent otherwise promising individuals from fulfilling their full potentials.

This paper will tackle this problem by postulating that negative household shocks alter household investment decisions that ultimately affect inter-generational educational outcomes. The effect of a shock is straightforward; a shock reduces present investment in human capital accumulation that leads to a lower educational achievement level. The following period, as the household chooses its lifetime allocations they are made with an already negatively impacted resource base. The empirical investigation of the underlying theory is conducted with data from the Children of Immigrants Longitudinal Study (CILS). For the most part we find that ancestry plays no effect on educational outcomes when measures of household resources, community characteristics, and shocks are included. However, two notable exceptions arise. Those of Mexican and Asian ancestry significantly affect education attainment at age 24. These two findings are however found to be dependent on household resources. For example, being of Mexican ancestry is found to have a negative effect on education outcome if one is of lower social economic resources. While the Asian ancestry positive effect is only found in households with higher social economic resources. The Mexican ancestry outcome is perplexing as it suggests that being poor and of this group is a different experience to any other group under similar circumstances. A possible explanation

may be found in the work by Ganderton & Santos (1995) that find that Hispanics are more likely to delay entry to college, choose a 2-year school rather than 4-year school, and be more likely to switch between full-time to part-time student status.

The paper is organized as follows. Section 2 presents evidence of educational attainment differences of immigrant groups and the measure of social economic resources and shocks used. Section 3 describes data used and dataset. Section 4 presents the empirical investigation. Finally, section 5 provides concluding remarks.

# 2 Evidence on educational attainment and household shocks

Work by Rumbaut (2004) has shown that immigrant groups in the US have quite diverse outcomes when it comes to education attainment. Most often the outcomes are tied to parents' own educational attainment. Table 1 shows fathers educational attainment by place of birth[3]. As a whole, about 28% of the sample had a college degree or more. Roughly an equal amount had less than a high school degree (9+7+12). The data suggests that differences exist between fathers who are US born and foreign born (rows 2 and 3, table 1). The differences are evident in the low levels of education category. For instance, of the total sample of foreign born fathers 30 percent had completed some high school or less versus US born fathers of 13 percent. These educational differences are more apparent when the data is disaggregated by country of origin.

The data shows that the country of origin plays an important role at explaining fa-

[3]The data on tables 1 - 3 comes from the Children of Immigrants Longitudinal Study (CILS) dataset. The CILS is a three wave study that tracks middle school age children through age 24. A detailed description of the data can be found in section 3.

thers' educational attainment[4]. Of the fathers born in Mexico 31% had attained elementary education or less while only 7% had completed a college degree or more. Although, there are only 522 observations on the dataset of fathers born in Mexico the distribution of educational attainment is consistent with aggregate 1st generation Mexican educational attainment as found in Rumbaut (2004)[5]. Filipinos in comparison were more likely to have some college or have college degrees (66%) and less likely to have less than a high school degree (6%). Vietnamese were closer in fathers' educational attainment to Mexicans than Filipinos. Of the sample, the Vietnamese population was the only other group with enough observations that had low levels of fathers' educational attainment. However, the Vietnamese sample had much higher levels of educational achievement than those of Mexican origin.

Figure 1 shows the mean and standard deviations (based on the six categories used on table 1) of fathers educational attainment by place of birth. Figure 1 shows that those of Mexican birth mean category of education is roughly 3 (or some high school) while the next group up, Indochina, has a mean of 3.6. All other groups have a mean educational attainment of or greater than high school graduate.

Table 2 shows educational attainment at the third wave of the study by generation. Roughly, the average age of respondents was 24.5 years. The expectation is that by this age traditional students to have completed their undergraduate degree (6 years after high school) and less traditional students to be enrolled in school. All respondents were in middle school at the time of the first wave of the survey. Generations are defined as 1.5 if child is foreign born, 2 if child is US born with foreign born parents, and 2.5 if child is US born with one or both parents being US born (as in Rumbaut (2004)).

Given 1st generation educational attainment levels one expects higher educational at-

[4]Fathers of the nationalities presented in table 1 had over 200 observations.

[5]Table 6 using Current Population Survey (CPS) data of roughly 7 million Mexicans Rumbaut (2004) finds that 53% of the 3.3 million 1st generation Mexicans to have less than a High School degree.

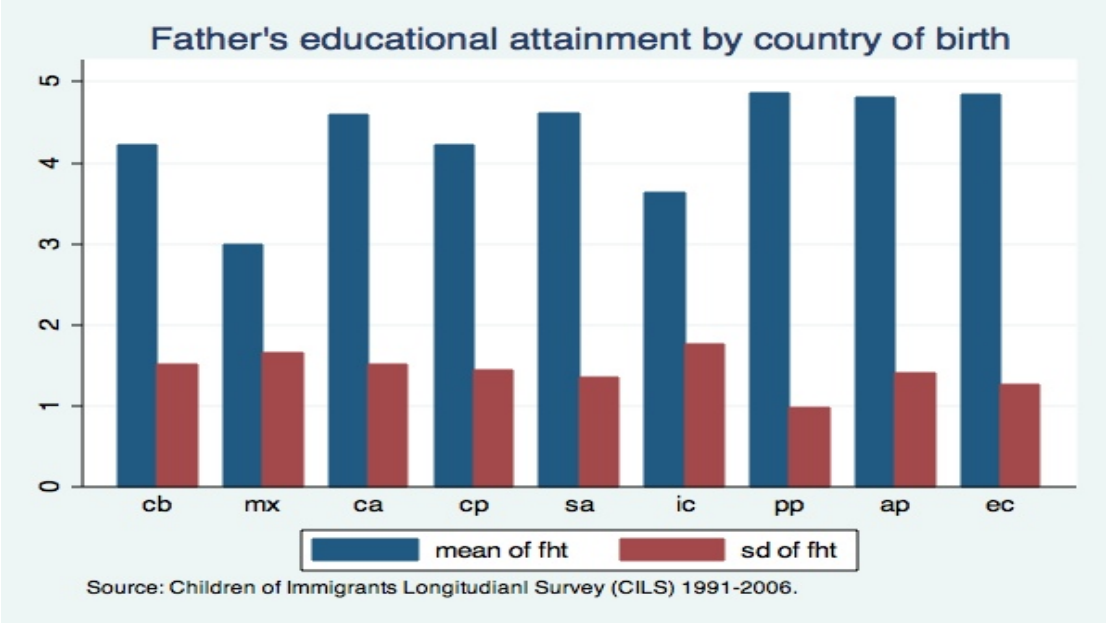


Figure 1: Cuba (cb), Mexico (mx), Central America (ca), Caribbean plus (cp), South America (sa), Indochina (ic), Philippines (pp), Asia plus (ap), and Europe/Canada (ec). Central America (Nicaragua; El Salvador; Guatemala; Honduras; Costa Rica; Panama). Caribbean Plus (Dominican Republic; Haiti; Jamaica; West Indies). South America (Colombia; Argentina; Chile; Ecuador; Peru; Venezuela; Other South America). Indochina (Vietnam; Laos; Cambodia; Hmong). Asia Plus (China; Hong Kong; Taiwan; Japan; Korea; India; Pakistan; Other Asia; Middle East and Africa).

tainment gains for children whose fathers had a low level of education. Table 2 shows that students of Mexican ancestry decrease their incidence of attaining less than a high school education in future generations. There is a consistent and strong upward trend in some college while at 24 this historically nontraditional college population has the lowest college completion and graduate plus attainment. The Indochina group, which includes historically low 1st generation educational attainment levels show clear improved inter-generational educational achievement. Other groups with historically high levels of 1st generation educational achievement like Filipinos, Asian Plus, and South Americans appear to maintain stellar numbers. Of all groups, those of European and Canadian ancestry 2.5 generation appear as the most

traditional with 35% having completed a 4-year degree and 13.5% attempted or completed graduate work. Only South Americans generation 2.5 come close to matching the attempted or completed graduate work with 13% versus that of European and Canadian ancestry.

Those of Caribbean Plus and Filipinos appear to have an increasing trend in inter-generational high school completion. Those of Mexican ancestry appear to have a declining inter-generational trend in less than high school and high school completion. However these numbers are higher than all other groups in the sample. By far, it is the group least likely to attain post high school education.

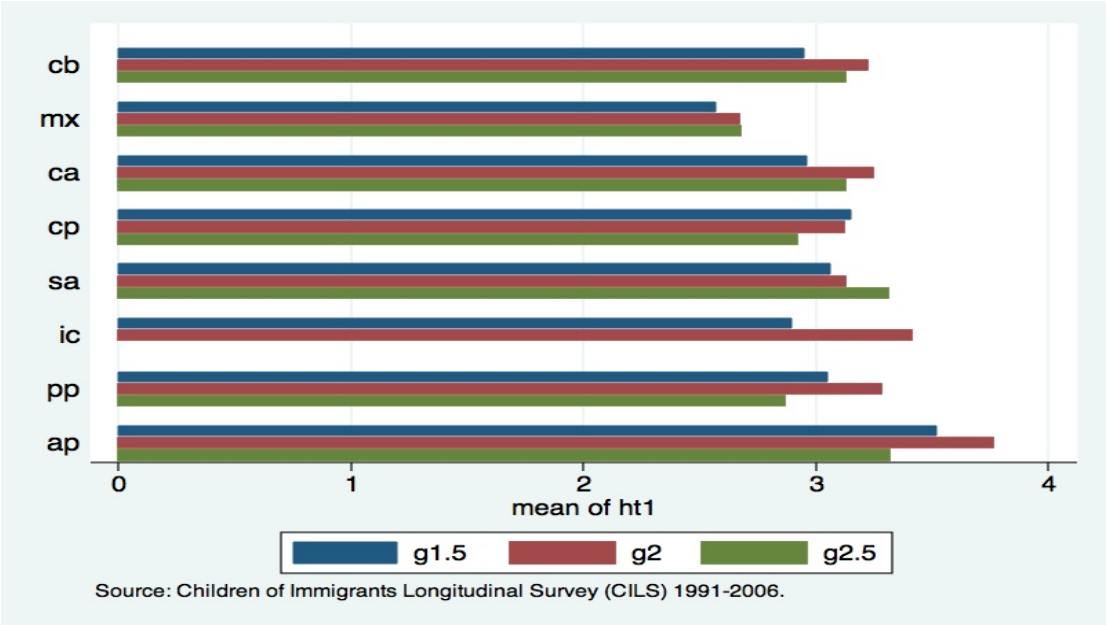


Figure 2: Educational attainment at 24 by ancestry and generation. Cuba (cb), Mexico (mx), Central America (ca), Caribbean plus (cp), South America (sa), Indochina (ic), Philippines (pp), Asia plus (ap), and Europe/Canada (ec). Central America (Nicaragua; El Salvador; Guatemala; Honduras; Costa Rica; Panama). Caribbean Plus (Dominican Republic; Haiti; Jamaica; West Indies). South America (Colombia; Argentina; Chile; Ecuador; Peru; Venezuela; Other South America). Indochina (Vietnam; Laos; Cambodia; Hmong). Asia Plus (China; Hong Kong; Taiwan; Japan; Korea; India; Pakistan; Other Asia; Middle East and Africa).

However, when considering mean educational attainment by generation as shown in figure 2 it is clear that those of Mexican ancestry under achieve relative to peers. By generation 2.5 those of Mexican origin have a mean category educational outcome of 2.7 while the Filipinos of the same generation has a mean of 2.9. Only those of Cuban, Central American, South American, and Asian plus ancestry are well above the 3rd category (some college) as the groups mean at generation 2.5.

However, educational attainment at 24 may not be a good instrument for inter-generational educational attainment since some of these groups may not be traditional college students. Consider then average GPA of these students in 1995 when most were 11th and 12th graders as a proxy for likely eventual educational attainment[6]. GPA's are based on school records. Table 3 breaks the data into four percentile categories based on GPA's with a range from zero to five. Table 3 shows that the entire sample is increasing in the 3rd quarter percentile group while the top quarter percentile is decreasing in inter-generational GPA achievement. That is, on average foreign-born student are more likely to be in the top quarter percentile than US born students. There appears to be little differences across generations for those on the 1st and 2nd percentiles groups.

Students of Cuban, Mexican and Central American ancestry have less than 20% of their respected groups in the top quarter percentile at generation 1.5. Of these, Cubans have the clearest inter-generational gains while Mexicans are flat and Central Americans appear to be declining at the top quarter percentile[7]. By generation 2.5 those of Mexican and Cuban ancestry appear indistinguishable in all percentile categories. South American and Caribbean plus groups appear to weaken in their performance at the top percentile in

[6] Ganderton & Santos (1995) find both test scores and high school GPA as a strong predictor of college attendance and college completion. Similarly, Jepsen (2008) finds 8th grade test scores to be a strong predictor of college attendance.

[7] The Cuban experience may be more a reflection of the class structure of recent immigrated children vis-á-vis those related to the first wave of immigrants following the Cuban Revolution.

subsequent generations.

Table 3 further splits the observations into two categories based on the first wave measure of Social Economic Status (SES) index constructed by the authors of the survey[8]. The middle rows are for groups whose parental SES index are on the bottom 50th percentile and the bottom rows for those on the top 50th percentile. Those of Mexican ancestral origin in the bottom 50th SES percentile maintain their achievement performance. Interestingly, at the top 50th SES percentile this same group faces declining inter-generational achievement at the top 25th GPA percentile. In addition, regardless of SES those of Mexican descent at generation 2.5 have almost identical results. For the exception of those of Cuban ancestry, all groups in the sample appear to decline in numbers at the top GPA quarter percentile in the top 50th SES percentile.

Table 3 tells us a number of interesting trends. 1) Children who grow up in more affluent households tend to have higher incidence of performing at the top quarter percentile (average GPA of 3.15 and above). 2) Regardless of household resources, generation 2.5's performance appears to stabilize at the above average 3rd quarter percentile (between 2.46 and 3.15 GPA) at roughly 29%[9]. And, 3) at the top 50th SES percentile there appears to be a well defined overall trend on each of the quarter percentiles; while the bottom 50th percentile groups appears more volatile.

However, evaluating the aggregate numbers, mean GPA of Mexican ancestry at generation 2.5 is at par with South Americans with a mean of 2.33 and above those of Caribbean plus (as shown in figure 3). Figure 3 also shows that those of Indochina, Filipino and Asian plus ancestry are in a different mean GPA category.

[8]The SES index has been modified to be strictly positive by adding 2 to the original value. The SES has a range of .34 to 4.09 with a mean of 1.98 and standard deviation of .76.

[9]The clear exception are those of Mexican ancestry.

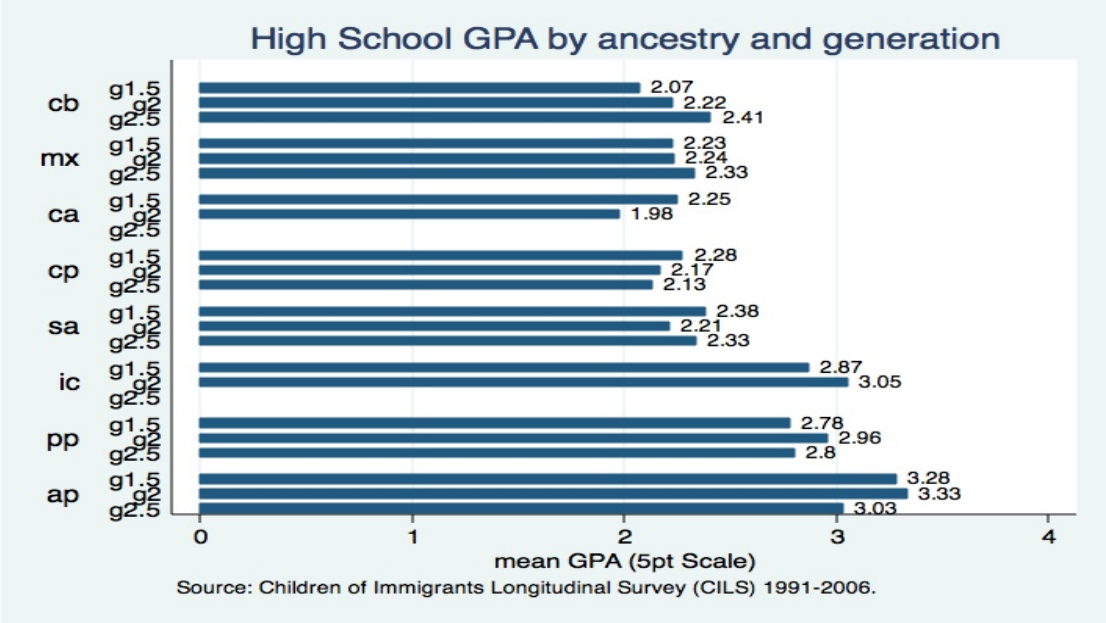


Figure 3: Cuba (cb), Mexico (mx), Central America (ca), Caribbean plus (cp), South America (sa), Indochina (ic), Philippines (pp), Asia plus (ap), and Europe/Canada (ec). Central America (Nicaragua; El Salvador; Guatemala; Honduras; Costa Rica; Panama). Caribbean Plus (Dominican Republic; Haiti; Jamaica; West Indies). South America (Colombia; Argentina; Chile; Ecuador; Peru; Venezuela; Other South America). Indochina (Vietnam; Laos; Cambodia; Hmong). Asia Plus (China; Hong Kong; Taiwan; Japan; Korea; India; Pakistan; Other Asia; Middle East and Africa).

## 2.1 Exogenous shock

This paper will explain these educational differences as a function of household resources, community characteristics and exogenous shocks. In what follows we describe our shock measure.

The shock variable is created as an index based on six survey questions (See footnote 19). This variable is meant to capture shock to student even if some of the events in the survey are predictable by the parent. The index is found to affect (be positive) for 58% of observations. It has a mean of .14 and standard deviation of .15. The shock variable used

in the analysis is a dummy variable labeled "shk" that takes a value of one if the shock variable is equal or greater than mean plus two times the standard deviation. "shk" is found to affect roughly 24 percent of the sample. By region those of European/Canadian and Caribbean plus ancestry have greater incidences of exogenous shocks with 38% and 33% of their respective groups. At the other extreme, those of Filipino and Asian plus ancestry had an incidence of 18% of their respected groups impacted by a shock. All other groups fall within these ranges.

# 3 Data

We employ data from the Children of Immigrants Longitudinal Study (CILS) survey from 1991-2006. The data was obtained from the Inter-University Consortium for Political and Social Research (ICPRS).

CILS was designed to study the adaptation process of second generation immigrants. The sample was conducted in both public and privates schools to students attending 8th and 9th grade in the metropolitan areas of Miami/Ft. Lauderdale Florida and San Diego California. The total sample covers a little over 5,000 observations of respondents over 70 nationalities. There was a follow up survey 3 years later in addition to a parental survey. Finally, there was a 3rd follow up survey when the students were roughly 24 to 25 years of age[10].

We adopt the generational coding outlined in Rumbaut (2008)[11]. Generation 1.5 is defined as foreign born children (2632 observation). The second generation is composed of US born children born to foreign born parents (2016 observations). Generation 2.5 is US born children to one or two US born parents (614 observations). Due to data restrictions we limit

[10]See Rumbaut (2008) and Rumbaut (2004) for additional discussion of the data and methods.
[11]See Rumbaut (2004) for a discussion on possible shortcoming to these classifications.

the number of the child's ancestry to the following regions (where parenthesis indicate the label used and total number of observations). Cuba (cb, 1226), Mexico (mx, 755), Central America (ca, 498), Caribbean plus (cp, 555), South America (sa, 438), Indochina (ic, 673), Philippines (pp, 819), Asia plus (ap, 210), and Europe/Canada (ec, 88)[12].

# 4 Empirical Analysis

Educational attainment is the dependent variable used and is based on the 3rd wave of the CILS study. Unlike the more detailed categories used in Chiswick & DebBurman (2004) our educational attainment variable has 5 categories and is based on completed education at age 24/25.

Education attainment five categories are (1) less than high school, (2) high school graduate, (3) some college, (4) college graduate, and (5) graduate school plus[13]. Educational attainment was collected in the third wave of the survey and reduces the total number of observations to 3,264. Of these 1,629 are currently "in school". For completeness a second measure of attained education is constructed and defined as $h_{t+1}+1$ if the student is currently enrolled in school[14]. All results that follow are based on the original measure of educational attainment ($h_{t+1}$)[15].

The basic specification is of education achievement as a function of household resources,

[12]Central America is composed of Nicaragua, El Salvador, Guatemala, Honduras, Costa Rica, and Panama. Caribbean plus is composed of Dominican Republic, Haiti, Jamaica, and West Indies. South America is composed of Colombia, Argentina, Chile, Ecuador, Peru, Venezuela, and Other South America. Indochina is composed of Vietnam, Laos, Cambodia, and Hmong. Asia Plus is composed of China, Hong Kong, Taiwan, Japan, Korea, India, Pakistan, Other Asia, Middle East, and Africa.

[13]Some college includes trade school, some or 2-year college degree, and 3 plus years of college with no degree. Graduate plus is composed of some graduate school, completion of a master's level program, some college work above master's level program, and doctoral level degree.

[14]This clearly assumes that she/he will successfully complete an additional unit of education and then stop.

[15]The second measure does not significantly affect the results.

gender, and national ancestry. Table 4 presents OLS estimates of this specification. Where, educational attainment is age 24/25.

Table 4 columns (1) and (2) analyses the entire sample. Columns (3) and (4) consider only those on the bottom 50th SES index percentile while (5) and (6) top 50th percentile. Columns (2), (4), and (6) include generation fixed effects. Table 4 clearly shows a positive relationship between household social economic status and school completion. Here, we find being male to have a negative effect[16]. The important finding here is that race (in our case national ancestry) matters (Gang & Zimmermann (2000) (using German data), Chiswick & DebBurman (2004), and Chiswick (1988)). The data results indicate a strong negative effect on educational achievement if one is of Mexican ancestry and a strong positive effect if one is of Asian plus ancestry.

However, these results may mask more profound characteristics. For instance, those of Mexican Ancestry, as most immigrant groups, tend to cluster in known immigrant enclaves (Cortes (2008), Borjas (2006), and Rumbaut (2004)). It is possible then that cluster characteristics may be better predictors of educational outcomes than race itself. Rumbaut (2008) finds ethnicity not to have a significant impact on male incarceration[17]. What this suggests is that neighborhood effects may drive educational outcomes more so than ethnicity.

Next, we construct a measure of neighborhood characteristics. The community characteristics index (*comm*) is constructed using 12 variables based on the parent survey[18]. Each

[16] Chiswick & DebBurman (2004) finds a positive male effect. Two explanations for this difference are that Chiswick & DebBurman (2004) does not control for income and most importantly he uses adult data of the October 1995 Current Population Survey data.

[17] Although, he does find under age 20 female child birth incidence to have ethnicity significance.

[18] The variables used were based on the following parental survey questions (# of answer categories). How satisfied are you with your neighborhood? (5), In your neighborhood, how much of a problem is... Different racial or cultural groups who do not get along with each other? (3), In your neighborhood, how much of a problem is... Little respect for rules, laws, and authority? (3), In your neighborhood, how much of a problem is... Assaults and muggings? (3), In your neighborhood, how much of a problem is... Delinquent gangs or drug gangs? (3), In your neighborhood, how much of a problem is... Drug use or drug dealing in the open? (3), Do you think that people in your neighborhood would intervene (do something) in the

variable is equally weighted and normalized between zero and one (i.e. $comm \in (0, 1)$). *comm* has a mean of .75, standard deviation of .16, and higher value are meant to imply better community to raise ones young. In addition, we construct a measure of household shocks based on six variables gathered in the second wave of the study[19]. Similarly, it is normalized between zero and one. *shk* is a dummy variable set to one if the shock index is greater than two times the standard deviation plus mean (roughly .45). By this measure, roughly 25% of the observations suffered from shocks. Before displaying our results we add here that running a probit model with *shk* as a left-hand-side variable and *comm* as the right-hand-side variable is found to be an insignificant predictor (p-value .133). In other words there is no direct relationship between neighborhood characteristics and likelihood of a negative shock.

The household social economic status (SES) index is highly correlated with community characteristics. To adjust for this we ran $comm = f(SES)$ and saved the residual as $\hat{comm}$ (shown as commhat on tables).

Table 5 column (1) to (3) include *commhat* and (4) to (5) add *shk*. In addition, table 5 includes generations and ancestry fixed effects specifications. The community characteristics

following situations? If there was a fight in front of your house and someone was being beaten? (4), Do you think that people in your neighborhood would intervene (do something) in the following situations? If someone were trying to sell drugs to one of your children in plain sight? (4), Do you think that people in your neighborhood would intervene (do something) in the following situations? If your kids were getting into trouble? (4), Please tell us how much you agree or disagree with each statement. There are a lot of adults around here my children can look up to. (5), Please tell us how much you agree or disagree with each statement. My neighbors have similar views about how to raise children. (5), Please tell us how much you agree or disagree with each statement. I can count on people in the neighborhood to let me know about opportunities for my kids. (5).

[19] The shock index is composed of the following variables. In the last 3 years, have any of the following happened to your family? My family moved to a new home. In the last 3 years, have any of the following happened to your family? My parents got divorced or separated. In the last 3 years, have any of the following happened to your family? I became seriously ill or disabled. In the last 3 years, have any of the following happened to your family? One of my parents died. In the last 3 years, have any of the following happened to your family? One of my brothers or sisters dropped out of school. In the last 3 years, have any of the following happened to your family? A member of my family was the victim of a crime.

measure (commhat) is shown to be significant at the 90th percent level. However, the level of significance falls when ancestry fixed effects are introduced. The shock dummy (shk) has a significant (Columns (4) and (5)) effect on educational attainment even after controlling for both ancestry and generational fixed effects.

Table 6 include ancestry dummies (columns (1)-(9)) and ancestry/shock interaction terms mxshk1, cashk1, cpshk1, sashk1, icshk1, apshk1, and ppshk1 (columns (2), (3), (5), (6), (8), and (9)). In addition, table 6 is broken into tree categories: columns (1)-(3) all SES, (4)-(6) top 50th SES percentile, and (7)-(9) bottom 50th SES percentile.

Column (1) shows that after controlling for negative shocks being of Mexican, Central American, Asian Plus, and Filipino ancestry continue to influence educational outcomes. The significance for Central American and Filipinos drops after including generational fixed effects (column (3)). Column (3) includes ancestry/shock interaction dummies. This specification shows that being of Mexican ancestry to have a negative effect on education attainment while being of Asian Plus ancestry has the opposite effect. However the interaction term does not significantly affect those of Caribbean Plus, South America, Asian Plus, and Filipino ancestry. That is controlling for household resources, gender, and community characteristics a negative shock does not significantly alter educational outcomes of Caribbean Plus, South America, Asian Plus, and Filipinos. However, those of Mexican, Central America, and Indochina ancestry have a significant and negative marginal effect from a shock. For example those of Mexican ancestry experience a drop of .4 of one educational category. This is more than the average SES index effect. Including the negative effect of being of Mexican ancestry of .2 the average Mexican that experiences a negative shock achieves an educational attainment well below the average of 2.5 units.

Breaking the data into top 50th SES index percentile and bottom 50th percentile shows that those on the bottom 50th percentile drive the negative Mexican ancestry effect. For

those of Mexican ancestry who are in the top 50th SES index percentile (Columns (4) and (6)) ancestry has no effect on educational attainment. Nor is there an effect from a negative shock on those of Mexican ancestry. Columns (7) - (9) show that those of Mexican ancestry belonging to the bottom 50th SES percentile significantly impacts educational outcomes in a negative way. Although, the significance falls in column (9) after introducing generations fixed effects the result are still significant at the 90th percent level.

Column (6) shows that belonging to the top 50th SES percentile drives the significant positive effect of Asian Plus ancestry. There is no effect if an Asian Plus belongs to the bottom 50th SES percentile. More importantly, there are not enough people with Asian Plus ancestry in the bottom half SES percentile with a negative shock to report results.

Being of Indochina ancestry was found to be an insignificant predictor of educational outcome. However, the interaction term "icshk1" was found negative and significant across all SES categories.

Finally, table 7 presents regression results holding the shock level equal to zero. Columns (1) and (2) show that even in households with no negative shocks of any size those of Mexican and Asian plus ancestry continue to have a significant effect at explaining educational attainment. However, after breaking the data up by SES index we find that the Mexican effect disappears in more affluent households. It appears that the Mexican negative effect is driven those who are at the lower half of the SES index. Although, the significance falls to the 90th percent level once generational fixed effects are introduced the magnitude changes slightly. The inverse relationship arises for those of Asian plus ancestry. Being of Asian plus decent only matters if one is raised in a household that is in the upper half of the SES index. The magnitude and significance however do change substantially for this group when generational fixed effects are introduced.

The Mexican ancestry effect is perplexing because one expects that after controlling

for household resources, community characteristics, gender, and shocks, that membership in the group should have no effect. Yet, here it is found to be significant in households with low SES index scores. This suggests that this groups experience in a resource poor environment may be different to other groups with a similar resource base. While the literature shows that immigrant groups gravitate to own group communities it is possible however that there is a denser concentration in resource poor Mexican ancestry communities. Which may be correlated with community school quality measures and other public resources that are not accounted for in this analysis.

# 5 Conclusion

This paper has evaluated intergenerational educational outcomes across immigrant groups and found that for the most part country ancestry to have no effect on education outcomes. That is to say that controlling for household resources, community characteristics, and exogenous shocks, race (national ancestry) effect disappears. The clear exceptions were for those of Mexican and Asian plus ancestry. The significant effect of Mexican membership was found in those who were raised in resource poor households. This raises the question as to what experiences do poor Mexican ancestry students live that other poor immigrants ancestry groups do not. Asian plus membership positive effect was found for those raised in more affluent households. It is possible however that this result may be been driven by the small groups sample size in the dataset.

# A Appendix

Table 1: Father's highest education level by place of birth

| | Elementary school or less | Middle school or less | Some high school | High school graduate | Some college/university | College graduate or more |
|---|---|---|---|---|---|---|
| All | 9.1 | 7.1 | 12.3 | 24 | 19.7 | 27.8 |
| US | 2.1 | 1.6 | 8.9 | 34.4 | 22.4 | 30.7 |
| Foreign Born | 9.8 | 7.7 | 12.6 | 22.9 | 19.4 | 27.5 |
| Cuba* | 6.6 | 9.2 | 19.8 | 26.4 | 15 | 22.9 |
| Mexico | 30.7 | 17.4 | 14.2 | 20.5 | 10.2 | 7.1 |
| Philippines | 0.7 | 0.8 | 4.8 | 27.7 | 31.4 | 34.6 |
| Vietnam | 14.9 | 10.9 | 15.4 | 18.1 | 19.5 | 21.3 |

* Arrived in the US after 1970.
Source: Children of Immigrants Longitudinal Survey (CILS) 1991-2006. Sample at first wave. The figures in each row are the percent of the groups total. Where the sum equals 100.

Table 2: Educational outcomes of children of immigrants at 24 by generation cohort

| | (1) | | | (2) | | | (3) | | | (4) | | | (5) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | g1.5 | g2 | g2.5 | g1.5 | g2 | g2.5 | g1.5 | g2 | g2.5 | g1.5 | g2 | g2.5 | g1.5 | g2 | g2.5 |
| Cuba | 5 | 3.9 | 2.8 | 20 | 13.3 | 16.7 | 54.1 | 50.6 | 50 | 16.8 | 21.1 | 26.4 | 4.1 | 11.1 | 4.2 |
| Mexico | 12.7 | 6.3 | 8.5 | 29.6 | 30.7 | 28.2 | 46.5 | 55 | 50.7 | 10.6 | 5.3 | 12.7 | 0.7 | 2.6 | 0 |
| C. America | 5.4 | 0 | 0 | 21 | 10.8 | 18.8 | 51.8 | 59.5 | 56.3 | 15.6 | 24.3 | 18.8 | 6.2 | 5.4 | 6.3 |
| Caribe Plus | 3.7 | 5.9 | 7.9 | 12.5 | 14.1 | 23.7 | 58.1 | 51.1 | 42.1 | 16.9 | 20 | 21.1 | 8.8 | 8.9 | 5.3 |
| S. America | 3.4 | 3.7 | 0 | 15.8 | 19.3 | 15.4 | 56.2 | 45 | 51.3 | 20.5 | 24.8 | 20.5 | 4.1 | 7.3 | 12.8 |
| Indochina | 6.1 | 2.6 | | 26.7 | 5.1 | | 40.4 | 48.7 | | 25.2 | 35.9 | | 1.5 | 7.7 | |
| Philippines | 2.5 | 0.8 | 4.1 | 17.7 | 8.4 | 23.3 | 55.7 | 57.8 | 57.5 | 20.7 | 28.1 | 12.3 | 3.4 | 4.9 | 2.7 |
| Asia Plus | 1.9 | 2 | 0 | 7.7 | 4 | 8.6 | 42.3 | 32 | 57.1 | 32.7 | 40 | 28.6 | 15.4 | 22 | 5.7 |
| EU + Can | | | 2.7 | | | 21.6 | | | 27 | | | 35.1 | | | 13.5 |

Source: Children of Immigrants Longitudinal Survey (CILS) 1991-2006.

Generation g1.5=foreign born; generation g2=US born and both parents foreign born; generation g2.5= US born and one or both parents US born. Central America (Nicaragua; El Salvador; Guatemala; Honduras; Costa Rica; Panama). Caribe Plus (Dominican Republic; Haiti; Jamaica; West Indies). South America (Colombia; Argentina; Chile; Ecuador; Peru; Venezuela; Other South America). Indochina (Vietnam; Laos; Cambodia; Hmong). Asia Plus (China; Hong Kong; Taiwan; Japan; Korea; India; Pakistan; Other Asia; Middle East and Africa). Europe and Canada ancestry data points were to small for g1.5 and g2 to report. Educational outcome is based on 3rd wave response to educational attainment. Other was dropped and some graduate; masters degree and professional degree were lumps into category (5). Some college includes some training vocation school 2 year (Associates) and 3 plus college years (no undergraduate degree) and lumped into category (3). Categories: (1) Some High School; (2) Graduated from High School (3) Some College (4) Graduated from 4/5-Yr-College (5) Graduate School Plus.

Table 3: High School GPA in quarter percentiles (School Records) by generation cohort

| | GPA percentile $< 25$ | | | $25-49$ | | | $50-74$ | | | $\geq 75$ | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | g1.5 | g2 | g2.5 | g1.5 | g2 | g2.5 | g1.5 | g2 | g2.5 | g1.5 | g2 | g2.5 |
| All | 24.5 | 26.5 | 22.6 | 23.9 | 26.1 | 24.6 | 24.5 | 24.3 | 28.9 | 27.1 | 23.1 | 23.9 |
| Cuba | 38.7 | 33.1 | 23.7 | 29.2 | 27.6 | 28.8 | 21.5 | 22.3 | 28 | 10.6 | 17 | 19.5 |
| Mexico | 31.8 | 30 | 23.9 | 27.8 | 30.6 | 28.2 | 22.7 | 23.1 | 29.1 | 17.7 | 16.3 | 18.8 |
| Central America | 31.3 | 39.4 | | 28 | 27.3 | | 25 | 25.8 | | 15.8 | 7.6 | |
| Caribe Plus | 32.4 | 35.2 | 33.3 | 22.3 | 27.2 | 33.3 | 24.2 | 25.4 | 21.2 | 21.1 | 12.2 | 12.1 |
| South America | 28 | 28.9 | 28.6 | 30 | 32.7 | 21.4 | 21.7 | 23.9 | 35.7 | 20.3 | 14.5 | 14.3 |
| Indochina | 13 | 7.3 | | 18.1 | 14.5 | | 26.7 | 30.9 | | 42.2 | 47.3 | |
| Philippines | 13.2 | 7.7 | 12.6 | 21.9 | 19.5 | 18 | 27.6 | 28.4 | 32.4 | 37.3 | 44.4 | 36.9 |
| Asia Plus | 10.1 | 7.4 | 12 | 11.2 | 13.2 | 16 | 19.1 | 20.6 | 28 | 59.6 | 58.8 | 44 |
| Bottom $< 50$ percentile SES score | | | | | | | | | | | | |
| All | 27.5 | 33.4 | 27.4 | 24.9 | 29.3 | 23.8 | 24.9 | 23.7 | 29.6 | 22.8 | 13.6 | 19.3 |
| Cuba | 40.6 | 40.2 | | 31.4 | 28.4 | | 21.3 | 23.1 | | 6.8 | 8.3 | |
| Mexico | 33.5 | 29 | 27 | 27.1 | 29.7 | 28.4 | 22.9 | 24.5 | 25.7 | 16.5 | 16.8 | 18.9 |
| Central America | 39.7 | | | 29.6 | | | 21.6 | | | 9 | | |
| Caribe Plus | 34.3 | 42.3 | | 23.6 | 32 | | 24.3 | 22.7 | | 17.9 | 3.1 | |
| South America | 32.6 | 34.4 | | 37.2 | 37.7 | | 20.9 | 21.3 | | 9.3 | 6.6 | |
| Indochina | 13.6 | | | 18.2 | | | 28.4 | | | 39.9 | | |
| Philippines | 21.2 | | | 24.2 | | | 30.3 | | | 24.2 | | |
| Top $\geq 50$ percentile SES score | | | | | | | | | | | | |
| All | 20.2 | 21.6 | 19.8 | 22.6 | 23.8 | 25.1 | 23.8 | 24.7 | 28.5 | 33.5 | 29.9 | 26.6 |
| Cuba | 35.9 | 28.9 | 19.1 | 26.1 | 27.1 | 29.8 | 21.8 | 21.7 | 28.7 | 16.2 | 22.2 | 22.3 |
| Mexico | 18.2 | 35.3 | 18.6 | 33.3 | 35.3 | 27.9 | 21.2 | 15.7 | 34.9 | 27.3 | 13.7 | 18.6 |
| Central America | 22.9 | | | 26.4 | | | 28.4 | | | 22.4 | | |
| Caribe Plus | 30.2 | 29.3 | | 20.7 | 23.3 | | 24.1 | 27.6 | | 25 | 19.8 | |
| South America | 24.8 | 25.5 | | 24.8 | 29.6 | | 22.3 | 25.5 | | 28.1 | 19.4 | |
| Indochina | 10.9 | | | 18 | | | 20.3 | | | 50.8 | | |
| Philippines | 8.8 | 7.9 | 10.3 | 20.6 | 18.1 | 22.1 | 26.1 | 28.3 | 29.4 | 44.5 | 45.7 | 38.2 |

Source: Children of Immigrants Longitudinal Survey (CILS) 1991-2006.
Generation g1.5=foreign born; generation g2=US born and both parents foreign born; generation g2.5= US born and one or both parents US born. Central America (Nicaragua; El Salvador; Guatemala; Honduras; Costa Rica; Panama). Caribe Plus (Dominican Republic; Haiti; Jamaica; West Indies). South America (Colombia; Argentina; Chile; Ecuador; Peru; Venezuela; Other South America). Indochina (Vietnam; Laos; Cambodia; Hmong). Asia Plus (China; Hong Kong; Taiwan; Japan; Korea; India; Pakistan; Other Asia; Middle East and Africa). Europe and Canada ancestry data points were to small for g1.5 and g2 to report. Income percentiles are based on the SES (social economic status) index produced by the authors of the survey. The index weights parental educational attainment; occupational SEI score plus home ownership.

Table 4: OLS estimates: Educational attainment at 24

| **Variable** | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| SES | 0.402 *** | 0.398 *** | 0.319 *** | 0.318 *** | 0.458 *** | 0.451 *** |
| | (0.022) | (0.023) | (0.055) | (0.055) | (0.047) | (0.047) |
| male | -0.164 *** | -0.166 *** | -0.197 *** | -0.2 *** | -0.141 *** | -0.144 *** |
| | (0.030) | (0.030) | (0.044) | (0.044) | (0.040) | (0.040) |
| mx | -0.197 *** | -0.174 *** | -0.154 ** | -0.14 ** | -0.336 *** | -0.276 ** |
| | (0.054) | (0.054) | (0.067) | (0.068) | (0.109) | (0.110) |
| ca | -0.093 * | -0.042 | -0.036 | 0.012 | -0.123 | -0.072 |
| | (0.056) | (0.059) | (0.084) | (0.087) | (0.075) | (0.080) |
| cp | -0.029 | -0.005 | -0.009 | 0.016 | -0.035 | -0.013 |
| | (0.056) | (0.056) | (0.087) | (0.087) | (0.074) | (0.074) |
| sa | -0.026 | 0.007 | -0.079 | -0.054 | 0.016 | 0.054 |
| | (0.057) | (0.057) | (0.090) | (0.090) | (0.074) | (0.075) |
| ic | 0.12 ** | 0.167 *** | 0.198 *** | 0.252 *** | -0.085 | -0.049 |
| | (0.055) | (0.057) | (0.074) | (0.079) | (0.089) | (0.092) |
| ap | 0.307 *** | 0.353 *** | 0.268 * | 0.301 ** | 0.305 *** | 0.357 *** |
| | (0.077) | (0.078) | (0.142) | (0.143) | (0.093) | (0.094) |
| pp | -0.073 | -0.049 | -0.112 | -0.062 | -0.065 | -0.051 |
| | (0.046) | (0.046) | (0.091) | (0.093) | (0.055) | (0.055) |
| ec | 0.142 | 0.245 ** | 0.037 | 0.093 | 0.143 | 0.256 ** |
| | (0.112) | (0.114) | (0.266) | (0.267) | (0.124) | (0.128) |
| Intercept | 3.145 *** | 3.088 *** | 3.076 *** | 3.02 *** | 3.123 *** | 3.07 *** |
| | (0.033) | (0.040) | (0.059) | (0.067) | (0.052) | (0.061) |
| Generations fixed effects | No | Yes | No | Yes | No | Yes |
| N | 3264 | 3264 | 1461 | 1461 | 1803 | 1803 |
| $R^2$ | 0.139 | 0.145 | 0.053 | 0.057 | 0.082 | 0.089 |

Significance levels : * : 10% ** : 5% *** : 1%. Data source: Children of Immigrants Longitudinal Survey (CILS) 1991-2006. Generation g1.5=foreign born; generation g2=US born and both parents foreign born; generation g2.5= US born and one or both parents US born. Central America (ca) (Nicaragua; El Salvador; Guatemala; Honduras; Costa Rica; Panama). Caribe Plus (cp) (Dominican Republic; Haiti; Jamaica; West Indies). South America (sa) (Colombia; Argentina; Chile; Ecuador; Peru; Venezuela; Other South America). Indochina (ic) (Vietnam; Laos; Cambodia; Hmong). Asia Plus (ap) (China; Hong Kong; Taiwan; Japan; Korea; India; Pakistan; Other Asia; Middle East and Africa). Europe and Canada (ec). Income percentiles are based on the SES (social economic status) index produced by the authors of the survey. The index weights parental educational attainment; occupational SEI score plus home ownership. Male is a gender dummy. (2); (4); and (6) include generational fixed effects. (1) and (2) full sample. (3) and (4) lower 50th percentile based on SES index. (5) and (6) upper 50th percentile based on SES index.

Table 5: OLS estimates: Educational attainment at 24.

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| SES | 0.366*** | 0.351*** | 0.351*** | 0.359*** | 0.339*** |
| | (0.026) | (0.031) | (0.032) | (0.026) | (0.032) |
| male | -0.169*** | -0.175*** | -0.178*** | -0.169*** | -0.178*** |
| | (0.041) | (0.042) | (0.042) | (0.041) | (0.041) |
| commhat | 0.252* | 0.223 | 0.225 | 0.250* | 0.212 |
| | (0.141) | (0.144) | (0.144) | (0.140) | (0.143) |
| shk | | | | -0.393*** | -0.408*** |
| | | | | (0.074) | (0.074) |
| _cons | 3.188*** | 3.252*** | 3.228*** | 3.221*** | 3.280*** |
| | (0.028) | (0.056) | (0.066) | (0.029) | (0.066) |
| Ancestry fixed effects | No | Yes | Yes | No | Yes |
| Generations fixed effects | No | No | Yes | No | Yes |
| *N* | 1611 | 1611 | 1611 | 1611 | 1611 |
| r2 | 0.119 | 0.137 | 0.139 | 0.134 | 0.155 |

Significance levels : * : 10% ** : 5% *** : 1%. Data source: Children of Immigrants Longitudinal Survey (CILS) 1991-2006. Generation g1.5=foreign born; generation g2=US born and both parents foreign born; generation g2.5= US born and one or both parents US born. Central America (ca) (Nicaragua; El Salvador; Guatemala; Honduras; Costa Rica; Panama). Caribe Plus (cp) (Dominican Republic; Haiti; Jamaica; West Indies). South America (sa) (Colombia; Argentina; Chile; Ecuador; Peru; Venezuela; Other South America). Indochina (ic) (Vietnam; Laos; Cambodia; Hmong). Asia Plus (ap) (China; Hong Kong; Taiwan; Japan; Korea; India; Pakistan; Other Asia; Middle East and Africa). Europe and Canada (ec). Income percentiles are based on the SES (social economic status) index produced by the authors of the survey. The index weights parental educational attainment; occupational SEI score plus home ownership. Male is a gender dummy.

Table 6: OLS estimates: Educational attainment at 24.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| | | All SES | | | $SES \geq 50$ | | | $SES < 50$ | |
| SES | 0.340*** | 0.349*** | 0.349*** | 0.388*** | 0.395*** | 0.395*** | 0.342*** | 0.351*** | 0.355*** |
| male | -0.175*** | -0.175*** | -0.177*** | -0.173*** | -0.166*** | -0.167*** | -0.180*** | -0.181*** | -0.187*** |
| commhat | 0.210 | 0.216 | 0.219 | 0.501** | 0.516** | 0.519** | -0.025 | -0.024 | -0.015 |
| shk | -0.412*** | | | -0.483*** | | | -0.334*** | | |
| mx | -0.267*** | -0.210** | -0.200** | -0.224 | -0.188 | -0.175 | -0.317*** | -0.239** | -0.220* |
| ca | -0.156* | -0.093 | -0.070 | -0.140 | -0.094 | -0.089 | -0.170 | -0.088 | -0.041 |
| cp | -0.039 | -0.024 | -0.012 | -0.039 | -0.037 | -0.033 | -0.033 | 0.006 | 0.033 |
| sa | -0.106 | -0.061 | -0.049 | 0.009 | 0.045 | 0.050 | -0.331** | -0.277* | -0.258* |
| ic | 0.012 | 0.075 | 0.094 | -0.057 | -0.000 | 0.001 | 0.017 | 0.091 | 0.137 |
| ap | 0.364*** | 0.381*** | 0.399*** | 0.427*** | 0.430*** | 0.440*** | 0.117 | 0.185 | 0.187 |
| pp | -0.161** | -0.117* | -0.106 | -0.119 | -0.090 | -0.087 | -0.341** | -0.268* | -0.207 |
| ec | 0.067 | 0.109 | 0.167 | 0.076 | 0.112 | 0.140 | | | |
| mxshk1 | | -0.419** | -0.407* | | -0.463 | -0.482 | | -0.433** | -0.380* |
| cashk1 | | -0.540*** | -0.545*** | | -0.556** | -0.559** | | -0.502 | -0.514 |
| cpshk1 | | -0.196 | -0.187 | | -0.206 | -0.197 | | -0.191 | -0.194 |
| sashk1 | | -0.324 | -0.325 | | -0.324 | -0.335 | | -0.151 | -0.128 |
| icshk1 | | -0.522*** | -0.516*** | | -0.653** | -0.647** | | -0.376* | -0.374* |
| apshk1 | | -0.152 | -0.129 | | -0.218 | -0.209 | | | |
| ppshk1 | | -0.346 | -0.339 | | -0.163 | -0.157 | | -0.404 | -0.437 |
| _cons | 2.623*** | 2.554*** | 2.534*** | 2.476*** | 2.420*** | 2.418*** | 2.654*** | 2.575*** | 2.527*** |
| Generations fixed effects | No | No | Yes | No | No | Yes | No | No | Yes |
| $N$ | 1611 | 1611 | 1611 | 890 | 890 | 890 | 721 | 721 | 721 |
| $R^2$ | 0.154 | 0.150 | 0.151 | 0.102 | 0.095 | 0.096 | 0.079 | 0.079 | 0.083 |

Significance levels : * : 10% ** : 5% *** : 1%. Data source: Children of Immigrants Longitudinal Survey (CILS) 1991-2006. Generation g1.5=foreign born; generation g2=US born and both parents foreign born; generation g2.5= US born and one or both parents US born. Central America (ca) (Nicaragua; El Salvador; Guatemala; Honduras; Costa Rica; Panama). Caribe Plus (cp) (Dominican Republic; Haiti; Jamaica; West Indies). South America (sa) (Colombia; Argentina; Chile; Ecuador; Peru; Venezuela; Other South America). Indochina (ic) (Vietnam; Laos; Cambodia; Hmong). Asia Plus (ap) (China; Hong Kong; Taiwan; Japan; Korea; India; Pakistan; Other Asia; Middle East and Africa). Europe and Canada (ec). Income percentiles are based on the SES (social economic status) index produced by the authors of the survey. The index weights parental educational attainment; occupational SEI score plus home ownership. Male is a gender dummy. mxshk1, cashk1, cpshk1, sashk1, icshk1, apshk1, and ppshk1 are region and shock interaction dummies.

Table 7: OLS estimates: Educational attainment at 24. (Shock = 0)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | All SES | | $SES \geq 50$ | | $SES < 50$ | |
| SES | 0.327*** | 0.315*** | 0.278*** | 0.262*** | 0.325*** | 0.335** |
| male | -0.141** | -0.147** | -0.186** | -0.187** | -0.076 | -0.118 |
| commhat | 0.160 | 0.172 | 0.590* | 0.603* | -0.249 | -0.363 |
| mx | -0.294** | -0.289** | -0.193 | -0.017 | -0.373** | -0.363* |
| ca | -0.049 | 0.010 | -0.039 | 0.047 | -0.098 | 0.110 |
| cp | -0.115 | -0.108 | -0.041 | 0.035 | -0.326 | -0.162 |
| sa | 0.040 | 0.060 | 0.108 | -0.029 | -0.142 | 0.223 |
| ic | 0.020 | 0.069 | 0.010 | -0.053 | -0.019 | 0.169 |
| ap | 0.482** | 0.500*** | 0.581*** | 0.381* | 0.283 | 0.593 |
| pp | -0.156* | -0.147 | -0.151 | -0.112 | -0.266 | 0.082 |
| ec | 0.259 | 0.297 | 0.279 | -0.059 | | |
| _cons | 2.664*** | 2.624*** | 2.796*** | 4.282*** | 2.688*** | 3.922*** |
| Generations fixed effects | No | Yes | No | Yes | No | Yes |
| $N$ | 691 | 691 | 423 | 423 | 268 | 268 |
| $R^2$ | 0.148 | 0.151 | 0.084 | 0.057 | 0.074 | 0.104 |

Significance levels : $*$ : 10% $**$ : 5% $***$ : 1%. Data source: Children of Immigrants Longitudinal Survey (CILS) 1991-2006. Generation g1.5=foreign born; generation g2=US born and both parents foreign born; generation g2.5= US born and one or both parents US born. Central America (ca) (Nicaragua; El Salvador; Guatemala; Honduras; Costa Rica; Panama). Caribe Plus (cp) (Dominican Republic; Haiti; Jamaica; West Indies). South America (sa) (Colombia; Argentina; Chile; Ecuador; Peru; Venezuela; Other South America). Indochina (ic) (Vietnam; Laos; Cambodia; Hmong). Asia Plus (ap) (China; Hong Kong; Taiwan; Japan; Korea; India; Pakistan; Other Asia; Middle East and Africa). Europe and Canada (ec). Income percentiles are based on the SES (social economic status) index produced by the authors of the survey. The index weights parental educational attainment; occupational SEI score plus home ownership. Male is a gender dummy.

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